

# 2024 OVO Group Ltd Scope 1, Scope 2, and Scope 3 carbon emissions Basis of Preparation

## 1. Overview

### 1.1. Purpose of this document

This document outlines the reporting approach used by Energy Transition Holdings Ltd ("OVO") to report on Scope 1, Scope 2, and Scope 3 carbon dioxide equivalent (CO<sub>2</sub>e) emissions.

### 1.2. Metrics

This document covers the following metrics:

- Scope 1 carbon emissions (tCO<sub>2</sub>e)
- Scope 2 carbon emissions (Market-based) (tCO<sub>2</sub>e)
- Scope 2 carbon emissions (Location-based) (tCO<sub>2</sub>e)
- Scope 1 and Scope 2 carbon emissions intensity relative to revenue (Market-based) (tCO<sub>2</sub>e/£m)
- Scope 1 and Scope 2 carbon emissions intensity relative to revenue (Location-based) (tCO<sub>2</sub>e/£m)
- Scope 3 emissions from purchased goods and services (tCO<sub>2</sub>e)
- Scope 3 emissions from waste and water in operations (tCO<sub>2</sub>e)
- Scope 3 emissions from business travel (tCO<sub>2</sub>e)
- Scope 3 emissions from employee commuting and working from home (tCO<sub>2</sub>e)
- Scope 3 emissions from fuel and energy-related activities and use of sold products (electricity and gas) (tCO<sub>2</sub>e)
- Scope 3 emissions relative to customer numbers (tCO<sub>2</sub>e/customer numbers)

### 1.3. Materiality

The GRI reporting framework guides organisations to select topics for reporting that reflect their most significant economic, environmental and social impacts in consultation with stakeholders. In 2018, we performed a materiality assessment (which involved engaging with our internal and external stakeholders) to inform our sustainability reporting and strategy development. Surveys were sent out to employees, customers and senior management to understand interest in and prioritisation of different environmental, social, economic and governance topics. The results of this exercise put energy management, efficiency, climate change and emissions as some of the most important topics across our stakeholder base.

We plan to complete a double materiality assessment in H2 of 2024. This will assess how our actions impact people and the environment but also how sustainability issues can impact our business. Any updated material topics will be reflected based on our findings.

As one of the largest energy suppliers in the UK, the majority of our business activity and value chain operations are focused on supplying electricity and gas to our customers. Therefore, accounting for the emissions associated with the power and energy we supply to our customers comprises the most significant impact of our carbon footprint as an organisation. This is reflected in our Scope 3 emissions, particularly Category 3 and 11.

## 2. Scope

### 2.1. Organisational boundaries

There are two methods for establishing organisational boundaries that are described in the Greenhouse Gas Protocol standard: the equity share and control (financial or operational) approaches. An operational control consolidation approach was used to account for emissions. Table 1 describes the entities that are within the operational boundary approach.

**Table 1: Organisational boundaries**

Inclusions	Exclusions <sup>1</sup>
All owned reporting entities that OVO has operational control over including: <ul style="list-style-type: none"><li>• Energy Transitions Holdings Ltd</li><li>• OVO Group Ltd</li><li>• OVO Holdings Ltd</li><li>• OVO Finance Ltd</li><li>• OVO Energy Ltd</li><li>• Spark Gas Shipping Ltd</li><li>• OVO Electricity Ltd</li><li>• OVO Gas Ltd</li><li>• Bonnet Ltd</li><li>• OVO Insurance Services Ltd</li><li>• CORGI HomePlan Ltd</li><li>• OVO Field Force Ltd</li><li>• OVO (S) Energy Services Ltd</li><li>• OVO (S) Electricity Ltd</li><li>• OVO (S) Gas Ltd</li><li>• OVO (S) Home Services Ltd</li><li>• OVO (S) Energy Solutions Ltd</li><li>• Intelligent Energy Technology Ltd</li><li>• Kantan Ltd</li></ul>	<ul style="list-style-type: none"><li>• Emissions from entities where OVO has no operational control, including associates</li><li>• Entities that are dormant or have no headcount</li><li>• OVO Energy Spain S.L.U.</li><li>• OVO Energy Pty Ltd</li><li>• Kaluza Ltd (including international sites)<sup>2</sup></li></ul>

This year, we have again excluded the emissions from our international entities (e.g. OVO Energy Spain, OVO Energy Australia) from our published carbon accounts. This is because they are immaterial at a Group level (e.g. <5% of total emissions) and we continued to divest our operations across these geographies in 2023.

