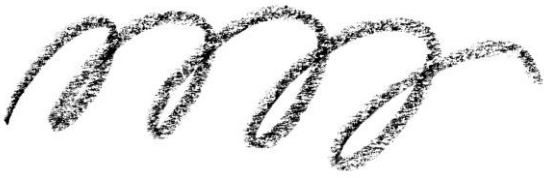
PlanetMark

Certification
Code of Practice



Version: 9.0
Date: 25 March 2021
Next review: 31 May 2021

Contents

The Planet Mark Code of Practice

In order to ensure that our work is robust and of the highest quality, Planet Mark maintains the Code of Practice for the Planet Mark. This document outlines our methodology for reporting on environmental and social sustainability, pertaining to the Planet Mark. It is based on leading international standards that guide our work and our implementation of the certification. It is for use by all Planet Mark certified organisations and interested parties.

The Code of Practice:

- sets the standard for achieving the Planet Mark
- is aligned with the well-recognised carbon management standards
- is maintained to reflect best practice.

The Advisory Panel

The Code of Practice is reviewed annually by an external Advisory Panel of industry experts and academics who provide independent and credible expertise to ensure that the technical rigour and integrity of the Code of Practice is maintained. The Panel identifies areas for development and improvement to ensure the Code of Practice meets industry best practice on an international basis.

The Advisory Panel provides validation of the methodologies we use for calculating greenhouse gas emissions and performing verifications for the purposes of certification to the Planet Mark. This gives a deeper level of assurance and credibility to the work we carry out.

Review of the Code of Practice

The approach and methodology outlined in this document will be reviewed and updated annually to reflect changes in external standards and to respond to the changing needs of business. These updates will be filed and documented as appropriate.

A full review of our choice of certification methodology will be undertaken at least every three years. This will include mapping of alternative approaches, industry best practice and review of organisational needs.

Planet Mark Sustainability Certifications

The Planet Mark certification can be achieved for a number of entities, and the certification criteria vary accordingly. Assessments are through a Planet Mark carbon footprint calculation, a Planet Mark carbon footprint verification or through evidence from a third party verified carbon footprint report.

Planet Mark for Business

The Planet Mark for Business certifies organisations that commit to continual improvement in environmental and social sustainability.

Key Criteria:

- From year three of certification and onwards we require a carbon reduction (absolute or per intensity) of at least 2.5% per year.
- Certification in the first two years is based on reporting of at least scope 1 and 2 emissions and commitment to improve in sustainability.

Planet Mark for Properties

The Planet Mark for Properties is achieved by landlords, property owners and managers for single and multi-tenanted buildings. It can be achieved for single properties or across an estate or portfolio for communal areas and tenant demises, with a focus on engaging occupiers and suppliers.

Key Criteria:

- From year three of certification and onwards we require a carbon reduction (absolute or per intensity) of at least 2.5% per year.
- Certification in the first two years is based on reporting of at least scope 1 and 2 emissions and commitment to improve in sustainability.

Planet Mark for Projects

The Planet Mark for Projects certifies energy efficiency programmes, products and services which demonstrate a quantified reduction in carbon emissions.

Key Criteria:

- A carbon reduction (absolute or per intensity) of at least 2.5% from baseline on at least Scope 1 and 2 emissions.

Planet Mark for New Developments

The Planet Mark for New Developments is achieved for new developments of any kind which undertake a sustainability programme which adds value to the environment and society.

Key Criteria:

- Minimum 2.5% carbon reduction in whole life carbon through a lifecycle assessment against an appropriate baseline.
- Supply chain engagement through a launch meeting on site
- Local community engagement through investment in sustainability certification and sustainability learning in schools.
- Optional: Zero carbon buildings through offsetting and / or carbon mitigation through rainforest protection.

Achieving the Planet Mark for Business

Planet Mark certifies organisations which demonstrate continual improvement in environmental and social sustainability. Through measuring impacts and engagement with key stakeholders and buy-in from senior managers and staff, it is possible to make the changes in processes, procedures, policies and decision making that allow sustainability to become integral to an organisation.

Measure

We measure and require continual annual improvements in organisational carbon footprints and data accuracy. Carbon emissions reductions are targeted at 5% against the previous reporting period, and a minimum of 2.5% reduction is required for recertification by the third year of reporting. We recommend data quality to increase by at least 2 points, based on the Data Quality Matrix.

1. In year 1, the Planet Mark Certification is awarded on a baseline carbon footprint covering a 12 month historic reporting period. Reporting on operational activities includes building energy, waste, water, business and fleet travel and procurement such as paper use and freight. Reporting is required on at least scope 1 and 2 emissions (direct energy) and as much scope 3 reporting as possible. Refer to Appendix 1 for a full list of reporting sources and scopes.
2. We will establish the boundary of your carbon emissions reporting and issue a data collection guide to collect information across your organisation.
3. Unique client account for our online platform, powered by Sofi Salesforce, which provides:
    - Anytime access to graphs and reports to track your emissions month by month
    - Quick view dashboards to provide overview of your organisation's footprint
4. 12 months of relevant data should be submitted from invoices, expense claims, supplier reports and receipts. After the initial baseline has certified, data can be collated on an on-going basis to monitor progress and ensure good data quality. We also require all relevant evidence such as scanned invoices, bills or receipts for validation. For serviced offices, we require information on the method of Landlord energy recharges, building type, floor area, and typical occupancy levels.
5. Carbon emissions calculations are underpinned by the Code of Practice which details the most up to date methodologies and emissions factors that we use. If your organisation has a carbon footprint developed in line with recognised standards, we provide a verification service for purposes of certification.
6. Data should be submitted within three months of agreement. Certification can be achieved within 4 weeks of data submission. You will receive a comprehensive Certification Report and Planet Mark Certificate, detailing your organisational carbon footprint.
7. There is carbon emissions reduction commitment of 5% per annum, in absolute terms, by floor area (m^2), per employee, by turnover (£) or by another KPI relevant to your business. An organisation can set its own carbon reduction and must be a minimum of 2.5% which is requirement by year three of certification.
8. Data quality is assessed and scored each year. An increase in data quality is targeted each year.
9. When recertifying to the Planet Mark, actual performance is compared to the previous year on a like-for-like (i.e. normalised if necessary) basis to analyse annual improvements in your carbon footprint and wider impacts.

Engage

The Planet Mark provides resources and tools to communicate and collaborate with staff, the supply chain, customers and wider stakeholders to support sustainability programmes. Putting your key stakeholders at the centre of your sustainability programme will raise awareness, develop knowledge and skills, encourage positive behaviour change and lead to practical and long term sustainability solutions.

1. The Planet Mark is designed to raise the awareness of sustainable behaviours and engage employees in the sustainability programme.
2. We recommend an annual review of your employees' attitudes to sustainability using the Personal Sustainability Survey, provided by BEIS. The survey determines the success of sustainability engagement programmes and can help you find the interested and motivated people who could be the start of your sustainability champion's programme.
3. The Planet Mark provides a range of resources and materials with practical advice on how to deliver sustainability. Alongside the Certification Report, the toolkits help to develop a strategy for achieving the targets relating to carbon footprint reduction, data quality, engagement and communications.
4. We encourage the engagement of suppliers using our supply chain questionnaire to ensure that current and prospective suppliers are supporting your sustainability commitments, and encourage them to adopt sustainable practices.
5. Planet Mark and its partners offer additional services to support the renewal of the Planet Mark certification, including workshops and stakeholder engagement events to educate, motivate and enthuse those in and around your organisation who will help to make your sustainability programme a success.

Communicate

1. Planet Mark requires transparent reporting of sustainability in the public domain. Certification requires the public display of the Planet Mark certificate online and/or in hard copy in relation to the organisation, development or project which has achieved certification.
2. Additional marketing materials and digital assets have been created to support the communication sustainability achievements and challenges and enhance the sharing of knowledge with customers, suppliers and stakeholders.
3. Planet Mark hosts year round events to facilitate knowledge sharing and provide marketing value to holders of the Planet Mark. These include online forums such as edie, LinkedIn, Facebook and Twitter. Latest news, case studies and the Planet Mark blog can all be accessed on our website www.theplanetmark.com

Methodology

This section outlines the methodology by which the Planet Mark is delivered based on the widely accepted standards which guide our work.

1. Measure

The following are the objectives for the outputs from carbon emissions (CO_2e) measurement, which inform our system and process:

1. **To provide certification** for measuring carbon and achieving improvement targets.
2. **Making recommendations for carbon reduction** by analysing data and understanding your organisational objectives.
3. **Providing useful management information for making improvements** through carbon footprint, usage and cost information assessed at a company level and analysed at location, department and source level.
4. **Providing useful information for engaging stakeholders** through carbon footprint analysis which can be used in communications.
5. **Encourage data improvement** by establishing data accuracy ratings and setting improvement targets against them.
6. **Transparency** by measuring and reporting the organisational carbon footprint and boundary in the public domain and setting public commitments for improvement.
7. **Address wider impacts** by including qualitative information to support improvement activities which are not reflected in the carbon footprint measures.

Standards and Guidance

Our methodology for measuring and reporting carbon emissions is based on the World Organisation Council for Sustainable Development (WBCSD) & World Resources Institute (WRI) Greenhouse Gas (GHG) Protocol Corporate Standard (2004). We choose to quantify carbon emissions in accordance with a well-recognised and widely adopted standard in order to provide consistency and comparability, both amongst Planet Mark certified organisations and against other organisations reporting on sustainability performance. Reviews of updates and amendments to the standard are made once a year.

Adhering to the GHG Accounting and Reporting Principles

- **Relevance**: Our diverse range of certified organisations has additional needs to carbon reporting. We establish boundaries based on a 'control' approach, ensuring that organisations report on the emissions sources over which they have control or influence. Reporting is required on at least Scopes 1 and 2, over which the most control can be exerted, and we encourage Scope 3 reporting for wider accountability.
- **Completeness:** We aim to achieve a fair reflection of a company's activities within the total carbon footprint. We establish the full extent of the organisation's operational boundary for each reporting period, including relevant changes such as acquisitions and mergers, geography, location and business activity. We encourage frequent data gathering through our data templates and Sofi Salesforce to avoid data gaps, and all exclusions from the agreed reporting boundary are reported.
- **Consistency:** We work across a rolling base year, in line with the annual improvement targets. Data is normalised to reflect the reported boundary for the previous year for comparability.
- **Transparency:** All caveats are tracked and disclosed, including boundary exclusions, data collection procedures, normalisation exclusions, assumptions, estimates and data extrapolations.
- **Accuracy:** We provide guidance to organisations to ensure that data is being compiled in the correct way. We request at least one sample of original data for each reporting source, where original data exists. The cautionary principle is taken such that the higher carbon figure is chosen where there is uncertainty. Estimations and extrapolations are applied in a consistent way. If there is less than half a year of data

available, the data set is excluded. Internal checks are performed on every carbon footprint to minimise data and reporting errors.

Setting Organisational Boundaries

Under the **equity share approach**, a company accounts for GHG emissions from operations according to its share of equity in the operation. Under the **control approach**, a company accounts for 100% of the GHG emissions from operations over which it has control. Control can be defined in either financial or operational terms.

Under the **operational control approach**, a company has operational control over an operation if the former or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation. Under the **financial control approach**, a company can direct financial and operating policies with a view to gaining economic benefits from its activities. Financial control usually exists if the company has the right to the majority of benefits of the operation or if it retains the majority risks and rewards of ownership of the operation's assets.

The control approach is applied for all Planet Mark certified organisations, meaning that greenhouse gas emissions arising from an operation over which the organisation has full control are accounted. When choosing between operational control and financial control, we apply the **financial control approach**, such that organisations will report on those emissions arising from operations over which they have financial control and benefits.

In practice, a carbon footprint undertaken as part of the Planet Mark certification process includes those sources over which an organisation is able to implement improvements, to whatever extent. It therefore excludes sources such as capital investments by financial institutions and third party contracts over which the organisation does not have full authority.

