

Climate Change – Greenhouse Gas Emissions.

This methodology document covers the following commitment areas and KPIs (Key Performance Indicators) along with how we calculate our carbon footprint:

Commitment	KPIs
Climate neutral across our operations by 2035, aligned to a 1.5 degree pathway.	Percentage reduction of Scope 1 and 2 market-based greenhouse gas emissions across the Group (baseline 2015/16).
Source 100% of our electricity from renewable sources.	Proportion of generated volume from grid PPAs (that are additional, not operational) and on-site generation, as a percentage of energy consumption at a Group level.

Definitions

Renewable Power Purchase Agreements (PPAs)

Contracts with a specific supplier to represent energy produced at assets off-site and on-site from an eligible renewable energy resource. These must demonstrate additionality. On-site PPAs refer to renewable energy generated from assets hosted, but not owned, by Tesco on-site. To calculate our total generated volumes via PPAs, we refer to the generation reports that show total annual output for each PPA.

Additionality

We define 'additional' renewable sources as procuring energy in a way that creates new renewable generation rather than buying what is already accounted for via Renewable Energy Certificates (RECs). We consider this procurement approach to be highly credible as it contributes to the wider transition to a low carbon energy market.

Onsite Generation

Generation of energy from assets that Tesco owns on-site.

Renewable Energy Certificates (RECs)

Government-backed certificates that producers of renewable energy are issued with for the electricity they generate. RECs certify that the electricity comes from renewable sources.

Timeframe

The published figures represent Tesco's carbon footprint for our full financial year 2022/23. This year comprises 52 weeks, ending 25th February 2023.

Scope

The following methodology has been applied to the carbon footprint calculated for this current year and all prior stated years.

We follow the “operational control approach” to help us determine when to include emissions within our carbon footprint. Our carbon footprint boundary includes operations where we have full authority to introduce and implement operating policies. This means that we include data from our major subsidiaries such as Booker, Tesco Bank, One Stop, and Dunhumby as well as Tesco stores and DCs where we have operational control. In cases where Tesco divests an asset part way through a financial year, and thus relinquishes operational control, emissions from this source will not be included in the Tesco annual carbon footprint.

In the case of emissions from distribution, we also include journeys which are provided by third parties but have been arranged by Tesco. These are largely included in our Scope 3 emissions but there are certain circumstances in which we would include this in our Scope 1 emissions, such as if the operations are fully planned by Tesco, and Tesco has dictated the vehicle specifications.

Methodology

We have calculated our carbon footprint according to the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) Greenhouse Gas (GHG) Protocol, which is the internationally recognised standard for corporate carbon reporting. We use the relevant year’s DEFRA (Department for Environment, Food & Rural Affairs) factors for converting consumption to emissions, except for non-UK countries electricity consumption for which we use IEA (International Energy Agency) factors. This breaks down emissions into four categories for reporting – Scope 1, 2 (market and location based), 3, and Outside of Scopes.

- **Scope 1** – These are the direct GHG emissions that originate from assets that Tesco owns or controls. For example, these include emissions from gas and other fuel consumption in our stores, distribution centres and offices globally. We also include emissions from fuel consumption in Tesco owned and leased vehicles transporting the products that we sell. As well as energy, we also include emissions from refrigerant gas leakage from systems in our stores and our vehicles.
- **Scope 2** – This includes the indirect GHG emissions from the generation of electricity and district heating¹ that Tesco uses. In accordance with the Greenhouse Gas Protocol, Scope 2 Guidance we calculate our electricity emissions using both the location-based and market-based methods.
 - **Market-based Scope 2:** Our market-based emissions have been calculated by collecting generation data directly from our suppliers in countries where Tesco has a choice in its electricity supplier. All of the supplier-specific factors applied relate to their most up-to-date production mixes which are often the year prior to reporting year but can include some periods within the reporting year too. Our Scope 2 market-based footprint includes Tesco’s purchase of electricity backed by Renewable Energy Guarantees of Origin (REGO) or Renewable Energy Certificates (RECs).
 - **Location-based Scope 2:** We have used emission factors from BEIS’ GHG Conversion Factors for Company Reporting 2021 and have determined the Scope 2 electricity impacts for non-UK electricity from the International Energy Agency (IEA) figures (of CO₂ rather than CO₂e). In line with current UK Government guidance, an emissions factor of zero has been applied for renewable electricity only where this has been generated from sources owned or controlled by Tesco in our Scope 2 location-based emissions.
- **Scope 3**² – These are emissions not produced by Tesco itself, and not the result of activities from assets owned or controlled by us, but by those that Tesco is indirectly responsible for, up and down its value chain.

We currently report against categories 1, 3, 4 and 6 within the GHG Protocol definition of Scope 3, covering:

- **Category 1** - Purchased Good and Services (Water is the only aspect of Category 1 that is reported on within this scope).

¹ District heating is a system for distributing heat generated in a centralized location through a system of insulated pipes for residential and commercial heating requirements such as space heating and water heating. District heating plants can provide higher efficiencies and better pollution control than localized boilers, and they are an important part of the UK government’s plan to reduce carbon emissions.

² Limited areas of Scope 3 captured, closely relating to operations: 3rd Party Logistics after depot; associated emissions from energy; business travel and water consumption. These emissions are also not tied to this particular KPI.