### 2.2. Reporting period

Reporting is aligned to the calendar year (i.e. 1st January - 31st December).

### 2.3. GHG emissions sources

**Table 2: Scope 1 and Scope 2 emissions sources**

<sup>1</sup> Please note that we updated the exclusions to our organisational boundary this year to cover our international entities on the basis of immateriality. Should these entities exceed our materiality threshold in the future, we will publish a restatement as per section 3.6.

<sup>2</sup> Kaluza Ltd has its own sustainability reporting

Inclusions	Exclusions <sup>3</sup>
<b>Scope 1</b>	
<b>Buildings</b> Emissions associated with the combustion of fuels in the premises that OVO operates including gas, diesel and refrigerant loss.	N/A
<b>Fleet</b> Emissions associated with the combustion of fuels in the vehicles that OVO operates including petrol, diesel, hybrid and plug-in hybrid vehicles.	Emissions associated with business travel from grey fleet (personally owned cars used for company business) and rental vehicles.
<b>Scope 2</b>	
<b>Buildings</b> Emissions associated with the electricity used in the premises that OVO operates.	N/A
<b>Fleet</b> Emissions associated with the electricity used in the vehicles that OVO operates.	Emissions associated with business travel from grey fleet (personally owned cars used for company business) and rental vehicles.

**Table 3: Scope 3 emissions sources**

Scope 3 Category	Activities Description
<b>1. Purchased goods and services</b>	Emissions associated with the full lifecycle of the goods and services procured by OVO.
<b>2. Capital Goods</b>	Emissions from all upstream (i.e., cradle-to-gate) emissions from the production of capital goods purchased or acquired by OVO.
<b>3. Fuel- and energy-related activities</b>	Emissions from Generation (upstream activities and combustion) of electricity, steam, heating, and cooling that is sold by OVO.
<b>5. Waste generated in operations</b>	Emissions from the production and disposal of waste from OVO operated offices. Emissions relating to the use and waste of water from OVO operated offices.
<b>6. Business travel</b>	Emissions relating to combustion of fuels for business related travel.
<b>7. Employee commuting</b>	Emissions relating to the use of energy for employees who work from home.  Emissions relating to the combustion of fuels for transportation to and from the OVO offices.

<sup>3</sup> Please note that all exclusions are deemed immaterial as per our materiality threshold, set at 5% as per section 3.6.

<b>11. Use of sold products Emissions from our tier one supply chain Upstream emissions of fuel and energy-related activities</b>	Combustion of the volume of gas delivered to customers (excluding Unidentified Gas and Shrinkage) split by fuel type (Natural gas, Biomethane from products/co-products and Biogas from agricultural activities).
---	---

**Table 4: Scope 3 exclusions**

<b>Scope 3 Category</b>	<b>Reason Behind Exclusion</b>
<b>4. Upstream transportation and distribution</b>	Included in use of sold products (full lifecycle emission factors are used)
<b>8. Upstream leased assets</b>	N/A - Covered in scope 1 & 2
<b>9. Downstream transportation and distribution</b>	N/A - included Scope 1 & 2 (for fleet) and in purchased goods and services.
<b>10. Processing of sold goods</b>	N/A - Not relevant to OVO business model
<b>12. End-of-life treatment of sold products</b>	Already calculated in category 3 and 11 as we use cradle to grave emission factors
<b>13. Downstream leased assets</b>	N/A - Not relevant to OVO business model
<b>14. Franchises</b>	N/A - Not relevant to OVO business model
<b>15. Investments</b>	N/A - Not relevant to OVO business model

## 2.4. Reporting approach

The GHG Protocol is the most adopted carbon accounting methodology used by corporations to measure their impact on the environment. Under the Protocol, corporations are required to calculate two sets of emissions for their electricity consumption: location-based and market-based when looking at Scope 2 emissions. Location-based accounting reflects the national grid’s fuel mix. Market-based accounting applies a carbon factor based on the purchasing decisions that an organisation makes.