Serviced offices are included in carbon footprint boundaries, where an occupier has limited control over installations such as heating and lighting but is able to control usage such as non-regulated energy and water use. In these cases, fixed charges may apply, or data may not be metered by demise, therefore improvements may not be reflected in the carbon footprint. Within the Planet Mark certification process, improvements are recorded in a qualitative way and organisations are encouraged to work with landlords to improve sustainability performance for them and fellow building occupiers.

There are exceptions to the **financial control approach** where organisations can choose to include carbon emissions from activities over which there maybe influence but less control. These include staff commuting, courier activities, managed offices, outsourced functions and activities relating to contracted workers.

Planet Mark certified entities sometimes include one off events, projects and products where there is no direct annual comparability. the Planet Mark for Events, the Planet Mark for Products and the Planet Mark for New Developments are programmes which exist or are in development to certify specific types of activities.

Setting Operational Boundaries

Each organisation sets its own operational boundary for the sources to include and exclude from its carbon footprint. Organisations in the process of certification can make decisions on boundary inclusions and exclusions based on relevance, materiality, level of control, cost of data collection and strategic priorities.

- **Source scopes**: All Scope 1 and 2 emissions must be reported and any exclusions justified. In the cases where data is poor quality or missing, this is a priority area for improvement. All significant scope 3 emissions should be identified for relevance and inclusion of these is encouraged.
- **Materiality**: Where a reporting source has low activity, it is viable to exclude those sources and provide information to caveat the exclusion.
- **Cost of data collection**: If costs and staff resources required to collect certain Scope 3 data are prohibitive, they can be excluded with a caveat in reporting.

- **Control:** Sources or source activities over which the organisation has no control or influence should be identified and excluded.
- **Organisational priority**: where Scope 3 activities are not deemed to be a strategic priority, an organisation can choose not to include them in their carbon footprint.

In the event that a previously internal operational emission is outsourced to a non-owned third party, the relevant and material Scope 1 and 2 emissions can continue to be included as Scope 3 emissions. If the activity relates to Scope 3 emissions, inclusion can be judged based on the resources required to collect the required data. If there is little or no control over the emissions sources once outsourced, they should be excluded and the data normalised to reflect the exclusion.

Reporting Sources

Appendix 1 lists all sources that holders of the Planet Mark can include in their carbon footprint.

We include emissions related to the embodied carbon in products and services such as purchased paper and courier travel, where they have operational significance, and where there is an ambition to make reductions in use.

Reporting Scopes

- Scope 1 Direct GHG Emissions: Under the GHG Protocol, companies report GHG emissions from sources they own or control as Scope 1. These relate to emissions from:
  - Combustion of fuels in stationary sources, e.g. boilers, furnaces, turbines
  - Manufacture or processing of chemicals and materials, e.g. cement, aluminium, ammonia, waste processing
  - Combustion of fuels in company owned/ controlled vehicles e.g. trucks, trains, ships, planes, buses and cars
  - Fugitive emissions e.g. equipment leaks from joints, seals, pacing and gaskets; methane emissions from coal mines and venting; hydrofluorocarbon (HFC) emissions during the use of refrigeration and air conditioning equipment; and methane leakages from gas transport.

- Scope 2 Electricity Indirect GHG Emissions: Emissions from the generation of purchased electricity that is consumed in owned or controlled equipment or operations

- Scope 3 Other Indirect GHG Emissions: Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. Scope 3 is an optional component of the GHG Protocol. Scope 3 can include:
  - Employee or other transportation in vehicles not owned or controlled by the organisation
  - Disposal of waste generated in operations
  - Embodied carbon in purchased paper and paper materials
  - Energy emissions from homeworking
  - Indirect emissions from well-to-tank and transmission and distribution associated with fuel and electricity

Carbon Reduction Target

Planet Mark certification sets targets in order to help companies achieve measurable improvements. The principle of SMART targets is applied:

Specific: Improvement through the Planet Mark programme requires a targeted 5% annual reduction in the total carbon footprint and/ or the carbon footprint per employee. The target is set at the start of the reporting period based on the amount relating to 5% of the total absolute carbon footprint and/ or the carbon intensity for the previous reporting period. To achieve certification, an organisation must achieve a minimum 2.5% reduction. As

organisational activity can vary year on year, an organisation must achieve the 2.5% reduction by at least year 3 of reporting to continue to achieve certification.

Measurable: Achievement of the carbon reduction target is judged against the difference between the total absolute carbon footprint from the previous reporting period and the total normalised carbon footprint and/ or carbon intensity from the current period, which provides a like-for-like comparison.

Attainable: Organisations which experience organic growth (growth not related to acquisitions or mergers) during the reporting year can make reductions based on their carbon intensity. We encourage sustainable growth, which sets a challenge to organisations to make improvements which will ensure their environmental impacts remain low even if they experience organisational growth.

Relevant: The absolute target is based on the UK government's 2050 target to reduce 1990 emissions by 80%. As we are starting from 2013, we hope to achieve the same 80% reduction by 2050, which requires a 5% annual reduction.

Time bound: The target relates to a one year period and applies for each year of certification.

Using Intensity Measures

The default intensity measure applied is tonnes CO_2e per full time equivalent employee. Organisations can opt for alternative intensity measures to suit their business activities. Examples include:

- Tonnes CO_2e per £ turnover
- Tonnes CO_2e per gross internal area
- Tonnes CO_2e per unit of production or multiples of units

Setting a Base Year

A rolling base year, as opposed to fixed based year, has been chosen as the standard. This means that the previous carbon reporting year is set as the new base line each year. This approach limits the need to retrospectively re-calculate historic base years for changes in calculation methodology and structural organisational changes, and hence supports comparability.

Companies can opt for a fixed based year. Please see more details under the section 'Recertification to the Planet Mark'.

Recalculation of Base Year

Base year emissions assertions are not recalculated in most instances. Normalisation is used to ensure the comparability of data sets from one year to the next.

Normalisation of the current reporting period takes into account changes in reporting boundaries, acquisitions/ divestitures, outsourcing/ insourcing and any other non-organic changes to the organisation and reporting boundary. Normal activities such as organic growth or decline, process changes or efficiency improvements are not subject to normalisation.

In the case where applied carbon conversion factors have been updated or changed, the base year is not readjusted to reflect the most recent conversion factors, in accordance with current BEIS guidance. Details of the conversion factors used for the base year carbon emissions are disclosed in the report.

Normalisation and re-assertion of the base year, relating to the previous reporting period, may occur in the following instances:

- Data from the base year is revealed to be erroneous and is restated based on new evidenced information. In this case, a restatement will only be made if there is at least a 5% significance and the error is deemed to be material.
- Data from the base year is normalised to account for changes in the operational boundary or a change in data quality in reporting for comparability.
- A change in an emissions factor due to changes in reporting methodology within the Code of Practice for comparability.

Banking of Emissions Reduction Achievements

The earlier that greenhouse gas emission reductions are implemented by a business, the longer the potential benefits in lessening atmospheric concentrations and impacts on climate. In order to incentivise the early implementation of reduction opportunities, the Planet Mark does allow for the 'banking' of reduction achievements, if it can be shown that:

1. The normalised reduction achieved is in excess of the 2.5% reduction requirement
2. The normalised reduction can be linked to a specific project or initiatives that the company has implemented subsequent to engaging with the Planet Mark scheme.

In such cases the balance of normalised emissions reduction, exceeding the 2.5% reduction requirement, can be carried forward to the subsequent year.

Worked Example of banking emissions reduction achievements:

Company A achieves an emission reduction of 7.5 tCO_2e against its baseline of 100 tCO_2e and annual target of 5%. It qualifies for the Planet Mark based on achieving a 5% reduction in Year 1 (equivalent to 5 tCO_2e), and exceeding the *minimum* requirement of a 2.5% reduction, and carries forward the balance of 2.5% reduction (equivalent to 2.5 tCO_2e) in Year 2.

In Year 2, Company A achieves an actual emissions reduction of 2 tCO_2e against its target of 5%, but for the purposes of qualification for the Planet Mark certificate, the Planet Mark Certification Manager will take into consideration the 'banked' emissions of 2.5 tCO_2e from the previous year; equivalent to a reduction of 4.5 tCO_2e, or 4.9% of the baseline carbon emissions in Year 2 (and in excess of the *minimum* requirement of a 2.5% reduction to qualify for the Planet Mark).

The 'banking' of emission reduction achievements is only for the purposes of assessing qualification for the Planet Mark. It is not to be used to reduce the actual reported emissions, or reported emissions reductions in the reporting year. The use of a 'banked' emissions reduction, to qualify for the Planet Mark, shall be footnoted on the Planet Mark certificate and in the Planet Mark Certification Report. The maximum number of years that unused balance can be carried forward is limited to three years.

Data Collection

We rely on the Planet Mark certified organisations to provide data which is of sufficient accuracy and completeness. A data collection template is issued for data collection at the start of the reporting year, including relevant updates. Sofi Salesforce is updated with the most relevant sources for each organisation and the most current emissions factors. The organisation's contact point person is encouraged to use the data collection template to record data throughout the year where no other systems exist for recording required information. This will ensure consistency and also the availability of data for frequent reporting.

Planet Mark organisation is responsible for data gathering and Planet Mark will deal with one point of contact in the organisation. Planet Mark is not authorised to request data from suppliers or other external parties on behalf of an organisation.

In order for an activity to be included within a carbon footprint, a full 12 months of data is required. Where less data is available due to no other reason than it is missing, a minimum of 6 months of data is accepted and estimates will be made to represent a full year of reporting. Where data is only available for less than 12 months because an activity has only been active for less than the full reporting year, this is classified as a full year of relevant data.

Approval is required on data used for carbon footprinting and it is expected that this data will be thoroughly reviewed before being approved.

Data Sources

Data is held in various ways within an organisation. For data quality purposes, two types of sources are identified:

- Primary data: Actual and evidenced data from meter readings, purchase invoices and receipts, supplier reports and other direct consumption documentation.

- Secondary data: Estimated data from expense claims where original receipts are not witnessed, consumption is estimated from cost, information is gathered through surveys or requests and other estimated or undocumented sources.

Data Quality Management

Information and data provided by an organisation and its operations is reviewed for quality purposes. Evidence of data submitted is requested on a sample basis, although organisations can submit any level of evidence they wish above the minimum request. Original evidence includes electronic versions of receipts, supplier invoices, log records, supplier management reports and photos of meter readings. Data quality reviews are normally off-site unless specified. Hard copy evidence is not accepted off-site.

Dealing with Data Inaccuracies

All Scope 1 and 2 emissions must be accounted for. Where incomplete or missing data exists, estimates will be applied through consistent calculations. Missing data relating to electricity, natural gas and other fuels which are consumed in a consistent way is estimated based on average usage per day from an adjacent data set. In exceptional cases, data from the previous reporting period is used to estimate data for the current reporting period.

For Scope 3 omissions, data providers are required to detail the nature of the omission and why it is not accessible. Where a standard methodology for an estimate exists, and it has been applied, the data will be included in the inventory. If a common approach does not exist or a given methodology not applied, the data will be excluded and an estimate will be applied to judge its materiality.

Data Assumptions

In certain cases, assumptions and estimates need to be applied into order to ascertain usage information. The most common instances are:

- **Waste** - where exact tonnage of waste is not available, organisations can submit the number of bags, bins or skips of waste, capacity of the bag, bin or skip, the frequency of collection, type of waste and disposal method. We use the Environment Agency Waste Conversion Factors for estimating waste weight based on these metrics. As an estimate, 25% of the full tonnage per container is applied for mixed municipal waste. For other waste streams, a judgement is taken based on the waste content.
- **Commuter travel** – Data is collected through a basic commuter travel survey, requesting the date that the staff member joined or left the company; the number of days per week they travel to work; the distance travelled one way, within certain brackets; and the mode of transport taken for the majority of the journey. An estimate of distance travelled per travel mode is based on these parameters.
- **Energy, waste and water use in a serviced office** – where utilities are included in a service agreement in a tenanted office, usage relating to the reporting organisation can be estimated based on the methodology applied by the building management agent in allocating costs, the type of building occupied, the proportion of the total floor space occupied, and/or typical occupancy levels.
- **Home-working** - Working from home electricity and gas consumption is calculated using estimations from research conducted by UK price comparison service Uswitch (2020) calculating additional home utility consumption from home working in percentage terms based on underlying data collection conducted by WSP. Inclusion of home-working emissions is recommended for companies whose employees work from home at least two days per week.

