Net Zero Carbon Roadmap

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Report

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Acronyms

Acronym	Definition
BEIS	Department for Business, Energy & Industrial Strategy
CCC	Climate Change Committee
DEFRA	Department for Environmental, Food and Rural Affairs
DESNZ	Department for Energy Security and Net Zero
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
NDC	Nationally Determined Contribution
NZC	Net Zero Carbon
REGO	Renewable Energy Guarantees of Origin
SBT	Science Based Target
SBTi	Science Based Target initiative
UNFCCC	United Nations Framework Convention on Climate Change
WB2˚C	Well-Below 2ºC

1 Introduction

1.1.1

Net Zero Carbon

1.1.2 The UK is committed to a trajectory to achieve net zero emissions by 2050. On 12th December 2020, the UK communicated its new Nationally Determined Contribution (NDC) under the Paris Agreement to the United Nations Framework Convention on Climate Change (UNFCCC). The NDC commits the UK to reducing economy-wide greenhouse gas emissions by at least 68% by 2030 and, more recently, 78% by 2035, compared to 1990 levels.

1.1.3 The UK Government published their Net Zero Strategy in October 2021 (Department for Energy Security and Net Zero (DESNZ) and Department for Business, Energy and Industrial Strategy (BEIS), 2021) which sets out their strategy and policies to decarbonise the UK economy across all sectors to meet NDC targets and achieve net zero ahead of the UK's original 2050 target.

1.1.4 Beyond the legal requirement for the UK to achieve net zero by 2050, companies are recognising the importance and role they play in limiting global warming to 1.5°C. Careful consideration should be given to market expectations, stakeholder attitudes (including shareholders, customers, employees amongst others) and realistic reduction opportunities.

1.1.5 When defining carbon reduction targets, it is important to be clear when setting boundaries and the use of terminology. Three key terms are used throughout literature relating to absolute carbon reduction trajectories and strategies. These are:

- net zero;
- net zero carbon (NZC); and
- carbon neutral.

1.1.6 Carbon neutrality can be achieved at any point as a helpful staging post on the journey. Net zero on the other hand, is regarded as the destination after a science-based targets programme has eliminated, reduced or substituted out carbon emissions. The residual emissions that are left are balanced by the use of either carbon credits (purchased from credible eligible schemes) or by removals within the organisation or entity itself (e.g. nature based solutions on owned land or land with partners).

1.1.7 Additionally, the Science Based Target initiative (SBTi) uses the Intergovernmental Panel on Climate Change's (IPCC) definition of net zero: 'when anthropogenic emissions of GHGs to the atmosphere are balanced by anthropogenic removals over a specified period' (SBTi, 2024).

2 Carbon Footprint

2.1.1 A review of our greenhouse gas (GHG) emissions data was undertaken with a baseline year of 2023 (covering the financial year from April 2022 to March 2023).

2.1.2 Scope 1, 2 & 3 emissions relevant to our baseline year are presented in Table 2.1, below.

Table 2.1: SOL Services carbon footprint for 2023 baseline year

Scope	Absolute Emissions (tCO_2e)
Scope 1	**252**
– Company fleet	232
– Refrigerant	20
Scope 2	**14**
– Head office electricity consumption – location based	14
– Head office electricity consumption – market based*	27
Scope 3	**5,280**
– Purchased goods and services	5,256
– Fuel and energy related activities	6
– Waste generated in operations	0.1
– Business travel	9
– Employee commuting	9
Gross GHG Emissions	**5,546**

*Not included within gross GHG emissions given it is best practice to report location-based emissions only, with market-based emissions provided for additional information.

Scope 1

2.1.3 Scope 1 emissions during the baseline year comprise those from:

- Company fleet (diesel vans and hybrid cars); and
- Head office air conditioning refrigerant loss.

2.1.4 Emissions associated with each were calculated using emissions factors applicable to the baseline period available from UK Government GHG Conversion Factors for Company Reporting (DESNZ and BEIS, 2022), scaling them by the level of activity (i.e.

mileage of vehicles in the company fleet over the baseline period) or refrigerant consumption.

Scope 2

2.1.5 Scope 2 emissions comprise those associated with electricity consumption at our head office. Such emissions can be split into location-based emissions (which reflect the average emissions intensity of the grid from which the energy consumption occurs, i.e. the National Grid), and market-based emissions (which reflect purchased or supplier specific emissions). While both the location-based and market-based approach to quantifying electricity has been conducted in line with best practice, only the location-based emissions have been utilised when reporting total emissions.

2.1.6 The following UK-specific emission factors applicable to the baseline period were used in the calculation of Scope 2 emissions:

- UK Government GHG Conversion Factors for Company Reporting (DESNZ and BEIS, 2022);
- European Residual Mixes (AIB, 2023).

Scope 3

2.1.7 Scope 3 emissions have been sorted within categories defined by the GHG Protocol (WRI and WBCSD, 2013). These are listed below, alongside each category's contribution to total Scope 3 emissions:

- 1. Purchased goods & services (99.55%)
- 3. Fuel & energy related activities (0.11%)
- 5. Waste generated in operations (0.003%)
- 6. Business travel (0.17%)
- 7. Employee commuting (0.17%)

2.1.8 The calculation of Scope 3 emissions has been informed by the following sources:

- Conversion factors $kgCO_2$ per £ spent, by SIC code 2020 (Defra, 2020); and
- UK Government GHG Conversion Factors for Company Reporting (DESNZ and BEIS, 2022).

