



Carbon Reduction Plan  
for  
First Bus

# 1. Introduction

First Bus has assessed its carbon footprint since 2015 in line with the Streamlined Energy and Carbon Reporting (SECR) requirements and the Greenhouse Gas Protocol reporting standard. The FY20 baseline year (1<sup>st</sup> April 2019 – 31<sup>st</sup> March 2020) has more recently been adapted to meet the requirements of UK Government's Procurement Policy Note 06/21: Taking account of Carbon Reduction (PPN06/21). This carbon reduction plan has been produced in line with the scope of the FY20 baseline year assessment.

## 2. Baseline Year Footprint

The First Bus baseline year footprint is outlined in Table 1. FY20 was selected as the baseline year as it represents the most recent period of typical activity prior to the Covid 19 pandemic.

The vast majority of the First Bus carbon footprint is Scope 1 diesel fuel consumption within the bus and coach fleet. These emissions are the focus of the First Bus Carbon Reduction Plan, including the commitment to deliver a 100% Zero Emission Bus (ZEB) fleet by 2035, – the First Bus 'Zero Emission Mission 2035'.

Scope 2 emissions have been dual reported (Location and Market based) to highlight that all First Bus sites use renewable electricity (Market based).

**Table 1: First Bus baseline year footprint**

Baseline Year FY20: 1 <sup>st</sup> April 2019 – 31 <sup>st</sup> March 2020	
Emissions	Tonnes CO <sub>2</sub> e
Scope 1	334,328
Scope 2 (Market based)	0
Scope 2 (Location based)	5,072
Scope 3	
- Cat 5: Waste Generated in Operations	4,732
- Cat 6: Business Travel	
- Cat 7: Employee Commuting	
<b>Total Emissions (Market Based)</b>	<b>339,060</b>
<b>Total Emissions (Location Based)</b>	<b>344,132</b>
<b>Out of Scope Emissions</b>	<b>11,007</b>

### 3. Subsequent Emissions Reporting

**Table 3: First Bus Previous year footprint**

FY24: 1 <sup>st</sup> April 2023 – 31 <sup>st</sup> March 2024	
Emissions	Tonnes CO <sub>2</sub> e
Scope 1	221,906
Scope 2 (Market based)	0
Scope 2 (Location based)	7,328
Scope 3	4,848
- Cat 5: Waste Generated in Operations	
- Cat 6: Business Travel	
- Cat 7: Employee Commuting	
<b>Total Emissions (Market Based)</b>	<b>226,754</b>
<b>Total Emissions (Location Based)</b>	<b>234,082</b>
<b>Out of Scope Emissions</b>	<b>20,333</b>

**Table 4: First Bus current year footprint**

FY25: 1 <sup>st</sup> April 2024 – 31 <sup>st</sup> March 2025	
Emissions	Tonnes CO <sub>2</sub> e
Scope 1	212,001
Scope 2 (Market based)	0
Scope 2 (Location based)	11,512
Scope 3	4,768
- Cat 5: Waste Generated in Operations	
- Cat 6: Business Travel	
- Cat 7: Employee Commuting	
<b>Total Emissions (Market Based)</b>	<b>216,769</b>
<b>Total Emissions (Location Based)</b>	<b>228,281</b>
<b>Out of Scope Emissions</b>	<b>21,277</b>



## 4. Carbon & sustainability targets

### 4.1. Target setting

First Bus has completed an emissions forecasting exercise based on its FY20 (2019/20) baseline year assessment.

There are four categories of carbon dioxide<sup>1</sup> reductions to consider whilst forecasting:

1. **Passive Reductions** – carbon reductions that would happen without any action needed by the company eg decarbonisation of the electricity grid will reduce carbon emissions associated with the electricity used/purchased
2. **Market-Based Reductions** – achieved by selecting and paying for energy tariffs that have lower emissions eg buying a green electricity tariff
3. **Active Reductions** – achieved by making technological, behavioural and operational changes within the business. Eg choosing to reduce miles driven in cars; choosing to limit flights people make; investing in new technology to reduce energy consumption etc.
4. **External Reductions** – carbon **compensation/offsetting** to reduce emissions external to your own footprint to reduce net emissions

Figure 1 shows this recommended approach applied to First Bus emissions to 2050. By taking the Active Market Based approach, **First Bus is committed to reducing its emissions over time to achieve Net Zero by 2050 or earlier**. The difference between the passive and the active line highlights how First Bus aims to lead the Net Zero transition in the bus transport sector with its 'Zero Emission Mission 2035'.

The most significant **Passive Reductions** assume:

- Electricity Grid emissions will reduce linearly to zero by 2035 (the UK target to achieve zero carbon emissions electricity grid). Note: grid emissions have reduced by approximately 50% over the last 5-6 years on a tCO<sub>2</sub>e per kWh basis.
- It is expected that new diesel bus production will be phased out through government policy imminently (as for cars). Therefore, First Bus would operate a zero emission fleet by around 2045 if they choose to not make capital investment. The phase out date of combustion engine buses is not stated in the UK Government Net Zero Transport plan, so this date has been assumed. The initial decrease of the passive line is gradual as the uptake of low carbon technologies is slow. The decrease becomes more aggressive from 2030 as electric buses become more widely available and technology advances.