  Renewable home electricity procurement can be accounted for by request. Furloughed employees are excluded from homeworking calculations.

  Where the number of days of home-working is not available on a per employee basis but home-working is estimated at greater than 2 days per week per employee, the Planet Mark has developed a number of working assumptions to estimate homeworking consumption:

  - *Scenario 1: Company with office* - employees work from home 2.5 days per week

- *Scenario 2*: *Company without an office or access to an office* – employees work from home 4 days per week
- *Scenario 3*: *Company has an office but it is shut during lockdown* – employees work from home 5 days per week.

- **Travel distances** - Calculation factors for air and rail travel are based on passenger distances. As such, distance calculators are used to estimate passenger distances when data is unavailable. We have developed in-house tools to calculate rail and flight passenger distances using Google API. However, organisations may also calculate this data independently. Where this is the case we encourage the use of the following tools for the purposes of consistency:
  UK rail travel - https://www.lner.co.uk/tickets-savings/the-best-way-to-travel/carbon-calculator/
  Vehicle – googlemaps
  Flights - http://www.webflyer.com/travel/mileage_calculator
- **Data assertion** – data is calculated in tCO_2e with accuracy of up to 5 decimal places. For reporting purposes, data is rounded to the nearest whole number. Therefore reports may show discrepancies in aggregated and totalled figures.

Assessing Data Quality

Data quality is an important tenet in the Planet Mark certification and improving data collection year on year is a key target. Quality source data will generate a more accurate carbon footprint. As such, the information gathered is more valuable to an organisation for communicating to stakeholders and using as a basis for building organisation cases for environmental improvement. The GHG Protocol highlights minimising uncertainty and bias towards producing a faithful representation of your organisations greenhouse gas emissions.

the Planet Mark certification uses the **Data Quality Matrix** below to determine the data quality level for each reporting year. It is based on 5 criteria; relevance of carbon footprint boundary, completeness of the dataset within the boundary, data consistency between years (from year 2 onwards), transparency of data collection, and data accuracy.

	4	3	2	1
Relevance of boundary	A full reflection of organisational activity e.g. at least 80%	The majority of organisational activity included e.g. at least 50%	A relevant proportion of the organisational activity represented e.g. at least 30%	Generally excludes many relevant sources e.g. less than 30%
Data completeness	12 months of data provided for all sources.	12 months of data provided for most sources.	At least 6 months of data provided for all or most sources.	Less than 6 months of data provided for all or most sources, prompting data exclusions.
Transparency	Full disclosure of assumptions and sufficient original evidence provided to support data submission.	Majority disclosure of assumptions and/or some original evidence provided.	Partial disclosure of assumptions and/or little original evidence provided.	No disclosure of assumptions and/or no evidence provided.
Data accuracy	Mainly use of primary data sources and efforts made to minimise uncertainties and estimated data.	Some primary data sources and/or efforts made to reduce uncertainties.	Mainly secondary data sources and/or few efforts to reduce uncertainties.	All estimated or secondary data and/or no consideration of uncertainty.
Consistency	Consistent or consistently improved method of data collation allowing for meaningful comparisons.	Largely consistent or improved data with supporting evidence of changes made.	Reasonably consistent data provision and/or no documentation of changes made.	Inconsistent data provided not allowing for reasonable comparison.

All certified companies are required to meet the following criteria in order to achieve certification:

- In the first year of certification, companies are required to score at least 9 out of 16.
- In the second of certification and thereafter, companies are required to score at least 12 out of 20, with a minimum score of 2 in each category.
- We encourage an annual improvement in the data quality score.

Emission Conversion Factors

For carbon emissions and conversion factors, we refer to BEIS (previously called Defra) Greenhouse Gas Conversion Factors, which are revised annually. Other conversion factors are also used in cases where they are not provided within the BEIS guidance. For the purposes of the Planet Mark certification, we update the most recently available factors once a year. The process of converting usage data to carbon emissions is managed through Sofi Salesforce to ensure consistency and accuracy. The conversion factors are based on the most up to date BEIS conversion factors. The following outlines how the BEIS emissions factors are applied in our calculations:

- **Greenhouse gas boundaries**: The scope of our environmental reporting includes the total equivalent carbon dioxide emissions in tonnes as denoted by CO_2e. This includes emissions of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 where arising, as set out in the BEIS guidance.
- **Scope 3 emissions for electricity and fuels**: BEIS guidelines separate the direct and indirect emissions related to fuel use and electricity. The upstream emissions related to the extraction, refining and transportation of fuels (collectively known as well-to-tank) and the transmission and distribution of electricity are accounted for in Scope 3. In normal circumstances these Scope 3 emissions are not included in the Planet Mark calculations, in order to simplify reporting for businesses. Where Scope 3 electricity and fuel emissions are required for reporting, these can be included on request. For comparative purposes, previous reporting including well-to-tank emissions is restated.
- **Country specific conversion factors**: We employ country-specific conversion factors as supplied by the International Energy Agency (IEA). Where a non-UK country office is included in a carbon footprint and a country specific factor is not available, the regional level figure will be applied. For all vehicle and building fuels, the 'Gross CV' factor is used as a default.
- **Air travel**: Our calculations include the stated uplift factor for air travel but do not include radiative forcing (90%). The 'average passenger' class is used for all travel unless otherwise requested. In 2015, BEIS introduced a new emissions factor for 'International' flights which travel from and to non-UK countries. As such, the previous assumptions used to account for flights in all countries have been amended to align fully with BEIS guidance. Previously, domestic legs were estimated as those less than 1,000km, short haul legs were less than 3,700km and long haul legs were greater than 3,700km for all flights travelling to and from any country. Now the following applies:
  Domestic - flights between UK airports
  Short haul - flights to and from the UK up to 3,700km in distance
  Long haul - flights to and from the UK over 3,700km in distance
  International - all flights to and from non-UK countries
  As there is no equivalent to the International factor in previous emissions factor databases, base year assertions will not be re-asserted to account for the improved accuracy in air travel emissions calculations.
- **Serviced offices**: Emissions from managed leased office facilities are treated in the same way to owned or fully controlled facilities for the purposes of reporting. We recognise that the ability of organisations to effect change in serviced office may be limited and improvements in efficiency may not reflect in carbon assertions.
- **Home-working**: Companies may include working from home utility consumption (electricity and gas) where, on average, employees work from home at least 2 days per week. Emissions related to the use of water and the production of waste are excluded unless an organisation can demonstrate that it has operational and/ or financial control over these activities.
- **Updates to BEIS (formerly Defra) emissions factors:** Emissions factors supplied by BEIS are updated annually. Where the guidance requires a revision to the methodology laid out in the Code of Practice, this is

then applied to all future reporting. Where a revision is optional, a view is taken on whether or not to adopt the new practice and revise the methodology.

- **Methodological change in 2015:** In Defra's 2015 emissions factors inventory, the global warming potentials of non-carbon dioxide greenhouse gases have been realigned from the IPCC Second Assessment Report to the IPCC's Fourth Assessment Report, so that there is consistency with reporting under the Kyoto Protocol. This realignment means that the GWP for methane has increased by 19% and nitrous oxide has decreased by 4%. This does not have a material impact on most emissions factors, as these gases make up a small percentage of the total carbon equivalent. The main exceptions are waste sent to landfill and refrigerant gases. For the purposes of reporting for the Planet Mark, baseline carbon emissions will only be re-asserted to account for this methodological change in the case of waste sent to landfill and refrigerant gases, where it has a material impact.
- **Renewable energy**: Current BEIS guidance is to use a market-based standard grid factor for all renewable energy procured in the UK through specialist providers or green tariffs through standard providers (using contractual instruments). The use of renewable energy from wind turbines and solar generated on-site is subject to a zero carbon emissions factor, unless a subsidy such as Feed-In-Tariff (FIT) or Renewables Obligation Certificate (ROC) is being received. Energy emissions generated from biomass, including wood pellets, wood logs, straw, biogas and biofuels are subject to the relevant emissions factor as supplied by BEIS.

  Planet Mark allows companies to report in line with the latest GHG Protocol Scope 2 Guidance.

  In 2015, The GHG Protocol released new guidance on accounting for renewable energy purchases, *GHG Protocol Scope 2 Guidance – An amendment to the GHG Protocol Corporate Standard* http://www.ghgprotocol.org/scope_2_guidance.

  The GHG Protocol Scope 2 Guidance introduced "dual reporting" duties for companies that operate in markets where contractual instruments are available, such as the UK. These companies shall report Scope 2 figures in two ways, using both the location-based method and the market-based method.

  Unlike the location-based method, which reflects the average emissions intensity of the grid on which energy consumption occurs, the market-based method reflects emissions from the electricity that companies have chosen in the market. Commonly available contractual instruments used to purchase green energy, or claim its specific attributes, include:

  • Energy attribute certificates (RECs, GOs, I-REC, etc.)

  • Direct contracts (for both low-carbon, renewable, or fossil fuel generation)

  • Supplier specific emission rates,

  • Default emission factors representing the untracked or unclaimed energy and emissions (termed the "residual mix").

  In the UK, Renewable Energy Guarantees of Origin (REGOs) are contractual instruments that may be used to prove consumption of renewable electricity adhering to the EU directive 2009/28/EC for the implementation of Guarantees of Origin.

  The market-based method can only be used where the type of contracts, instruments and information listed above are available to corporate purchasers, and they meet the **GHG Protocol's quality criteria**

  The GHG Protocol Scope 2 Guidance specifies quality criteria for contractual instruments used to document scope 2 emissions. This is to help companies determine whether the information they have is usable for credible, accurate market-based claims.

  For contractual instruments, the GHG Protocol Scope 2 quality criteria require that they:

  1. Convey GHG information;
  2. Be an exclusive claim;
  3. Be retired;
  4. Match up to inventory period; and
  5. Be sourced from same market as the company.

For those companies reporting electricity consumption under the market-based approach, all non-renewable electricity consumption will be given the supplier-specific/grid residual grid mix emission factor (excluding renewable electricity generation accounted for elsewhere) to avoid double counting.

In line with best practice, for those companies that wish to report on the purchase of green electricity, and that provide supporting evidence of contractual instruments that meet the above quality criteria, we will produce a location-based and market-based Scope 2 emissions figure. Emissions data will be normalised to ensure consistent comparison with previous year data.

Internal Checking

Data and reporting is checked internally in order to ensure data accuracy. The following checks are conducted:

- Cross check of all evidence submitted.
- Report on completeness of evidence supplied.
- Investigation into any significant changes to the footprint
- Specific data checks on significant (i.e. material) activities. Check for omissions and accuracy.
- Check whether emission units, parameters, and conversion factors are appropriately applied labelled.
- Check if units are properly labelled and correctly carried through from beginning to end of calculations.
- Check that conversion factors are correct.
- Check the data processing steps (e.g. equations).
- Check that actual data and estimated or extrapolated data are clearly differentiated.
- Check the aggregation of data across source categories, locations, organisation units etc.
- Check that assumptions and criteria for selection of boundaries, base years, methods, activity data, emission factors and other parameters are documented.

Sustainability Reporting

The methodology employed by Planet Mark for measuring the GHG emissions associated with an organisation is based on the World Organisation Council for Sustainable Development (WBCSD) & World Resources Institute (WRI) Greenhouse Gas (GHG) Protocol (2004), and subsequent revisions. The following outlines the components included in Planet Mark Certification Report:

Description of inventory boundaries:

- An outline of the organisational boundaries chosen. The chosen consolidation approach is detailed in this Code of Practice, unless a different consolidation approach is taken.
- An outline of the operational boundaries chosen. If scope 3 is included, a list specifying which types of activities are covered
- The reporting period covered

Required information on emissions:

- Total Scope 1 and 2 emissions, independent of any GHG trades such as sales, purchases, transfers, or banking of allowances.
- Separate total figures, including location-based and market-based methods for Scope 2 figures, in the case of assessments applying the GHG Protocol Scope 2 Guidance (2015).
- Emissions data separately for each Scope.
- Emissions data in tonnes of CO_2 equivalent. Data as presented for all seven GHGs separately (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3) is limited by factors provided by BEIS. Reporting by GHG is only included where possible.
- Year chosen as base year and an emissions profile over time. This is consistent with and clarifies the policy for making base year emissions recalculations, as stated in this Code of Practice.
- Appropriate context for any significant emissions changes that trigger base year emissions recalculation (acquisitions/ divestitures, outsourcing/ insourcing, changes in reporting boundaries or calculation methodologies, etc.).