As an electricity retailer, we are required to report these figures for our Scope 3 emissions as well. OVO will report our footprint only using the location-based methodology for 2023 as we don’t believe that market-based accounting accurately reflects atmospheric decarbonisation. You can read more about our position [here](#).

## 3. Calculation methodology

### 3.1. Unit of measure

Scope 1, Scope 2, and Scope 3 carbon emissions are reported in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). This includes all greenhouse gas emissions.

Scope 1 and Scope 2 carbon emissions intensity is reported in tonnes of carbon dioxide equivalent relative to revenue (tCO<sub>2</sub>e/£m). We use independently audited revenue figures (£m) provided by OVO’s Finance team which are disclosed in our published financial statements. For Scope 3 carbon emissions intensity relative to customer numbers (tCO<sub>2</sub>e/customer numbers), we use customer

numbers figures provided by our internal Finance team. Customer numbers are calculated based on an average of monthly customer numbers.

The scope of our environmental reporting is in line with the company's financial reporting boundary.

### 3.2 Emissions Factors & Constituent Indicators

#### 3.2.1 Scope 1 and 2 Emission Factors

For market-based emissions reporting, the following hierarchy of emission factors is applied:

1. Emissions factors provided by electricity attribute certificates or equivalent instruments.
2. Emissions factors provided by contracts for electricity, such as power purchase agreements (PPAs)
3. Emissions factors provided by energy suppliers.
4. Emissions factors provided by the Department for Energy Security and Net Zero (DENZ) for the UK residual mix.
5. Other grid-average emission factors (subnational or national)

For location-based emission reporting, the following emission factors are applied:

1. National production emission factors (published by the Department for Energy Security and Net Zero)

#### 3.2.2 Scope 1 and 2 Emission Constituent Indicators and Data Sources

**Table 5: Constituent indicators and data sources**

<b>Emission source</b>	<b>Description</b>	<b>Business unit</b>	<b>Data source and collection process</b>	<b>Unit</b>
<b>Scope 1</b>				
<b>Building gas use</b>	Purchased gas	All business units	Gas consumption information is based on supplier invoices or meter readings provided directly to OVO where OVO holds the contract or to OVO through the respective landlord at the site. Invoices are based on actual meter readings or estimated consumption from billing systems.	kWh
<b>Building diesel use</b>	Diesel fuel consumed by backup emergency generators	All business units	Diesel consumption is calculated by the number of hours the generators are used for. The estimation is based on the estimated run time per annum and fuel consumption as per the machine's specification.	Litres
<b>Refrigerant loss</b>	Refrigerant loss from air conditioning systems	All business units	Emissions from refrigerants are based on maintenance reports issued by our facilities department and third-party service providers. Where quantity leaked is unknown, the refrigerant loss is estimated using the kg/m2 leaked of the sites where the data is available.	Kg