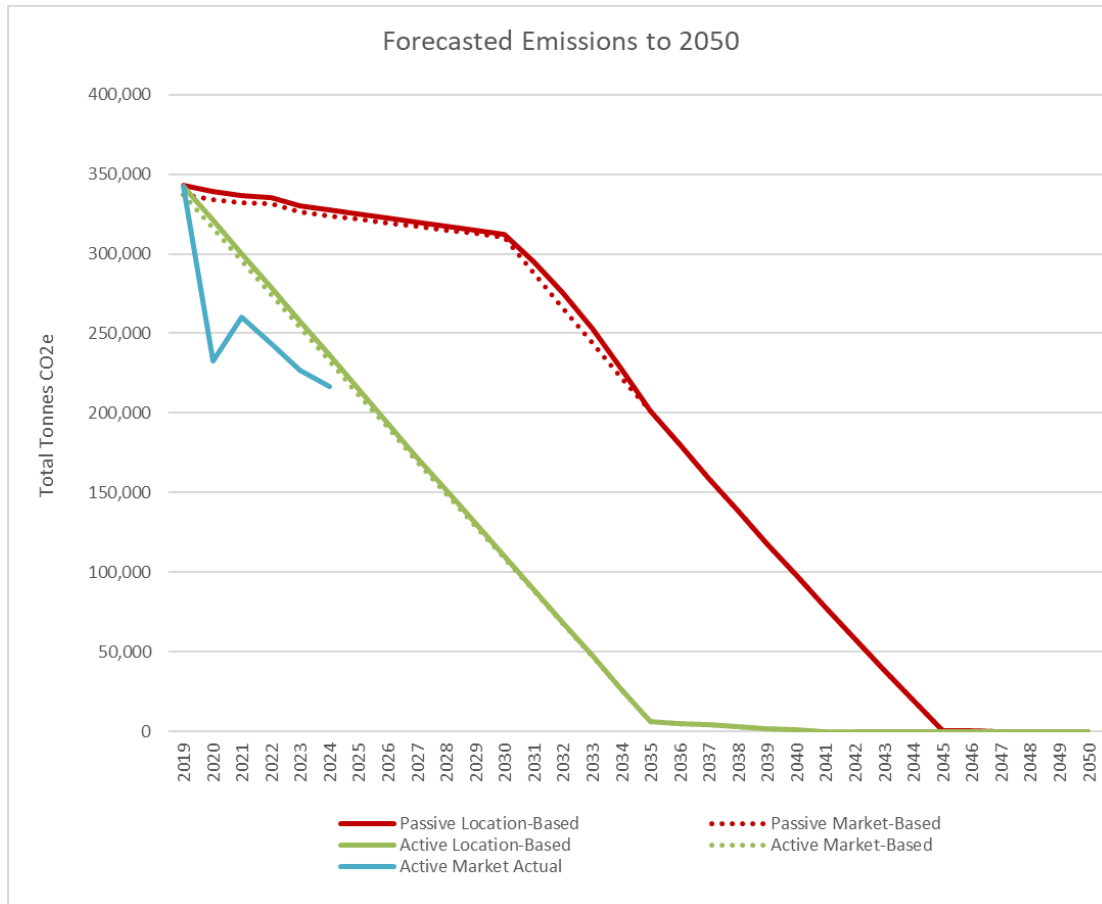
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<sup>1</sup> Referred to as "carbon" or "CO<sub>2</sub>"

The most significant **Active Reductions** assume:

- The First Bus commitment to a fully zero emission bus fleet by 2035. All electric vehicles charged at First Bus sites will be supplied with 100% renewable electricity (a mix of renewables on site and renewable energy from the grid)
- All-natural gas and gas oil heating systems will have been transferred to zero carbon alternatives (eg heat pumps) by 2040

The blue line shows First Bus actual progress towards its emission reduction targets.



**Figure 1: Emissions forecast for First Bus until 2050**

## 4.2. Fleet Transition

The transition to a Zero Emission Bus fleet has continued throughout the year, with 541 zero emission buses added in FY25. Old diesel buses continue to be permanently removed from service as they come to end of life. Zero emission vehicles now comprise 20.5% of our bus fleet excluding coaches (end FY25) – a significant increase from 13% last year, with a further minimum 316 EVs also being secured for FY26.