- Methodologies used to calculate emissions and references to calculation tools used are stated in this Code of Practice
- Any specific exclusions of sources, facilities, and/ or operations.
- Emissions data for direct CO_2 emissions from biologically sequestered carbon (e.g. CO_2 from burning biomass/ biofuels), reported separately from each of the different Scopes.

Optional information:

- Emissions data from Scope 3 emissions activities: waste, water use, non-fleet vehicle use, air, rail and other travel and paper use.
- Emissions data further subdivided by organisational units/ facilities, country, source types.
- A description of performance measured against internal and external benchmarks.
- Relevant ratio performance indicators: CO_2e per employee and building energy CO_2e
- An outline of any GHG management/ reduction programs or strategies.
- Information on the causes of emissions changes that did not trigger a base year emissions recalculation (e.g. process changes, efficiency improvements, plant closures).
- GHG emissions data for all years between the base year and the reporting year (including details of and reasons for recalculations, if appropriate).
- Information on the quality of the inventory (e.g. information on the causes and magnitude of uncertainties in emission estimates) and an outline of policies in place to improve inventory quality.
- Information on contractual instruments used for electricity purchasing
- A list of facilities included in the inventory.
- A contact person to prepare and check the report.

Information included in the Planet Mark certificate:

- Carbon footprint period and certification period
- Boundary of certification including locations
- Carbon footprint inclusions
- Total carbon footprint and carbon footprint by intensity measure
- Future targets
- Carbon neutrality if achieved
- Market based carbon footprint if relevant

Additionally, for recertifying businesses:

- Normalised carbon emissions reductions achieved

Verification for the Planet Mark

Many organisations have internal systems in place to monitor their carbon emissions but seek independent third party assurance of their carbon footprint. This assurance process, or verification, satisfies internal requirements for accuracy but also demonstrates the important principles of transparency and robustness when reporting to external stakeholders. In addition, this verification serves as a prelude to achieving the Planet Mark.

Standards and guidance Planet Mark conducts carbon footprint verifications in accordance with ISO 14064-3 (2019) 'Specification with guidance for the validation and verification of greenhouse gas assertions' which is a leading international standard for greenhouse gas validation and verification, and sets out requirements and methodologies to ensure that the assurance process is robust.

Objectives The objective of the verification will be to achieve certification to the Planet Mark. In the first year, certification will be based on whether the carbon footprint report meets the minimum reporting requirements of

Scope 1 and 2 in accordance with its stated reporting standard and is materially correct. In the second year, an organisation needs to satisfy the above criteria and to demonstrate improvement.

Scope and criteria ISO 14064-3 provides guidance regarding assessment against a particular set of verification criteria, for example a specific standard or GHG programme. Planet Mark will verify a carbon footprint against its stated reporting standard or guidance such as the WRI/ WBCSD GHG Protocol. In the event that no recognised standard has been applied, the verification will be assessed against general good practice.

The verification also includes a full or sampled check of the accuracy of the data calculations which make up the final carbon assertion and the application of the stated carbon emissions factors. The assessment includes a full or sampled check of base data evidence (such as purchase records, invoices, electronic databases).

Level of assurance The level of assurance is agreed at the start of the verification. In the verification of a carbon footprint, there are two levels of assurance possible according to ISO 14064-3; “reasonable assurance engagements” and “limited assurance engagements”. Unless specifically requested and justified by a client, Planet Mark conducts verifications in order to provide limited assurance.

In the case of a limited level of assurance, based on its definition in ISO 14064-3, the verification provides an opinion on whether there is evidence that an organisation's greenhouse gas assertions are not materially correct and/ or have not been prepared in accordance with the relevant standards. A limited level of assurance requires a less in-depth assessment and evidence is not required for all assertions in the carbon footprint report.

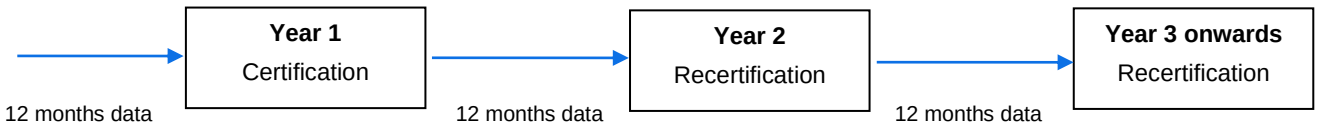
Reasonable assurance requires a more in depth verification, including collection of evidence and supporting information at a detailed level to support the conclusion. During the course of a verification, the auditor’s assessment confirms the level to which the GHG information system, controls and data are free from errors, omissions or misstatements in order to conclude the verification to a reasonable level of assurance. Where a reasonable level of assurance has been agreed, if the evidence gathered is insufficient to verify in line with this level of assurance, either the level of assurance is amended to 'limited', or the verification statement is qualified, meaning that the data is deemed non-verifiable.

This methodology aims to achieve an unqualified opinion from the assurer in accordance with the agreed level of assurance. Wherever possible, Planet Mark will work with the client to overcome any non-conformance issues identified. Any such assistance will be guided by the methodology and stated clearly within the verification report.

Materiality Information is considered to be material if, by its inclusion or exclusion, it can be seen to influence any decisions or actions taken by users of it. A material discrepancy is an error (for example, from an oversight, omission or miscalculation) that results in a reported quantity or statement being significantly different to the true value or meaning. This methodology applies the rule of thumb that an error or omission is considered to be materially misleading if its cumulative value exceeds 5% of the total inventory within the boundary identified. It is the role of the verifier to assess the materiality of errors or omissions in the full context within which information is presented.

Recertification to the Planet Mark

We encourage all holders of the Planet Mark to meet the 2.5% minimum carbon reduction target, against the absolute carbon footprint or against a chosen intensity measure.



Organisations are required to achieve the minimum carbon reduction target by the 3rd year of reporting for recertification to the Planet Mark. This allows organisations time to develop and implement carbon reduction strategies and communications.

Where targets have been missed in Year 2 onwards, the Planet Mark certification report will be issued as standard. the Planet Mark certificate will only be issued in years that the carbon reduction target has been met. Organisations who have not achieved certification are not authorised to use the Planet Mark logo.

Organisations that have been certified to the Planet Mark for a long period and are unable to achieve further carbon footprint reductions will be reviewed based on previous progress made and evidence of good practice in place.

Choosing a fixed base year

In the case where an organisation has a longer term carbon reduction target, certification to the Planet Mark can be achieved against a baseline of up to 5 years. We do not recommend baselines longer than 5 years as reporting loses comparability over time due to changes in the structure of a business, improved data collection and changes in carbon emissions reporting practices.

The minimum targets applicable for certification purposes are:

Year 1 Baseline
Year 2 target: 2.5% against base year
Year 3 target: 5% against base year
Year 4 target: 7.5% against base year
Year 5 target: 10% against base year

In order to assess the carbon assertion against any base year, all relevant years of reporting will be reviewed, and restated and normalised as necessary to ensure comparability. As such, the additional consulting fee arising from choosing a fixed base year will be proportional to the number of years being reported.

Certificate Validity period

Certificate valid to period is tied to the reporting period not to when the report was issued. As a default certificates are valid for 15 months from the last day of the reporting period. i.e. reporting period 1 January 2019 to 31 December 2020 certificate valid to 31 March 2021.

An exception to this rule can be considered upon application in cases of third party involvement in verifying the data submitted or the calculated footprint. If exception is approved the certificate can be valid for 12 months from when the report was issued but no more than 24 months from the end of reporting period.

2. Engage

The first step to achieving carbon emissions reductions is through establishing a sustainability strategy setting out priorities for action, roles and responsibilities and communication and engagement requirements. Planet Mark certification provides a host of resources and toolkits to support this process. These are available online through the Planet Mark website and unique logins are issued to all Planet Mark certified businesses.

Identifying key internal and external stakeholders is an important step towards understanding and addressing their needs as well as engaging them to achieve organisational objectives. In relation to sustainability, important stakeholders include the local and global environment, the local community, schools and government, staff, board members and investors, Customers and clients.

Employee Engagement

Raising awareness and encouraging behaviour change amongst colleagues is a vital step towards implementing an improvement programme. There are a number of additional services provided by Planet Mark to facilitate this documented in our marketing materials.

Supplier Engagement

When choosing suppliers, including environmental and social criteria in the decision-making process can help to ensure that sustainability goals are achieved in collaboration with your suppliers. Engaging your supply chain can happen in a number of ways. We provide a **Supplier Sustainability Questionnaire** which can be circulated to the companies in your supply chain and used during the procurement process. Holding a **Supplier Workshop** can enable information sharing and set expectations. Encouraging the uptake of the Planet Mark certification throughout your supply chain can help you ensure continual improvements are being made and the business benefits of sustainability are being realised.

Local Community Engagement

Planet Mark invests 5% of fees to the Eden Project, the UK's leading sustainability education centre. The donation is used to develop educational materials and workshops for school children and young people, as well as industry specific development training programmes, both off-site and at the Eden Project in Cornwall.

See more at: https://www.theplanetmark.com/about/eden-project/

The Eden Project also supports the Planet Mark schools programme, a unique programme of community investment for sponsorship by organisations. The programme includes:

1. Sustainability workshops, delivered by the Eden Project Education Team. These curriculum-based full-day programmes work with students both in and outside of the classroom to help them connect with the environment. The Eden Education Team use a variety of age-appropriate fun and engaging activities, including teachers as well as pupils, to encourage the continuation of sustainability education.

2. Certification to the Planet Mark for a school or college in your local area. The school receives the Planet Mark materials including certification report, certificate, use of the Planet Mark logo and other digital assets as well as access to online tools and resources to achieve reductions in energy, waste and water.

3. Communicate

Planet Mark recognises the importance of communicating and sharing sustainability practices in order to encourage wider adoption and large-scale behaviour change. Communication is therefore a fundamental criteria of certification.

the Planet Mark logo was designed specifically to aid this communication and to help organisations to promote their sustainability credentials to target audiences. Planet Mark certification and reporting supports customers in including sustainability performance in their decision-making.

We support the communication of Planet Mark organisations through a communications network and provision of materials and resources.

The Planet Mark Certificate

In order to promote transparency, we require that organisations present the Planet Mark certificate in the public domain, and the certificate will also be displayed on Planet Mark's website. The certification report can remain an internal document, as is relevant to your organisation.

Marketing Assets

Digital marketing assets include:

- the Planet Mark in partnership with the Eden Project logo for use on websites, intranet, email footers, business cards etc. Using a kite mark is a simple way to communicate your proactive approach to sustainability.
- Banners and images suitable for use on websites and intranets, which include the Planet Mark logo
- Press release template to circulate to local and regional press to announce your certification.
- the Planet Mark certificate to display in common areas of offices and sites and to include in submissions such as tenders and PQQs and for sustainability award programmes.
- Cool Earth 'Acre of Rainforest protected' certificate

Media Channels

We help you to communicate the Planet Mark certification through all our communications channels. We use social media (Facebook, Twitter, Instagram, YouTube & LinkedIn) and our website to develop an online presence and create familiarity with the Planet Mark. We post news stories on events, projects and initiatives by Planet Mark and holders of the Planet Mark. On a regular basis we highlight other stories in the news surrounding relevant sustainability issues and submit articles to online networks to stimulate discussion and awareness.

Knowledge Sharing

Case studies are an important way to share knowledge and innovation amongst organisations and to the wider community. Case studies are usually developed for organisations that have made notable achievements towards their set targets and/ or have demonstrated good practice in other areas of social responsibility. Learning and knowledge sharing also happens through regular webinars, events and social media.