<b>Commercial fleet petrol and diesel van use</b>	Fuel used by vans leased by OVO	Field force	Fuel is purchased using fuel cards from independent fuel suppliers. The fuel card supplier captures fuel consumption data and provides a report to the OVO Fleet team.	Litres
<b>Commercial fleet petrol, diesel, hybrid and plug-in hybrid car use</b>	Distance travelled by cars leased by OVO	All business units	Emissions from fleet car travel are based on the mileage cited in expense reports that employees submit via OVO's expense system for fuel cost reimbursement.	Miles
<b>Scope 2</b>				
<b>Building electricity use</b>	Purchased electricity	All business units	Electricity consumption information is based on half-hourly consumption data or invoices provided from the supplier directly to OVO where OVO holds the contract or to OVO through the respective landlord at the site. Invoices are based on actual meter readings or estimated consumption from billing systems.	kWh
<b>Commercial fleet electric van use</b>	Electricity used by vans leased by OVO	Field force	Every electric van is fitted with a telematics device which records mileage. Records of mileage are automatically fed into a third-party telematics system. This third party then produces a vehicle mileage report for the OVO Fleet team	Miles
<b>Commercial fleet electric car use</b>	Distance travelled by electric cars leased by OVO	All business units	Emissions from fleet car travel are based on the mileage cited in expense reports that employees submit via OVO's expense system for fuel cost reimbursement.	Miles

### 3.2.3 Scope 3 Emission Constituent Indicators and Data Sources

Table 6: Scope 3 Emission Factor Sources

Scope 3 Category	Description	Business Unit/Raw Data Source	Data Source and Collection Process	Unit
<b>1. Purchased goods and services</b>	Goods and services procured by OVO	Procurement	Supplier expenditure data is collected via OVO's internal supplier system (Workday Strategic Sourcing) this is then categorised and scrutinised by a third-party	£ or \$
<b>2. Capital Goods</b>	Capital goods procured by OVO	Procurement	Supplier expenditure data is collected via OVO's internal supplier system (Workday Strategic Sourcing) is then categorised and scrutinised by a third-party	£ or \$
<b>3. Fuel- and energy-related activities</b>	Generation (upstream activities and combustion)	Trading & Energy	Electricity volumes delivered to customer and it goes through an internal formal sign-off process before finalising quarterly and annual figures	kWh

	of electricity, steam, heating, and cooling that is sold by OVO			
<b>5. Waste generated in operations</b>	Production and disposal of waste and use/waste of water from OVO operated offices	Procurement	Supplier expenditure data is collected via OVO's internal supplier system (Workday Strategic Sourcing)	£
<b>6. Business travel</b>	Combustion of fuels for business related travel	All business units	This is collected based on the mileage cited in expense reports that employees submit via OVO's expense system	Miles
<b>7. Employee commuting</b>	Combustion of fuels for transportation to and from the OVO offices & use of energy for homeworking	All business units	This is collected via an employee survey that is circulated to OVO employees around their commuting habits and working from home	Miles & kWh
<b>11. Use of sold products</b>	Combustion of the volume of gas delivered to customers	Energy & Trading	Settled volumes of gas delivered to customers are calculated by Portfolio Analytics and supplied to our Trading team before going through a formal sign-off process before finalisation	kWh

### 3.2.4 Scope 3 Emission Factors

Table 7 summarises the sources of the emission factors used to calculate OVO's Scope 3 emissions for the 2023 reporting period.

**Table 7: Scope 3 Emission Factor Sources**

Scope 3 Category	Emission Factor Source/Methodology
<b>1. Purchased goods and services</b>	Emitwise Spend-based Emission Factors <sup>4</sup>
<b>2. Capital goods</b>	Emitwise Spend-based Emission Factors

<sup>4</sup> Emitwise Scope 3 Methodology can be found [here](#)

<b>3. Fuel- and energy-related activities</b>	Carbon Trust Modelling (based on standalone research) <sup>5</sup>
<b>5. Waste generated in operations</b>	Emitwise Waste Management Emission Factors
<b>6. Business travel</b>	Department for Energy Security and Net Zero (DESNZ): Greenhouse gas reporting: conversion factors 2023
<b>7. Employee commuting</b>	DESNZ 2023 Factors for Employee Commuting & Carbon Trust Modelling (based on DESNZ factors) for home working. <sup>6</sup>
<b>11. Use of sold products</b>	Department for Energy Security and Net Zero: Greenhouse gas reporting: conversion factors 2023