- **Category 3** - Transmission and distribution impacts of electricity and heat supply and well-to-tank embodied impacts of fuel.
- **Category 4** - Distribution arranged by Tesco but provided by third parties that Tesco would otherwise need to fulfil.
- **Category 6** - Business travel by air, rail, taxi, and short-term hire car.
- **Outside of Scopes** – This relates to biogenic emissions that are considered to have a net zero carbon dioxide impact due to the carbon they absorb during their growth. When they are burned to produce energy, this carbon is released, and the associated emissions are recorded as being ‘outside of scopes’ in accordance with the GHG Protocol.

Our carbon footprint is measured in carbon dioxide equivalent or CO₂e. Different greenhouse gases have different effects on the climate, and CO₂e is a widely recognised way of standardising the global warming effect of these emissions to ensure comparability.

We present our footprint in three ways:

- **Gross emissions:** Total CO₂e emissions within the boundaries of our footprint.
- **Net emissions:** Total CO₂e emissions within the boundaries of our footprint minus the emissions credited through renewable energy we generate and provide to the national electricity grid.
- **Emissions per square foot of Tesco stores and distribution space:** The intensity of our Scope 1 and Scope 2 emissions in the context of the amount of net sales area they relate to. This excludes storerooms, offices, and third-party leased space.

How we gather the necessary data

Our carbon data is collected by managers in each of the countries in which we operate and entered into an internet-based reporting tool that has been designed specifically for our carbon footprint process. This tool has been developed to reflect the requirements of the GHG Protocol. The tool calculates CO₂e emissions for each country and Tesco group as a whole, as well as tracking against our Key Performance Indicators (KPIs) and a number of other measures. All data is quality checked and reviewed by our analysis team.

Data estimations

Diesel use by suppliers

Where we use third-party contractors to deliver goods from our Distribution Centres (DCs) to stores, we estimate the amount of diesel they have used.

As of Tesco FY22/23, we have access to new 3PL (third-party logistics) data which has enabled us to improve the accuracy of our fuel consumption estimations, using the below calculation:

$$\text{Tesco attributed 3PL mileage} / \text{average 3PL MPG}$$

Floor Area

We calculate our total Group retail floor area in order to report emissions intensity per square foot, this includes Stores and DCs but not Offices. Some of our stores are in mall spaces, and therefore we need to rely on a degree of estimation to gain a complete number for our floor area. We do this by using previous year data as a base, and applying an average floor area per store format for each store opening / closure, and any stores for which we do not have accurate square foot readings.

Data gaps

In the case of any data gaps, we will estimate the impact on the footprint and by using the most appropriate data available (e.g. historic consumption, annual extrapolation, average emissions).

Excluded data

For a small number of areas actual data was unavailable and reasonable estimates could not be produced. The reporting and assurance processes have concluded that these areas are not of significance to the carbon footprint data overall. We will continue to improve the quality of our data and will work to obtain actual data for these sources in future.

- Emissions from diesel used in back-up generators in the UK.
- Employee car use for business and short-term hire car travel outside of UK.
- Taxis for non-UK countries.
- Emissions from asset sites – these are vacant buildings that we own but have not yet developed into stores and therefore have minimal emissions.

In line with our operational control approach, emissions from the following businesses and sources are not included in our footprint:

- Tesco Mobile services - these are delivered using Virgin O2's mobile network infrastructure and these emissions are reported within Virgin O2's carbon footprint. Tesco Mobile concessions within Tesco stores are counted as part of our scope 1 and 2 emissions.

Baseline and restatements

We use 2015/16 as the baseline year for our carbon footprint reduction as that is the reference year we used to set our science-based targets. In order to accurately reflect true progress in carbon reduction, we recalculate our baseline and all prior year emissions for relevant significant changes that exceed our materiality threshold. More information on our baseline year recalculation policy can be found [here](#).

KPI: Percentage electricity from renewable sources: Proportion of generated volumes from Grid PPAs and on-site generation as a percentage of energy consumption at a Group level ('generated additional')

This is the first year we are reporting on 'generated additional' instead of 'contracted additional'. This is because using generated volumes gives a more accurate view of what was actually generated within the timeframe.

Calculation:

We use the below calculation for the proportion of our electricity which comes from renewable sources, i.e. from renewable Power Purchase Agreements (PPA) both onsite and offsite, renewable generation from owned assets onsite, and purchased in the form of Renewable Energy Certificates (RECs):

(Electricity generated onsite and consumed by Tesco from owned assets + volume generated and consumed by Tesco from PPAs both onsite and offsite + purchase of RECs) divided by our total electricity consumption

To calculate the proportion of electricity we procure from sources that contribute additional renewable electricity to the grid, we exclude RECs. This is tracked as an independent KPI and is calculated as follows:

(Electricity generated onsite from owned assets + volume generated from PPAs both onsite and offsite) divided by our total electricity consumption

Assurance

Deloitte LLP was engaged to provide independent limited assurance over selected greenhouse gas emissions data highlighted with \diamond in our yearend publications using the assurance standard ISAE (UK) 3000 and 3410. Deloitte's full assurance statement is available at: [Reporting hub \(tescoplc.com\)](https://www.tescopl.com/reporting-hub)