Achieving the Planet Mark for New Developments

Overview of the certification process

The Planet Mark for New Developments certification is for buildings under construction. It forms part of the suite of Real Estate Certifications, and it follows a similar three-step process to other certifications in the Planet Mark family, as outlined below.

The Planet Mark Certification for New Developments in the UK requires that the Royal Institute of Chartered Surveyors (RICS) Whole Life Carbon Method (RICS, 2017) **shall** be adhered to, which is the required method for net zero carbon buildings.

Measure

Reduce lifetime carbon emissions for the development

- Whole life carbon assessment (carbon Life Cycle Assessment - LCA) **shall** be calculated
- Carbon mitigation (optional) can be added
- A minimum 2.5% reduction of whole life carbon against the baseline **shall** be reported

Engage

Customers, local community and supply chain

- Launch meeting and embodied carbon reduction workshop (Developer, contractor and supply chain) **shall** be held to engage suppliers and identify areas in the design in which carbon savings have been made
- Community programme (schools) **shall** deliver operational carbon footprints and sustainability workshops to local schools and/or colleges
- Occupier meeting (project handover) **should** be held where appropriate

Communicate

Share knowledge and best practice

- On-site Planet Mark posters, banners and materials **shall** be displayed
- Digital assets **should** be used
- The Planet Mark certificate shall be displayed in the public domain
- The Planet Mark certification report can be kept as an internal document
- Planet Mark Property Certification / POE 12 months after occupation (optional) **should** be considered once the Planet Mark Certification for New Developments has been achieved

1. Measure

Whole life carbon assessment requirements

Introduction

The Planet Mark for New Developments requires a whole life carbon assessment, including embodied carbon and operational carbon over the building lifetime. The purpose of the assessment is to provide quantifiable whole life carbon reduction.

The requirements for meeting the Planet Mark for New Developments are documented here.

Acceptable standards & methods for the whole life carbon calculation

The whole life carbon assessment **shall** be calculated according to recognised carbon footprint assessment methods or standards. Suitable methods include EN 15978, World Resources Institute (WRI) GHG Protocol for Products (The GHG Protocol for organisational footprinting is not a suitable standard for embodied carbon assessment), PAS 2050, PAS 2080, amongst others. Construction specific embodied carbon standards should be chosen where possible.

For new developments in the UK, the Royal Institute of Chartered Surveyors (RICS) Whole Life Carbon Method (RICS, 2017) **shall** be adhered to, which is the required method for net zero carbon buildings.

Goal of assessment

The goal of assessment should be to measure and show carbon reductions achieved in the whole life carbon of the development. This **shall** be over a complete life cycle, from cradle to grave.

Retrospective assessments

Retrospective assessments may be allowed at the discretion of Planet Mark. However, there must be a strong environmental case. Ideally combined with a commitment to improve at least one future development. Further supporting the case would be a development that commits to Post Occupancy Evaluations (POE), or the occupants signing up to the Planet Mark Business Certification. Ensuring whole life carbon emission reduction can still be achieved through operations.

For example, a retrospective assessment may prove useful to a client as a learning exercise, revealing the carbon hotspots. Wider environmental and social benefits of this project should also be considered, alongside any carbon mitigation activities. In this case, the retrospective assessment would focus carbon reductions more effectively on their next development.

Other developments may have put in a large effort on whole life carbon reductions through the design process, but would benefit from certification of the environmental benefits achieved.

Reference period

The reference period **shall** be 30 years or more. It **shall** be based upon the expected lifetime of the building. The reference period **shall** be declared and justified in the report.

Scope: Life cycle boundaries

The whole life carbon assessment **shall** be inline with the boundaries of EN 15978:2011 – Sustainability Assessment of Construction Works (EN15978:2011), shown in Figure 1. This breaks down the boundaries of a development into Modules:

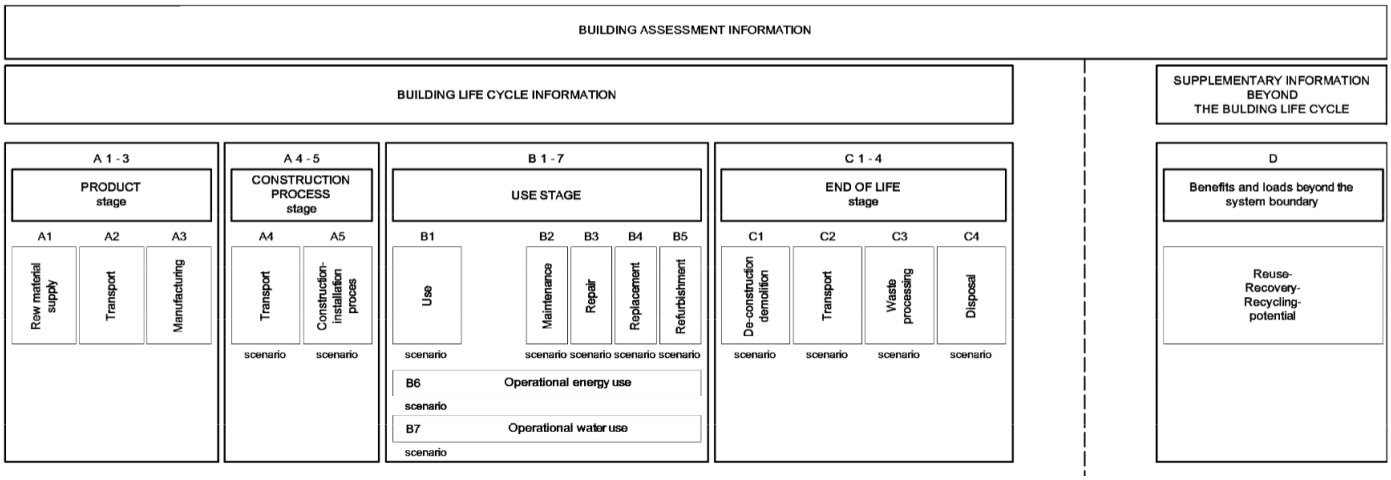


Figure 1: Building LCA Boundaries (Source: EN 15978:2011)

Embodied carbon of a new development **shall** include:

- Module A1-3: Production of materials and products (cradle to factory gate)
- Module A4: Transport to construction site
- Module A5: Construction site activities, including:
  - Construction site energy
  - Embodied carbon of construction waste
- Module B4: Replacement of materials and products during operation, until the end of life
- Module C1-4: End of life

Modules B1 (Use), B2 (Maintenance) and B5 (Refurbishment) **shall** be included where expected to be significant.

Operational carbon includes:

- Module B6: Operational energy use

Module D (benefits and loads beyond the building lifecycle) is currently optional. If Module D is included in the assessment, results **shall** be presented separately for transparency. Module D **shall** not be combined with the total embodied carbon of Modules A-C.

Scope: Boundaries of the new development

The assessment **shall** cover the full construction building elements shown in Figure 2, apart from building services (Mechanical Electrical Power, MEP), which is optional.

The building element breakdown provided in the RICS professional statement on whole life carbon assessment (RICS, 2017) **shall** be used for the reporting of results. This is shown in Figure 2. The notional baseline and actual LCA calculations **shall** breakdown results by these building elements.

	Building part/Element group	Building element
	Demolition	0.1 Toxic/Hazardous/Contaminated Material treatment
		0.2 Major Demolition Works
0	Facilitating works	0.3 & 0.5 Temporary/Enabling Works
		0.4 Specialist groundworks
1	Substructure	1.1 Substructure
2	Superstructure	2.1 Frame 2.2 Upper floors incl. balconies 2.3 Roof 2.4 Stairs and ramps
2	Superstructure	2.5 External Walls 2.6 Windows and External Doors
2	Superstructure	2.7 Internal Walls and Partitions 2.8 Internal Doors
3	Finishes	3.1 Wall finishes 3.2 Floor finishes 3.3 Ceiling finishes
4	Fittings, furnishings and equipment (FF&E)	4.1 Fittings, Furnishings & Equipment incl. Building-related* and Non-building-related**
5	Building services/MEP	5.1–5.14 Services incl. Building-related* and Non-building-related**
6	Prefabricated Buildings and Building Units	6.1 Prefabricated Buildings and Building Units
7	Work to Existing Building	7.1 Minor Demolition and Alteration Works
8	External works	8.1 Site preparation works 8.2 Roads, Paths, Pavings and Surfacings 8.3 Soft landscaping, Planting and Irrigation Systems 8.4 Fencing, Railings and Walls 8.5 External fixtures 8.6 External drainage 8.7 External Services 8.8 Minor Building Works and Ancillary Buildings

Figure 2: Building element breakdown (Source: RICS, 2017)

Acceptable boundary exclusions

Building elements from Figure 2 may be excluded based on immateriality and where there are no changes between the baseline and the actual building. If an element is excluded, full justification **shall** be provided along with commentary on the influence on results. All building elements that form part of the reduction scenarios **shall** be included.

Materials and products may also be excluded if expected to be immaterial to the embodied carbon results. All exclusions **shall** be reported and justified.
Items may be judged to be immaterial if they are expected to be below 1% of the total embodied carbon. No more than 5% in total may be excluded based on immateriality.

Data quality requirements

The Planet Mark requires data to be of sufficient quality for the embodied carbon of LCA calculations. Data sources are to be reported in a transparent and traceable manner.

Minimum data quality **shall** be set for the carbon LCA, which has been adapted from EN 15804:2013:

- Data **shall** be as current as possible. Data sets used for calculations **shall** have been updated within the last 10 years for generic data and within the last 5 years for producer specific data
- The time period over which inputs to and outputs from the system **shall** be accounted for is equal to the period of study (minimum 30 years) from the year for which the data set is deemed representative. A longer time period **shall** be used if relevant
- The technological coverage **shall** reflect the physical reality for the product or product group
- Generic data: Guidance for the selection and use of generic data is provided in CEN/TR 15941. Generic data **shall** be checked for plausibility
- Data sets **shall** be complete according to the system boundary within the limits set by the criteria for the exclusion of inputs and outputs
- The geographical coverage **shall** be representative of the region where the production is located. Data from other regions must be justified

A data quality matrix may be used for the key data. However, it is not required if the carbon LCA provides sufficient evidence that minimum levels of data quality have been stated and applied as part of the assessment.

Primary data sources

Primary data is specific to a project, rather than taken from a literature resource. Primary data on the new development **shall** be collected. Examples of suitable primary data sources are provided below, but are not limited to:

- Bill of Quantities (BoQ)
- Specifications
- Design drawings
- Building Information Model (BIM)
- Other design and project documentation specific to the project
- Environmental product declarations (EPDs) for specified products
- Operational carbon Part L reports
    - Non-domestic buildings – BRUKL certificate (Building Regulations UK, Part L)
    - Domestic buildings – SAP reports

It is strongly encouraged to ask for the below primary data:

- Contractor site energy (including key sub-contractors)
- Construction site waste – broken down by material mass or volume
    - Not just the m^3 or skips of mixed waste, which is challenging to model the embodied carbon
- Concrete design certificates, confirming actual concrete composition and transport routes of constituents
    - The cement content (known as CEM I or Ordinary Portland Cement) is particularly influential to embodied carbon
    - Concrete mixtures can be modelled in the ICE Database concrete embodied carbon calculator (https://circularecology.com/concrete-embodied-carbon-footprint-calculator.html)

Secondary data sources

Examples of suitable secondary data sources are provided below, but are not limited to:

- EN15804 assessments (BSI 2013 & 2019)
- Environmental product declarations (EPDs)
- Inventory of Carbon & Energy (ICE) database (Circular Ecology 2019)
- BEIS & BEIS greenhouse gas reporting conversion factors (BEIS 2020)
- Ecoinvent (Ecoinvent 2020)

- Gabi (Sphera 2020)

All data sources **shall** be referenced, transparent and the data must meet the minimum data quality requirements as outline in the Primary Data and Secondary data sources sections.