Lifecycle emission factors for each type of electricity generation technology were calculated by the Carbon Trust, through a proprietary calculator. The calculator uses data from Department for Energy Security and Net Zero (DESNZ) and a number of peer-reviewed life cycle assessment (LCA) papers based on different geographies and relevant to each technology. For each technology (e.g. solar, wind, hydro, nuclear), the following was considered:

- Well-to-tank (WTT) emissions of generation
- Emissions from construction
- Generation
- Transmission and distribution losses
- Well-to-tank (WTT) of transmission and distribution losses
- Transmission and distribution infrastructure
- End of life

By having technology-specific emission factors, this can then be flexibly applied to calculate the market-based scope 3 emissions of OVO's specific fuel mix, both in terms of its own consumption and distribution to customers. The result is a more specific emission factor than using grid average from DESNZ, which is based on the overall average UK grid mix.

For piped gas products delivered by OVO, lifecycle emission factors are also used. This covers the upstream emissions from transmission and distribution prior to combustion. Emissions from combustion of fuels when reaching customers are also applied.

### 3.3. Calculations

The following calculation is applied to convert activity data into carbon dioxide equivalent emissions:

$$\text{Activity data (e.g. kWh of gas or electricity delivered)} * \text{emission factor} = \text{Scope 1/2/3 carbon emissions (tCO}_2\text{e)}$$

The following calculation is applied to calculate Scope 1 and Scope 2 carbon emissions intensity relative to revenue:

$$\text{Scope 1 and Scope 2 carbon emissions (tCO}_2\text{e)} / \text{Revenue (£m)}$$

<sup>5</sup> This factor also includes an uplift to account for using National Grid data. The methodology is explained in section 3.4.2

<sup>6</sup> Please note that this has been updated with the same methodology as the uplift used for the electricity mix.

The following calculation is applied to calculate Scope 3 carbon emissions intensity relative to customers:

$$\text{Scope 3 carbon emissions (tCO}_2\text{e)} / \text{average customer numbers}$$

### 3.4. Estimations

#### 3.4.1 Scope 1 & Scope 2 Estimations

Where information is unavailable in time for year-end reporting deadlines, for example due to delayed invoices, we estimate data by extrapolating primary data for previous months of the year.

For sites where electricity and gas consumption is unknown (e.g. serviced or multi-tenanted sites where the landlord has control over utilities and it hasn't been possible to obtain the data), full-year estimates are made using the latest energy intensity data (kWh/m<sup>2</sup>) from the Building Energy Efficiency Survey (BEES)<sup>7</sup> published by the Department for Energy Security and Net Zero, and multiplying that to the floor area coverage of the sites where consumption is unknown. A materiality assessment of the data estimated was conducted and shows that the estimated amount of consumption represents less than 2% of OVO Group overall consumption used in the carbon footprint calculations.

For fleet cars, we estimate an upper bound for the maximum mileage that could be travelled by fleet cars. This is because our fleet car data is not collected via the fuel card system used by fleet vans. Instead, fleet car mileage is collected the same way as other business travel journeys (e.g. fuel cost reimbursement via the expense system). However, a limitation of this system is that there is no way to differentiate an expense log for a fleet car versus other vehicles used for business travel (e.g. personal vehicles used for work purposes, rented cars). Therefore, we have estimated the maximum mileage that could be attributed to fleet cars (e.g. removing all other types of vehicle expense claims from the expense report-based dataset). This gives us the upper bound of what fleet car mileage could be. Please note that this estimate accounts for 1% of total Scope 1 emissions and is therefore immaterial.

Actual floor area information is used to estimate activity data when it is available and if it is not available, floor area will be estimated using rent and floor area of the sites where the data is available and calculated by site type.

Where floor area information is unknown, we estimate floor area based on energy performance certificate (EPC) data which provides information on the Total Floor Area (TFA). From this we determine the Agent Lettable Area (ALA) using the methodology specified in the Good Practice Guide 286. Please note that the sites that we have used this estimation methodology for account for less than 2% of our total energy consumption.