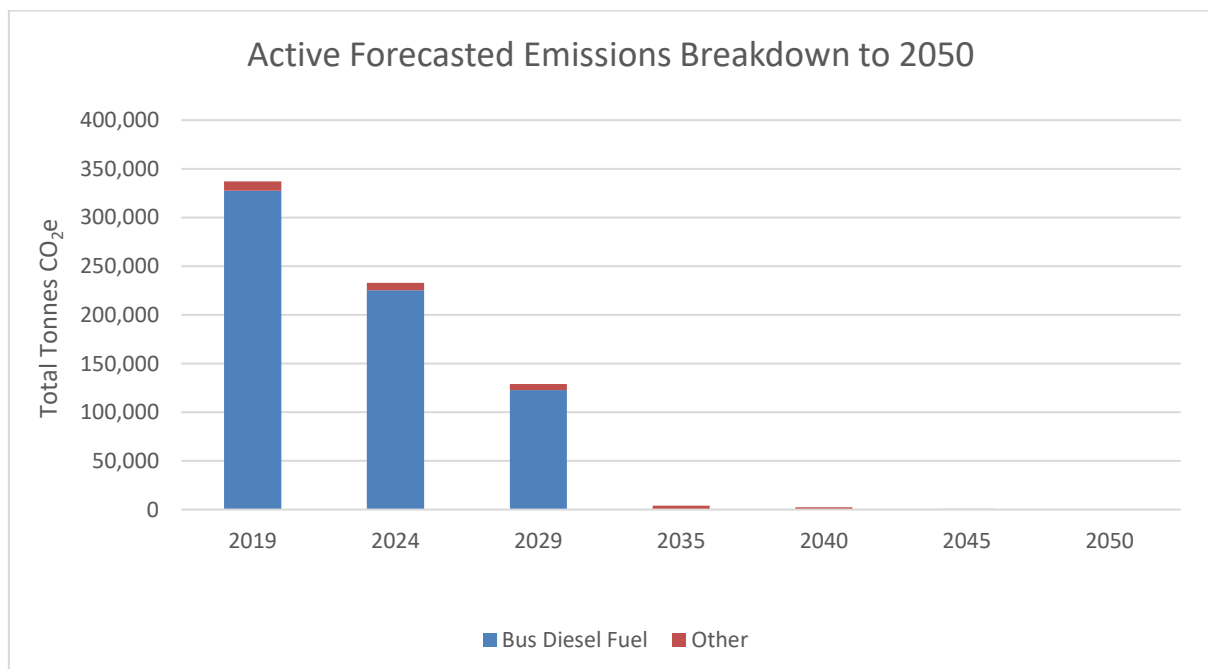
First Bus is funding much of the transition independently, as battery technologies improve, and zero emission options become more financially viable. The purchase of new Zero Emission Buses is complemented by ‘repowering’ mid-life diesel buses to become fully electric buses.

## 4.1. Net Zero Depots

First Bus announced in September 2024, following full electrification of its commercial bus fleets in York, Leicester and Norwich, that these depots are Net Zero emission operations for Scopes 1&2 emissions. This means going a step beyond the elimination of tailpipe emissions (our Zero Emission Mission 2035), by accounting for other direct operational emissions associated with each site, including the energy used to power our depots (heating and power), and other ancillary vehicles.

Other depots will follow suit as part of a wider business commitment to achieve Net Zero Emissions by 2050 or earlier.

Figure 2 provides the First Bus forecasted carbon reduction.



**Figure 2: Emissions forecast for First Bus until 2050**

For the purposes of Figure 2, the category ‘other’ includes all remaining scope 1 and 2 emissions, as well as business travel, waste, water and employee commuting. **There are no freight emissions**

**included within the scope of this Carbon Reduction Plan as this is not relevant to First Bus operations.**

## 4.2. Other Energy Reduction Measures

In 2023 First Bus completed phase 1 of its mission to make depots self-sustaining, investing £2.5m to install 6,000 solar photovoltaic (PV) panels across 20 depots. The PV panels enable depots to generate their own renewable power for depot lighting, heating, office functions and engineering bays – reducing costs, emissions and depot need to draw power from the local grid. The panels produce around 2 million KWh of energy a year.

Earlier in 2025, First Bus successfully completed Phase 3 ESOS compliance, which identified energy reduction measures for depots. First Bus is currently reviewing recommendations and considering implementation with the aim of reducing site energy consumption.

## 5. Declaration and Sign Off

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard and uses the appropriate Government emission conversion factors for greenhouse gas company reporting.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

*‘As leaders in sustainable mobility, we are fully aligned with the Government’s ambitions for a net-zero carbon transport system, including zero-emission bus fleets. We will continue to work closely with central and Local Government across the UK to support the delivery of our shared decarbonisation ambitions and commitments.’ Janette Bell, First Bus Managing Director.’*



Director Sign off: Isabel McAllister

Chief Sustainability & Compliance Officer

Date: 30<sup>th</sup> July 2025



## 6. References

1. BEIS GHG Conversion Factors for Company Reporting (2016-2021)
2. Carbon Footprint Ltd's Target Setting White Paper (2021)
3. Guidelines to Defra's Greenhouse Gas (GHG) Conversion Factors for Company Reporting – annexes (June 2013)
4. Science Based Targets Initiative (SBTi) (2021)
5. The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (March 2004)