Software or calculation tools

Suitable calculation tools include, but are not limited to:

- Custom excel calculators
- One Click LCA
- eTool

A calculation tool **shall** be transparent, robust and must use suitable embodied carbon data for materials, energy and transport. The tool must:

1. Be comprehensive enough to model the embodied carbon of all construction elements in Figure 2
2. Produce high quality assessments in line with acceptable standards, such as EN 15978 (BSI, 2011) or RICS (2017)

Embodied carbon in-use: Material replacements

The embodied carbon of material replacements **shall** be considered.

The lifetime of building elements and components **shall** be in-line with “Table 9 - Indicative component lifespans” from the RICS Whole Life Carbon Method (RICS, 2017). The application of alternative lifetimes **shall** be reported and justified.

Carbon sequestration for timber

Carbon sequestration for timber and other natural materials **shall** be included in the results.

Biogenic carbon storage **shall** be reported separately for transparency. The end of life, Module C, **shall** be included in the results.

Operational carbon

Operational carbon **shall** be modelled in accordance with national guidelines on calculating operational energy and carbon. In the UK, this is SBEM (Simplified Building Energy Modelling) for commercial buildings (producing a BRUKL certificate), SAP (Standard Assessment Procedure) for domestic buildings. This covers what is known as the “regulated energy”, which is the energy consumption from activities covered by Part L of the building regulations.

The calculation of operational carbon reduction in the UK **shall** use the TER (Target Emission Rate) for the baseline building operational energy and carbon. This **shall** be compared with the actual building, using the BER (Building Emission Rate) for non-domestic buildings and the DER (Dwelling Emission Rate) for domestic buildings.

The operational carbon assessment may use emission factors accounting for grid decarbonisation.

If it is included, this **shall** be in line with the RICS (2017) method. The report **shall** state the below, for transparency:

- The emissions factors for electricity for each individual year of the period of assessment, in $kgCO_2e/kWh$
- State if the baseline results include or exclude grid decarbonisation
- Provide the results with and without grid decarbonisation

For non-UK developments, if the country where the development is located has a nationally approved building energy and carbon model for operational carbon, this **shall** be used for the operational carbon assessment. In other cases, operational carbon shall be based upon a transparent and independent operational energy and carbon assessment. The difference between the baseline and notional scenarios must be transparently reported.

The additional non-regulated energy (e.g. equipment, ICT etc) may be included, but the breakdown of regulated and non-regulated energy **shall** be reported for transparency. The data, assumptions and calculations for non-regulated energy estimates **shall** be transparent.

Baseline calculation guidelines

A notional baseline **shall** be calculated as a comparison for the as-built design, the purpose of which is to show a minimum 2.5% whole life carbon reduction, achieved in the design, operation and materials choice of the building. This should consider industry norms for that type of building, quantifying carbon savings in materials, construction and maintenance for design alterations, material substitutions and eco-design elements (such as roof windows, PIRs, solar PV, recycled content carpet etc) for that type of building.

The as-built design may be used as the starting point for calculation of the embodied carbon of the notional baseline, moderating for the savings of the as-built design changes and onsite activities (reduction measures) to form the carbon for the baseline building scenario. In this case, the additional emissions that would have arisen are added onto the embodied carbon results for the as-built scenario. This forms the embodied carbon of the baseline building. Using this approach, it is important that any parts of the building known to have increased embodied carbon are also included in the calculations, even if they resulted in an increased embodied carbon emission.

To provide an example of this approach. If the concrete mixture for a floor slab was changed from a CEM I mix (e.g. pure cement) to a mix containing 30% ggbs as cement replacement, this results in an embodied carbon saving. The carbon saved by specifying this lower carbon concrete mixture may be calculated and added on to the embodied carbon of the as-built development. Systematically assessing the carbon reductions in this way, forms the embodied carbon of the baseline development.

Alternatively, the baseline may be set from an early design stage embodied carbon assessment. In this case, the embodied carbon assessment **shall** be comprehensive, detailed and produced in line with the chosen carbon standard (For example, EN 15978:2011 and RICS 2017). Uncertainties and assumptions for this early embodied carbon assessment **shall** be documented with transparency and sufficient evidence **shall** be provided to Planet Mark.

Headline results: whole life carbon

The main results **shall** be based on the whole life carbon, cradle to grave over the reference period of assessment.

This represents the sum of:

- Embodied carbon, total of Modules A, B and C
- Operational carbon over the reference period

The embodied carbon and operational carbon **shall** be reported separately, in addition to the total. The reporting Table 1 below **shall** be used in the report:

Table 1 – The Planet Mark for New Development Main Reporting Table

	Embodied Carbon (tCO_2e)	Operational Carbon (tCO_2e)	Total Carbon (tCO_2e)	Total Carbon per m^2 of GIA (tCO_2e/m^2)	Total Carbon per m^3 Vol ($kgCO_2e/m^3$)
Baseline					
Actual					
Difference					
Difference (%)					

Table 1 **shall** be completed excluding any carbon mitigated (offset). The results **shall** also report using Table 2, to add transparency to the use of carbon offsets.

Table

Table 2 – The Planet Mark for New Developments Net Zero Carbon Reporting Table

	Embodied Carbon (tCO_2e)	Operational Carbon (tCO_2e)	Total Carbon (tCO_2e)
(A) Excluding ALL carbon offsets			
(B) Carbon offsets from procurement of carbon neutral products		N/A	
(C) Purchased carbon offsets			
Net Carbon [A-(B+C)]			

The results **shall** also be broken down by building element and lifecycle module. The reporting template from Table 13 of the Whole life carbon assessment for the built environment RICS professional statement (RICS 2017), **shall** be used to report the results. This table also appears in the Planet Mark - LCA Consultant Reporting Template.

Carbon Reduction

The Planet Mark for New Developments requires a minimum 2.5% whole life carbon reduction. The overall carbon reduction considers the total of the embodied and operational carbon.

A new development **shall** achieve a separate embodied carbon and operational carbon reduction.

However, in cases of exceptionally low operational carbon, a higher embodied carbon may be justified if it is linked to the lower operational carbon emissions. In this case, there **shall** also be sufficient evidence of embodied carbon reduction efforts.

Embodied carbon reduction

The Planet Mark for New Developments requires embodied carbon reduction.

The project team **shall** provide sufficient evidence of embodied carbon reduction efforts.

The carbon reduction effort **shall** occur as early into the building design process as possible.

Suitable efforts on embodied carbon reduction include, but are not limited to:

- Design stage embodied carbon hotspot and reduction assessment
- Embodied carbon reduction workshops – At early design stages or technical design
    - A minimum of one workshop is required

    - See ‘2. Engage – Supply chain engagement’
- Embodied carbon optioneering report

The LCA report **shall** document embodied carbon reduction efforts.

Operational carbon reduction

The Planet Mark for New Developments also requires operational carbon reduction. The project team **shall** provide sufficient evidence of operational carbon reduction efforts.

The carbon reduction effort **shall** occur as early into the building design process as possible.

Suitable efforts on operational carbon reduction include, but are not limited to:

- Operational carbon reduction workshops
    - See ‘2. Engage – Supply chain engagement’
- Operational energy and carbon reduction reports
- Techno-economic feasibility assessment reports
    - E.g. for on-site renewables
- Commitment to Post Occupancy Evaluations (POE) and/or the Planet Mark Business Certification for the occupants

Carbon reduction reporting requirements

Embodied carbon reductions **shall** be reported individually and with transparency.

However, when a potential embodied carbon reduction measure is considered to have an influence on the wider design or embodied carbon of a building, it shall be included in the reduction assessment. For example, if a lower embodied carbon cladding is selected that is also heavier, the implications of increased structural frame and foundations **shall** be considered.

Embodied carbon reduction measures **shall** be transparent on reporting of the below items, for both baseline and actual scenarios:

- Key assumptions
- Emissions factors
- Differences between baseline and actual scenarios

The baseline scenario **shall** be justified for each reduction measure. For example, is the baseline comparison against typical practice, original design specs, typical specification for the client’s previous projects.

Accounting for carbon neutral and net zero carbon products

There are an increasing range of construction products that are carbon neutral (net zero carbon products). These products typically still have an embodied carbon, but mitigate the carbon emissions through carbon offsetting.

The LCA model **shall** report the embodied carbon before carbon offsetting and the amount of carbon offset, for transparency. This also applies to carbon neutral and net zero carbon products. If a project uses such products, the embodied carbon before the offsetting must be used in the embodied carbon calculations.

The headline carbon results in Table 1 and Table 2 ensure transparency to the reporting of carbon emissions, before and after the use of carbon mitigation.

Carbon mitigation is available through Planet Mark. For example, through the provision of carbon offsets or through Cool Earth rainforest protection. See the section on Net Zero Carbon.

Transparency: Whole life carbon reporting requirements

The Planet Mark LCA Consultant Reporting Template **shall** be completed before the LCA is sent for verification. The template **shall** be updated by the LCA consultant once the verifier approves the final results.

The Planet Mark LCA Consultant Reporting Template should be checked for the latest requirements. However, in summary, the below items are required, at a minimum.

The whole life carbon assessment **shall** document the below, in either the report, or in a calculation model that has been provided to the verifier. For example, in an excel file (carbon model). If an excel file cannot be provided to the verifier, these details **shall** appear in the report to ensure transparency:

- Goal and scope of study
- Name of development, address and location
- System boundaries - upstream and downstream processes taken into account and boundaries for all processes
- Functional unit (including GIA, purpose of the development, building type, required service life)
- Gross Internal Area (GIA) in m^2
- Period of study (e.g. 30 year lifetime)
- Calculation method, including details of:
    - LCA methodology / standard applied
    - LCA software used, or a custom excel model
    - Approach to method for metal recycling
    - Biogenic carbon storage for timber
- List of assumptions
- List of exclusions
- Data sources with full reference details
- Details of the building model – quantification of mass and energy flows in systematic way
- Reduction scenarios, for both embodied and operational carbon – including details of calculation and justification that they are reduction measures. All sources and assumptions disclosed.
- Maintenance and replacement – provide details on assumed material / product lifetimes and replacements. Provide references and disclose assumptions.
- Construction stage – Provide details on construction site energy and waste.
- Transportation of materials – Provide details on assumptions or data used for transport of materials.
- Operational energy and carbon – Provide details on the operational energy and carbon for the baseline and actual building. Provide details on where the energy and carbon reduction arise. Justify the reduction measures.
- End of life – Provide details on assumptions or data used at the building end of life, e.g. landfill, recycling, reuse…etc.
- Notional baseline whole life carbon (including embodied and operational).
- Actual whole life carbon (including embodied and operational)
- Total carbon (including embodied and operational)
- Carbon savings (total, embodied, operational), in tonnes and %.
- Name, qualification and experience of consultant(s)
- Name of consultancy

Embodied carbon results **shall** be broken down by EN 15978 modules (e.g. Modules A, B, C, D) and by the building elements in Figure 2. Results **shall** breakdown using Table 13 of the Whole life carbon assessment for the built environment RICS professional statement (RICS 2017) – which is also in the Planet Mark LCA Consultant Reporting Template.

The report should be cross checked against the requirements of Section 3.6 in the RICS whole life carbon method (RICS, 2017).

Wider benefits

The LCA consultant is encouraged to highlight wider social and environmental benefits in the LCA report. This may include, but not limited to:

- Trees planted onsite – number of trees
- Trees planted offsite – number of trees
- Net biodiversity gain

- Social value assessment
- Other sustainability initiatives and measures

A short statement is sufficient for the purpose of the LCA, directing to the wider work, rather than reporting in detail.

LCA consultant experience

The main consultant (individual) carrying out the LCA must have completed a minimum of 3 detailed carbon LCA's for construction projects within the last 2 years.

The main consultant is defined as the individual (person) who undertakes most of the delivery of the carbon LCA. If this individual does not meet the above experience criteria, they must be supported by a colleague or individual that does meet these criteria (an experienced colleague). The experienced colleague shall quality assure (QA) the LCA model and report before it goes to the verification process, providing evidence of the QA.

If these requirements are not met, Planet Mark can provide support for an additional fee.