To measure fugitive refrigerant emissions from air conditioning equipment leakage, the following methodology is used: Total loss = refrigerant used to service equipment. Where fugitive refrigerant emissions data are not available, the average amount of quantity leaked per floor area (kg/m<sup>2</sup>) of the site where the data is available for the current reporting year was multiplied to the floor area coverage of the sites where the leakage is unknown. If data are not available for the current year the estimations will use the best available historical data.

---

7

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/570017/Overarching\\_report\\_excel\\_tables\\_publish.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/570017/Overarching_report_excel_tables_publish.xlsx), Figure 3.9 and Figure 3.7, Office, Storage (for Depot sites), Upper quartile, 2014-15

Power generators are not used by the sites on a regular basis but only as backup power in emergency situations. To account for the quantity of fuel consumed during maintenance checks, a minimum amount of fuel consumed per year per m2 was estimated by assuming that the onsite generators would be run on a minimal load for 15 minutes every week and run on load for 2 hours a year. This applies to all sites that have confirmed that they have onsite power generators.

### **3.4.2 Scope 3 Estimations**

#### **A. Emissions from energy sold (Category 3 and 11)**

Electricity and gas volumes will always be estimated to some extent because final settled industry volumes are not available until two years after the reporting period<sup>8</sup>. We base our calculations on the UK Fuel Mix that gets published annually in August by the Department for Energy Security and Net Zero (DESNZ) for the previous year. When it is unavailable (as this does not align with our reporting timelines) we apply a methodology that uses the forecast fuel mix data from National Grid for both our Total Scope 3 Emissions and Electricity-Related Emissions and includes an uplift estimate.<sup>9</sup> We have assessed that applying this methodology induces an effect on our emissions that is below our materiality threshold of 5% when sampling the previous 5 years of reported data.

#### **B. Emissions from Business Travel (Category 6)**

Part of the data for the business travel calculation is provided from expense reports. Some of the distance information provided in expenses can be subject to error. To catch incorrect mileage, items were filtered for distances that were too low for that travel type (i.e. where distance for a flight was claimed at 1 mile). These were then manually adjusted based on the information provided in the expense report.

#### **C. Emissions from Employee Commuting (Category 7)**

To understand how our people get into work a commuter survey was run for a period of 3 weeks during January 2024. We engaged through various communication channels to reach maximum participation. When the survey was completed over 800 people had completed the survey. This represented nearly 20% of the non-engineering workforce. The outcomes of the survey were extrapolated up to represent the full workforce.

#### **D. Working from Home (Category 7)**

The employee commuting survey ran in January 2024 also asked employees how often they work from the office. From this we estimated the proportion of people who work from home full time. From those who worked Hybrid an average amount of days in the office per week was calculated. This was applied across all the non-engineering workforce to estimate working from home days.

### **3.5. Assumptions**

In the case of sites where data are estimated or sites where it has not been possible to obtain the supplier-specific electricity fuel mix for market-based reporting, a hierarchy of emissions factors is applied as outlined in section 3.2.

---

<sup>8</sup> <https://www.ofgem.gov.uk/ro-compliance-process>

<sup>9</sup> The methodology is detailed in Appendix 1

The emissions associated with the energy consumption at Newport Data Centre have been included in our Scope 2 emission inventory. This data centre is within a leased building therefore, we would normally account for its impact in our Scope 3 emission inventory. However, we feel that the energy consumed on this site is significant to our operational footprint, therefore have decided to include it within our Scope 2 emission inventory.

As for emissions from energy sold (Scope 3 category 3 and category 11), for unidentified gas, it is assumed that the gas is leaked and not combusted. The upstream emissions have been accounted for. There are no emissions associated with combustion of unidentified gas.

### **3.6. Restatements**

Every effort is made to ensure that data we report is accurate. However, should more accurate data become available for prior years, or when a change to our reporting methodology is made, we will only restate if it results in a movement of more than 5% in the reported data. This is the threshold at which we would consider a restatement to be materially significant (unless specifically stated otherwise).