In cases where it is the first Planet Mark project, the LCA consultant **shall** schedule and early set up meeting with Planet Mark. This meeting will run through the main requirements, such as:

- Reduction measures
- Identification of low carbon materials
- Supply chain engagement
- Data collection
- Reporting and transparency requirements
- Baseline measurement
- Planet Mark LCA Consultant Reporting Template
- Verification process

The LCA consultant must provide facilitation of a workshop to identify sustainability and carbon reduction on the development as part of the certification, which Planet Mark should attend. They should challenge existing practices and bring knowledge of sustainability objectives to that forum. The LCA consultant is responsible for capturing this information and following up to confirm the validity of including measures in the baseline for the development's LCA.

Verification process and criteria

All LCAs completed for Planet Mark will be verified by Planet Mark against the requirements documented here.

The verification undertaken by Planet Mark is in accordance with ISO 14064-3. It includes verification of whether the submitted reports are in line with the stated calculation and reporting standard (e.g. BS 15978:2011; RICS, 2017;…etc). This has included a review of the accuracy of the data calculations provided, a sample check of base data and a sample review of the application of the stated carbon emissions factors.

The verification by the Planet Mark provides a limited level of assurance.

The verification process **shall** check that the requirements in the section 'whole life carbon reporting requirements' have been met. In addition, it **shall** spot check the carbon LCA model and the carbon reduction measures for:

- Accuracy of emissions factors
- Application of primary data. Samples of the primary data will be requested
- Validity of the reduction measures
- Consistency and accuracy of embodied carbon calculation model

In order to be verifiable, all information used, options, or decisions taken **shall** be presented in a transparent manner.

The verification **shall** include (but is not limited to) the following:

- consistency between the purpose of assessment and boundaries and scenarios used;
- traceability of data used for the products;
- conformity of data with requirements of the Planet Mark;
- consistency between the assumptions at a building level with the product and materials
- level data;
- completeness and justification of completeness for the quantification at the building level.

The LCA consultant **shall** provide access, upon request, to:

- The building LCA model
- Primary data sources (bill of quantities, drawings, schedules, BIM models…etc)

The competence of the verifier **shall** be stated in the verification procedure.

The Planet Mark NewDevCert Verification Template **shall** be completed by the verifier.

Net zero carbon (optional)

The Planet Mark for New Developments offers the option to go beyond carbon reduction by mitigating embodied carbon or whole-life carbon to achieve Net Zero Carbon developments. This is aligned with the UK Green Building Council's (UK GBC) Net Zero Carbon Framework Definition (UKGBC 2019), as shown in Figure 3.

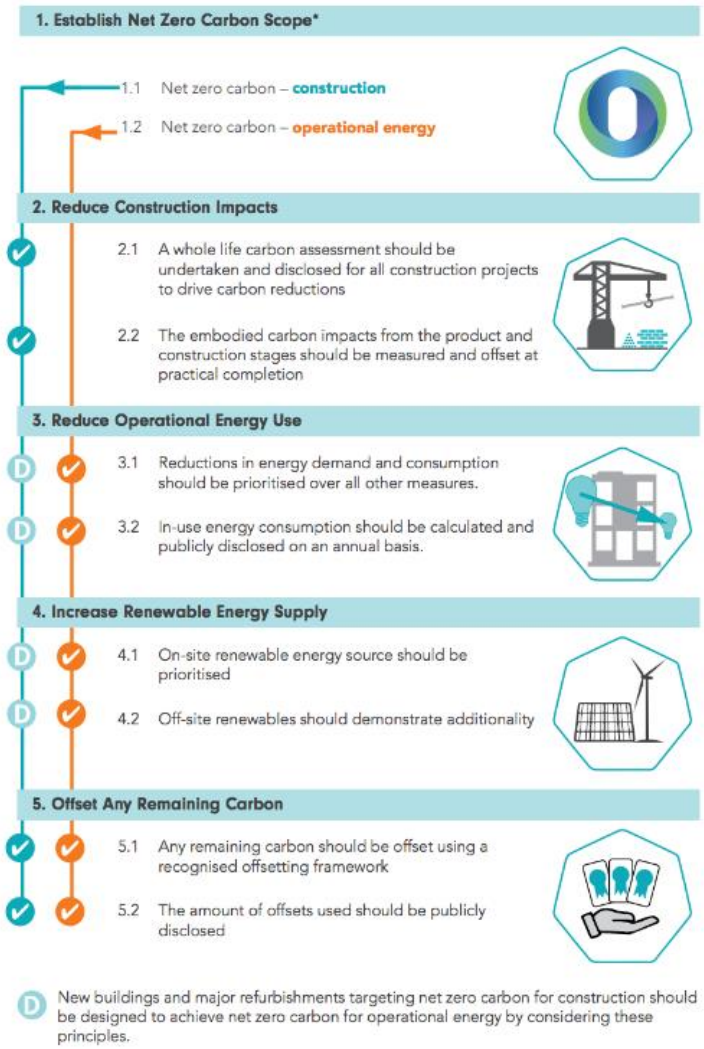


Figure 3: UKGBC Steps to achieving a net zero carbon building (source: UKGBC 2019)

Planet Mark can certify net zero carbon construction (embodied carbon) and net zero carbon operational developments. Carbon offsets to achieve a UKGBC net zero carbon development can be provided by Planet Mark.

Carbon mitigation is also available through Planet Mark by protecting an area of endangered rainforest via Cool Earth, an award-winning charity. Alternatively, an area of rainforest 5 or 10 times the size of the development can be protected, and carbon mitigation reported.

2. Engage

The Planet Mark for New Developments should engage with three different groups of stakeholders:

1. Supply Chain
2. Local community (primary schools)
3. Tenants, occupiers or end users of the building

Supply Chain Engagement

Launch meeting and embodied carbon reduction workshop

A sustainability workshop **shall** be held with the supply chain towards the beginning of the construction phase of the project. This is a requirement for attaining the Planet Mark for New Developments. The purpose of this meeting is to align understanding of sustainability in new developments with stakeholders involved in the construction of the build. During the launch meeting, a discussion is facilitated by the LCA consultant, with support from a member of the Planet Mark team where possible, to identify potential embodied and operational carbon savings in the project.

The launch meeting should occur before or shortly after breaking ground, and should include:

- Developer
- Main contractor and Quantities Surveyor (QS)
- Architect
- Engineer
- LCA consultant
- Planet Mark
- Occupier

Where suppliers have been inspired to join the Planet Mark community with the Planet Mark Business Certification, their commitment to reduce operational carbon, and actual reductions are noted in the Planet Mark for New Developments certification report.

The launch meeting shall incorporate the embodied carbon reduction workshop (see above for details).

Planet Mark posters, banners and materials

All developments working to achieve the Planet Mark for New Developments should display posters and banners to communicate the Planet Mark certification and sustainability credentials of the site. This supports wider communication and other programmes such as the Considerate Constructors Scheme (CCS) assessments of the site. Main contractors certified to the Planet Mark will likely earn additional CCS points.

Planet Mark provides guidance on the Planet Mark for New Developments to share with CCS assessors.

Community engagement

The Planet Mark for New Developments includes a community engagement programme.

In the UK, this extends information and knowledge on sustainability to educational establishments (such as primary schools, secondary schools and colleges) in the vicinity of the development, creating a sustainable legacy for the development, and the local community.

The community engagement programme is coordinated by the Planet Mark team and **shall** engage one or more primary schools or colleges, determined by the size of development.

Schools should:

1. Report their annual operational carbon footprint through the Planet Mark certification process
2. Host a workshop for pupils / students delivered by the Eden Project educational team

In non-UK locations, a portion on the community engagement module funds **shall** be made available for an organisation/charity local to (ideally), or in the same country as the development being certified. This organisation will need to be working towards improving the local community in a sustainable way. Guidance for suitable projects and reporting criteria are provided by Planet Mark.

Occupier engagement (optional)

Planet Mark Certification for Property

1. Annual ongoing certification of the property including operational carbon footprint measurement and reduction and optional social value measurement, follows the methodology for Business Certification, with a reduced boundary reflecting use of the property only.
2. Engagement with occupiers and employees to drive their sustainability programme and operate the building as efficiently as it was designed e.g. through an annual Sustainability Workshop, toolkits and Planet Mark certificate presentation
3. Communication of the sustainability of the facility and its certification

Post Occupancy Evaluation

1. Review performance of building at 12-months of occupation
2. Improves operational performance
3. Includes:
    - Energy data review
    - Onsite building audit
    - Employee engagement
    - Report presentation
    - Contributes to BREEAM (MAN-05, 2014)

3. Communicate

The following communication materials and activities are included in The Planet Mark for New Developments

- Marketing assets launch pack
- Onsite banners, posters and guidelines to support Considerate Constructors Scheme
- Certification report and certificate, including:
    - Figures verified in the LCA
    - Reductions achieved
    - Suppliers certified to The Planet Mark
    - Summary of the Community Engagement activities and their impact
- The Planet Mark Certificate presentation and media coverage to the design team, main contractor, developer and occupier
- Marketing assets certification pack
- Case Study
- Promotion through the Planet Mark social media and other media channels

The Planet Mark certificate **shall** be displayed in the public domain on the Planet Mark website, and by the Developer or Occupier of the certified development.

Glossary

BER (Buildings Emission Rate) is the building regulations requirements for specific aspects of building design and construction

Biogenic carbon storage refers to the carbon absorbed and stored in biological materials within a building product, and considered as a “negative emission” until the end of life of the building.

BRUKL (Building Regulations UK Part L) is a compliance report that specifies the energy and fuel conservation efforts in the building design

Control approach a company accounts for 100% of the GHG emissions from operations over which it has control. Control can be defined in either financial or operational terms.

Carbon dioxide equivalent (CO_2e) the universal unit of measurement used to indicate the global warming potential of greenhouse gases expressed in the terms of the 100 year global warming potential of one metric tonne of carbon dioxide.

Carbon emissions release of greenhouse gases through the combustion of fossil fuels, such as coal, oil and natural gas.

Carbon footprint sum of all carbon emissions, created directly and indirectly by a specified product, service or operation over a defined period calculated in accordance with a recognised methodology.

DER (Dwelling Emission Rate) is the actual CO_2e emission rate of a residential dwelling based on its actual specification. The DER is calculated as part of the SAP calculation for a residential property. The DER must be lower than the TER.

Embodied carbon is the total greenhouse gas (GHG) emissions (often simplified to carbon) generated to produce a built asset. This includes emissions caused by extraction, manufacture/processing, transportation and assembly of every product and element in an asset. In some cases, (depending on the boundary of an assessment), it may also include the maintenance, replacement, deconstruction, disposal and end-of-life aspects of the materials and systems that make up the asset.

Equity share approach a company accounts for GHG emissions from operations according to its share of equity in the operation.

Financial control approach a company can direct financial and operating policies with a view to gaining economic benefits from its activities. Financial control usually exists if the company has the right to the majority of benefits of the operation or if it retains the majority risks and rewards of ownership of the operation’s assets.

Greenhouse gas (GHG) six gases listed in the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydroflourocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6). These are gases which build in the atmosphere to retain heat from the sun, similar in effect to the glass of a greenhouse.

Operational boundary the direct and indirect emissions associated with owned or controlled operations

Operational carbon is the total greenhouse gas emissions associated with the operation of an asset required to enable it to operate and deliver its service

Operational control approach a company has operational control over an operation if it or one of its subsidiaries has the full authority to introduce and implement operating policies at the operation.

SAP (Standard Assessment Procedure) is the calculation method for the energy performance of residential buildings for compliance with the UK Building regulations.

SBEM (Simplified Building Energy Model) is a software tool developed by BRE that provides an analysis of a building's energy consumption. This is only used for non-domestic buildings.

Scope 1 emissions (direct emissions) GHG emissions from combustion and fugitive emissions from owned or controlled boilers, furnaces, vehicle and refrigeration and from chemical production in owned or controlled process equipment.

Scope 2 emissions (indirect energy emissions) GHG emissions from the generation of energy utilised in direct connection to the activities of a particular entity / subject but occurring at sources owned or controlled by another entity. Electricity, heat, steam and cooling that is purchased or otherwise brought into the entity boundary.

Scope 3 Emissions (other indirect emissions) GHG emissions that are a consequence of the activities of an entity or subject but occur at sources owned or controlled by another entity and which are not classified as Scope 2 emissions. Includes use of bought products and services, waste disposal and use of public transport such as rail and aircraft.

Sustainability and sustainable development Sustainable development that meets the needs of the present without compromising the ability of future generations to meet its own needs. There are 3 recognised pillars of sustainability - economic, social and environmental - that sustainable development must reconcile. These create the 'triple-bottom line' of sustainability.

tCO_2e is the abbreviation for 'tonnes of carbon dioxide equivalent'.

TER (Target Emission Rate) the targeted emissions a building needs to achieve in accordance with SAP calculations

Whole life carbon is the sum of GHG emissions from all stages of the lifecycle of a product or asset and within the specified system boundaries of the product or asset, including embodied and operational carbon

References

BEIS (2020) Government conversion factors for company reporting of greenhouse gas emissions
https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting

British Standards Institute (2011) EN 15978:2011, Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method
https://shop.bsigroup.com/ProductDetail?pid=000000000030256638

British Standards Institute (2013) EN 15804:2012+A1:2013, Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products
https://shop.bsigroup.com/ProductDetail/?pid=000000000030279721

British Standards Institute (2019) EN 15804:2012+A2:2019, Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products
https://shop.bsigroup.com/ProductDetail/?pid=000000000030424272

Circular Ecology (2019) Inventory of Carbon & Energy (ICE) database
https://circularecology.com/embodied-carbon-footprint-database.html

Economist Intelligence Unit, Management magnified Sustainability and corporate growth (2009)
http://graphics.eiu.com/upload/eb/SAS_Sustainability_WEB.pdf

Ecoinvent (2020) Ecoinvent LCA database
https://www.ecoinvent.org/

The Eden Project
http://www.edenproject.com

European Environment Agency, Water Scarcity
http://www.eea.europa.eu/themes/water/featured-articles/water-scarcity

European Commission guidance on GHG reporting and verification (EU ETS standards)
http://ec.europa.eu/clima/policies/ets/index_en.htm

Intergovernmental Panel on Climate Change (IPCC)
http://www.ipcc.ch

Royal Institute of Chartered Surveyors, RICS (2017) Whole life carbon assessment for the built environment, RICS professional standards and guidance, UK, 1st edition, November, 2017
http://www.rics.org/uk/knowledge/professional-guidance/professional-statements/whole-life-carbon-assessment-for-the-built-environment-1st-edition/

Sphera (2020) GaBi LCA database
http://www.gabi-software.com/databases/gabi-databases/

Stern Review on the Economics of Climate Change (2006)
http://webarchive.nationalarchives.gov.uk/20130129110402/http://www.hm-treasury.gov.uk/stern_review_report.htm

The Met Office (2010) Guide to Climate Science
http://www.metoffice.gov.uk/media/pdf/4/5/Guide_to_Climate_Science1.pdf

UK Carbon Reduction Commitment (CRC) Energy Efficiency Scheme
https://www.gov.uk/crc-energy-efficiency-scheme

UK Climate Change Act (Strategic Report and Directors' Report) Regulations 2013
http://www.legislation.gov.uk/ukdsi/2013/9780111540169/contents

UK Climate Change Agreements (CCAs)
https://www.gov.uk/government/policies/reducing-demand-for-energy-from-industry-businesses-and-the-public-sector--2/supporting-pages/climate-change-agreements-ccas

UKGBC (2019) Net Zero Carbon Buildings: A Framework Definition
https://www.ukgbc.org/ukgbc-work/net-zero-carbon-buildings-a-framework-definition/

UK producer responsibility
https://www.gov.uk/government/policies/reducing-and-managing-waste/supporting-pages/packaging-waste-producer-responsibility-regimes

UN Water for Life Decade, Focus Area - Water Scarcity
http://www.un.org/waterforlifedecade/scarcity.shtml

World Resources Institute and World Business Council for Sustainable Development (2004) Greenhouse Gas Protocol.
http://www.ghgprotocol.org/

Appendix 1: Reporting Sources

Scope	Emission Type	Unit	Specific
1	Natural Gas	kWh, m^3	
1	Other (non-metered) building fuel	kWh, litres	Gas Oil, Fuel Oil, Burning Oil, LPG, Diesel, Petrol
1	Refrigerant	kg	HFC134a, R404A, R407c, R410a, R417a
1	Fleet - Car	litres, km	Petrol, Diesel, LPG, Hybrid
1	Fleet - Van	litres, km	Petrol, Diesel, LPG
2	Electricity (grid)	kWh	Electricity
2	Electricity (onsite renewables)	kWh	Solar, Wind, Hydro
3	Electricity	kWh	Transmission and Distribution, Well-to-tank, Transmission and Distribution Well-to-tank
3	Natural Gas	kWh	Well-to-tank
3	Waste - Landfill	tonnes, no. bins (with size of bin specified)	Mixed municipal, mixed commercial, aggregates, metals, paper and/or cardboard, food, plastics, WEEE
3	Waste – Recycle	tonnes, no. bins (with size of bin specified)	Mixed municipal, mixed construction, metals, paper and/or cardboard, glass, plastics, WEEE, batteries, wood, clothing, tyres, plasterboard
3	Waste – Composting	tonnes, no. bins (with size of bins specified)	Food
3	Waste – Energy from Waste (Combustion)	tonnes, no. bins (with size of bins specified)	Mixed municipal, food, plastics, wood, clinical
3	Business Travel – Non-owned Car	km	Petrol, Diesel, LPG, Hybrid
3	Business Travel – Non-owned Van	km	Petrol, Diesel, LPG
3	Business Travel – Rail	pkm (passenger km)	National Rail, Underground, International Rail
3	Business Travel – Air	pkm	Domestic, Short haul, Long haul, International
3	Business Travel – Other	pkm, km	Cycle, Bus, Black Cab, Regular Taxi, Ferry, Motorbike
3	Commuter Travel	pkm, km	Car, Rail, Bus, Cycle, Walk
3	Procurement - Courier/Freight	km	Motorbike, Car, Van, Air
3	Procurement - Paper	tonnes	Virgin (primary source), Recycled content (Calculator provided to calculate tonnage from reams x size x weight of paper)

Appendix 2: Relevant legislation and regulation

Relevant legislation, policies and initiatives:

UK Climate Change Act was introduced in 2008 and established a long-term framework for tackling climate change. Under the CCA, the UK is tasked to reduce its GHG emissions by at least 80% compared to 1990 levels by 2050. The Act includes legally binding “carbon budgets” placing a restriction on the total amount of GHG the UK can emit over a 5-year period. The independent Committee on Climate Change advises the UK on policies related to climate change and reviews emission reduction targets and 5-year carbon budgets.

EU legislation includes carbon reduction targets of 20% by 2020, 20% renewable energy by 2020 and 20% increase in energy efficiency by 2020. New 2030 targets are 40% carbon emissions reductions and 27% of energy from renewable sources. Targets are all set against 1990 levels. The EU Energy Efficiency Directive, Article 8 led to the Energy Savings Opportunity Scheme.

Energy Savings Opportunity Scheme (ESOS) is a mandatory energy assessment and energy saving scheme for large (non-SME) businesses in the UK. ESOS requires businesses to undertake regular energy audits from 2015 onwards.

Climate Change Agreements provide a 65% discount from the Climate Change Levy to eligible energy-intensive organisations and industries that meet energy efficiency and carbon emissions targets.

EU Emissions Trading Scheme is the largest GHG emissions trading scheme in the world and aims to reduce EU GHG emissions by 20% by 2020. Under this scheme, a cap is set on the total amount of GHG that can be emitted by the participating installations. “Allowances” for emissions are auctioned off or allocated for free and can subsequently be traded. Each installation must hand in one allowance for each tonne of CO_2 they emit.

Mandatory Carbon Reporting was introduced in October 2013 as an amendment to the Companies Act 2006 and requires UK listed companies to publicly report GHG emissions on a yearly basis.

Feed-in Tariffs (FITs) allows small-scale renewable electricity generators to export excess electricity to the grid.

Producer Responsibility law has been designated in relation to waste generated by manufacturers, importers and sellers of certain products, including packaging, electrical and electronic equipment (EEE), batteries and vehicles. The law encourages waste minimisation through recovery and reuse of materials.

The UK government’s **Streamlined Energy and Carbon Reporting (SECR)** policy was implemented on 1 April 2019, when the Companies (Directors’ Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 came into force. Businesses in scope need to comply for financial years starting on or after 1 April 2019 and therefore need to understand their requirements under SECR.The introduction of SECR coincides with the end of the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme. The new regulations will require an estimated 11,900 companies incorporated in the UK to disclose their energy and carbon emissions - a far greater number than were required to act under the CRC.SECR builds on – but does not replace – existing requirements that companies may face, such as mandatory greenhouse gas (GHG) reporting for quoted companies, the Energy Saving Opportunity Scheme (ESOS), Climate Change Agreements (CCA) Scheme, and the EU Emissions Trading Scheme (ETS). SECR extends the reporting requirements for quoted companies and mandates new annual disclosures for large unquoted and limited liability partnerships (LLPs).

The Public Services (Social Value) Act 2012 is an Act of the Parliament of the United Kingdom. The Act calls for all public sector commissioning to factor in ("have regard to") economic, social and environmental well-being in connection with public services contracts; and for connected purposes. It requires that all public bodies in England and Wales, including Local Authorities, and NHS organisations to consider how the services they commission and procure which are expected to cost more than the thresholds provided for in the Public Contracts Regulations might improve the social, economic and environmental well-being of the area.

Appendix 3: Overview of sustainability management and reporting

Beyond regulatory requirements, there are a range of reporting standards and guidelines for voluntary sustainability reporting. Here is a list of some key guidelines which inform our work and offer alternative methodologies. The guidelines used specifically for the Planet Mark certification are outlined in next section.

- GRI/WBCSD GHG Protocol Corporate Standard http://www.ghgprotocol.org/standards
  The GHG Protocol focuses on an inventory of the greenhouse gases produced by a company and provides guidance on reporting emissions. the Planet Mark Code of Practice is based on the GHG Protocol.
- ISO 14000 series on environmental management http://www.iso.org/iso/publication_item.htm?pid=PUB200002
  The most common standard used in this series is ISO 14001, an environmental management system framework. The series includes guidance on GHG quantification for businesses, products and projects.
- GRI Sustainability Reporting Guidelines G4 https://www.globalreporting.org/reporting/g4/Pages/default.aspx
  A recently released upgrade to the GRI guidelines, G4 provides comprehensive guidance on sustainability reporting with some sector supplements.
- The Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises; http://mneguidelines.oecd.org/
  An internationally recognised set of guidelines for implementing and reporting responsible business practices. The standards are very comprehensive and centre on companies working positively in an international environment.
- The International Integrated Reporting Council (IIRC) http://www.theiirc.org/
  The Integrated Reporting framework aims to align financial and non-financial reporting in order to embed sustainability and governance into organisations' strategy and operations.
- ISO 26000:2010 Social Responsibility http://www.iso.org/iso/home/standards/iso26000.htm
  This is a framework for implementing a CSR programme, which also provides straightforward guidelines for reporting.
- AccountAbility AA1000 Series http://www.accountability.org/standards/index.html
  The AA1000 Principles are a framework for implementing CSR and certification.
- ISO 50000 Energy management http://www.iso.org/iso/home/standards/management-standards/iso50001.htm

  This standard supports organisations in all sectors to use energy more efficiently, through the development of an energy management system (EnMS).
- Social Accountability International SA8000 http://www.sa-intl.org/index.cfm?fuseaction=Page.ViewPage&pageId=937
  A standard focusing on social sustainability relating to employee practices, based on international labour standards.
- CDP (Formerly known as the Carbon Disclosure Project) https://www.cdp.net/en-US/Pages/HomePage.aspx
  A well regarded international index which requires companies to submit an environmental questionnaire and scores performance to reveal a leader board of major companies. The information is used by investors, insurers and banks in their decision making.
- UN Global Compact http://www.unglobalcompact.org/
  A commitment to 10 principles in the areas of human rights, labour, environment and anti-corruption requiring an annual disclosure.