When significant structural changes (e.g. acquisitions, divestments or mergers) occur during the reporting period, the base year emissions are recalculated for the entire year. Current year emissions are also recalculated for the entire year to maintain consistency with the base year recalculation. Science-based Target initiative guidance allows companies to exclude up to 5% of Scope 1 and 2 emissions when setting targets<sup>10</sup>. To align with this guidance, OVO will apply the significance threshold of 5% for deciding on historic emissions recalculations.

When insignificant organisational changes occur during the reporting period (less than 5%), the base year emissions are not recalculated and current year emissions are accounted for from the date of acquisition to the date of divestment.

When prior year figures are restated, details will be provided alongside the reported data.

Due to the estimation methodology used for the fuel mix, OVO will recalculate its Scope 3 emissions when the DESNZ data is released in August and restate the updated value for 2023 emissions in the upcoming reporting year.

## **4. Data reporting frequency**

### **4.1. Reporting frequency**

**Internal reporting:** information is gathered and monitored internally on a quarterly basis.

**External reporting:** information is reported on an annual basis in the Annual Accounts and on the website.

---

<sup>10</sup> <https://sciencebasedtargets.org/resources/legacy/2019/03/SBTi-criteria.pdf>

## Appendix 1 : Estimation Methodology for Category 3

### Overview:

Due to the fact that the UK Fuel Mix gets published annually in August for the previous year, and as this does not align with the reporting timelines for our Plan Zero report moving forward, we have assessed the impact of using forecast fuel mix data from the National Grid on both our **Total Scope 3 Emissions** and **Electricity-Related Emissions**.

### Methodology:

The methodology uses the National Energy System Operator (NESO)<sup>11</sup> forecast data for the previous year (i.e. in 2025 we'd be forecasting 2024) which is in the form of half-hourly energy generation in MWh per energy source (wind, solar, gas, coal, imports,...)

This data is then totalled up for the whole year and a forecast electricity mix is formed, this can look slightly different to the final official electricity mix which is released towards the end of the year (around end of August).

A key thing that plays into this methodology is the percentage of imports that we get through our interconnectors, for that, we use the **European Attribute Mix**<sup>12</sup> as our primary source of data to forecast the mix for the imports portion of our mix.

Initially in 2023, we used the average attribute mix as the fuel mix for the imports portion. This year, we have evolved the methodology to become more specific relating directly to the mix of each country where we get our imports from. (i.e. Norway, France, Netherlands, Denmark, and Belgium). For that, we use the half-hourly data for imports going into the UK and exports going out of the UK for every half hour across the year.

We then apportion the imported fuel mix according to the proportion of electricity fuel mix imported<sup>13</sup> from every country throughout the year in question. This gives us a fuel mix which we can use for our imports portion of the whole UK electricity mix, which is then used to generate a final UK electricity mix for that year which accounts precisely for the physical movements that happened through interconnectors on the grid.

This final fuel mix is then compiled with research that we have done with the Carbon Trust which provides a carbon factor (**in kgCO<sub>2</sub>e/kWh**) for each of the different energy sources like wind, solar, coal, gas, nuclear, hydro, and others.

With all of this, we are able to generate a grid carbon factor which is essentially our prediction of what the official grid factor will look like when released in August.

To this value, we apply an uplift factor which is like a risk tolerance factor based on using this methodology and applying it for previous years. It is usually between 5-8%, and what this means is that we expect that the **electricity portion** of our emissions will vary by that amount if we use this methodology compared to the official fuel mix based on the sensitivity analysis we've conducted.

---

<sup>11</sup> [Data search | National Energy System Operator](#)

<sup>12</sup> [European Residual Mix | AIB](#)

<sup>13</sup> [Market Data Platform - EnAppSys](#)

However, when looking at the impact on our total emissions (so that is Total Scope 1, Scope 2 and Scope 3 emissions) the impact is around **2-3% variation**, which is within our threshold of materiality which is set at 5%.