3 Emissions Reduction Commitments and Opportunities

Scope 1 & 2 Commitments

3.1.1 We have made a number of commitments to emissions reduction measures in order to ensure Scope 1 and 2 emissions are minimised where feasible, and NZC for Scopes 1 and 2 can be achieved by 2028. These commitments are described below.

3.1.2 Scope 1 emissions reduction commitments are as follows:

- We have committed to the electrification of our company fleet by 2028. This is ahead of the UK's commitment to ban sales of petrol and diesel vehicles by 2035 (Department for Transport (DfT), 2023).
- We have made a commitment to use lower carbon refrigerants within our head office, with HVAC systems to be retrofitted with lower carbon refrigerants by 2027.

3.1.3 Scope 2 emissions reduction commitments are as follows:

- We have made a commitment to make the switch to 100% renewable energy at our head office by 2028. It is yet to be determined whether this will be achieved through the purchase of Renewable Energy Guarantees of Origin (REGO) backed 100% renewable energy tariffs, or on-site renewable energy generation. This will be investigated further.

Scope 3 Opportunities

3.1.4 We are committed to our NZC pathway, and the aspiration to achieve Scope 3 NZC by 2040. As such we will explore emissions reduction opportunities to ensure absolute emissions reductions are met and targets achieved. We have detailed some of our decarbonisation opportunities to explore below. As we progress with our journey towards NZC we shall continue to monitor our reduction opportunities and develop this list further.

- Enhance Scope 3 data collection to inform more accurate calculation of Scope 3 emissions to better inform decarbonisation pathway and emissions reductions opportunities.
- Procure goods and services from suppliers who have set science-based targets, plan to set targets or are actively working to heavily decarbonise, where practicable.
- Maximise waste to recycling waste stream and endeavour to choose waste treatment companies who have committed science-based targets.
- Reduce the need for business travel and encourage online meetings or if domestic, use trains as the main mode of transport.

- Encourage the use of walking, cycling or public transport methods over the use of personal vehicles.
- Explore ability to incentivise electric vehicle ownership by offering schemes through work to lower the cost of purchasing these vehicles such as through salary sacrifice.

4 Net Zero Carbon Pathway

4.1.1 We have developed a NZC pathway which considers two-time horizon targets, a near-term target (2030) and long-term target (2040).

4.1.2 The pathway has been developed based on emissions reduction commitments (as described above), alongside expected decarbonisation trajectories for the manufacturing and construction sector as set out within the Sixth Carbon Budget (CCC, 2020).

4.1.3 The proposed NZC pathway for Scope 1, 2 & 3 is presented in Table 4.1, and summarised within Figure 4.1.

Table 4.1: Scope 1, 2 & 3 NZC Pathway

Scope	2023 Baseline (tCO_2e)	2025	2030	2035	2040	
Scope 1						
Absolute emissions	252	159	7	7	7	
Reduction from baseline		37%	97%	97%	97%	
Scope 2						
Absolute emissions	14	13	5	2	2	
Reduction from baseline		9%	66%	86%	89%	
Sub-total (Scopes 1 and 2)						
Absolute emissions	266	172	11	9	8	
Reduction from baseline	n/a	35%	96%	97%	97%	
Scope 3						
Absolute emissions	5,280	4,797	3,428	1,658	674	

Reduction from baseline		9%	35%	69%	87%	
Total						
Absolute emissions	5,546	4,969	3,440	1,667	682	
Reduction from baseline		10%	38%	70%	88%	

4.1.4 The NZC pathway shows that significant Scope 1 and 2 emissions reductions can be achieved through the implementation of committed emissions reduction measures. By following this scenario, we would comfortably comply with science-based targets, which require a 42% reduction in Scope 1 and 2 near-term emissions by 2030 (from the 2023 baseline) in line with the 1.5˚C scenario, and a 90% reduction by 2040.

4.1.5 The NZC pathway shows significant Scope 3 decarbonisation of 35% by 2030 and 87% by 2040. The modelled decarbonisation pathway shows that near-term science-based targets aligned with a well below 2ºC decarbonisation scenario (which achieve a 25% reduction by 2030) can feasibly be achieved.

4.1.6 The pathway highlights the challenge and uncertainty around reducing Scope 3 emissions as it is more difficult for SOL Services to influence indirect emissions. We have set an ambitious target for NZC by 2040 accounting for our reduction commitments and opportunities detailed above and long term alignment with a 1.5ºC science-based trajectory.

4.1.7 We shall continue to review and monitor our performance against our NZC pathway to account for future additional emissions reduction commitments (i.e. within company policy and strategy) and recalculate our pathway in line with such commitments.

4.1.8 Following decarbonisation efforts to meet science based near-term and long-term targets, there will be unavoidable residual emissions. This presents an opportunity to explore the use of carbon credits to further reduce emissions.

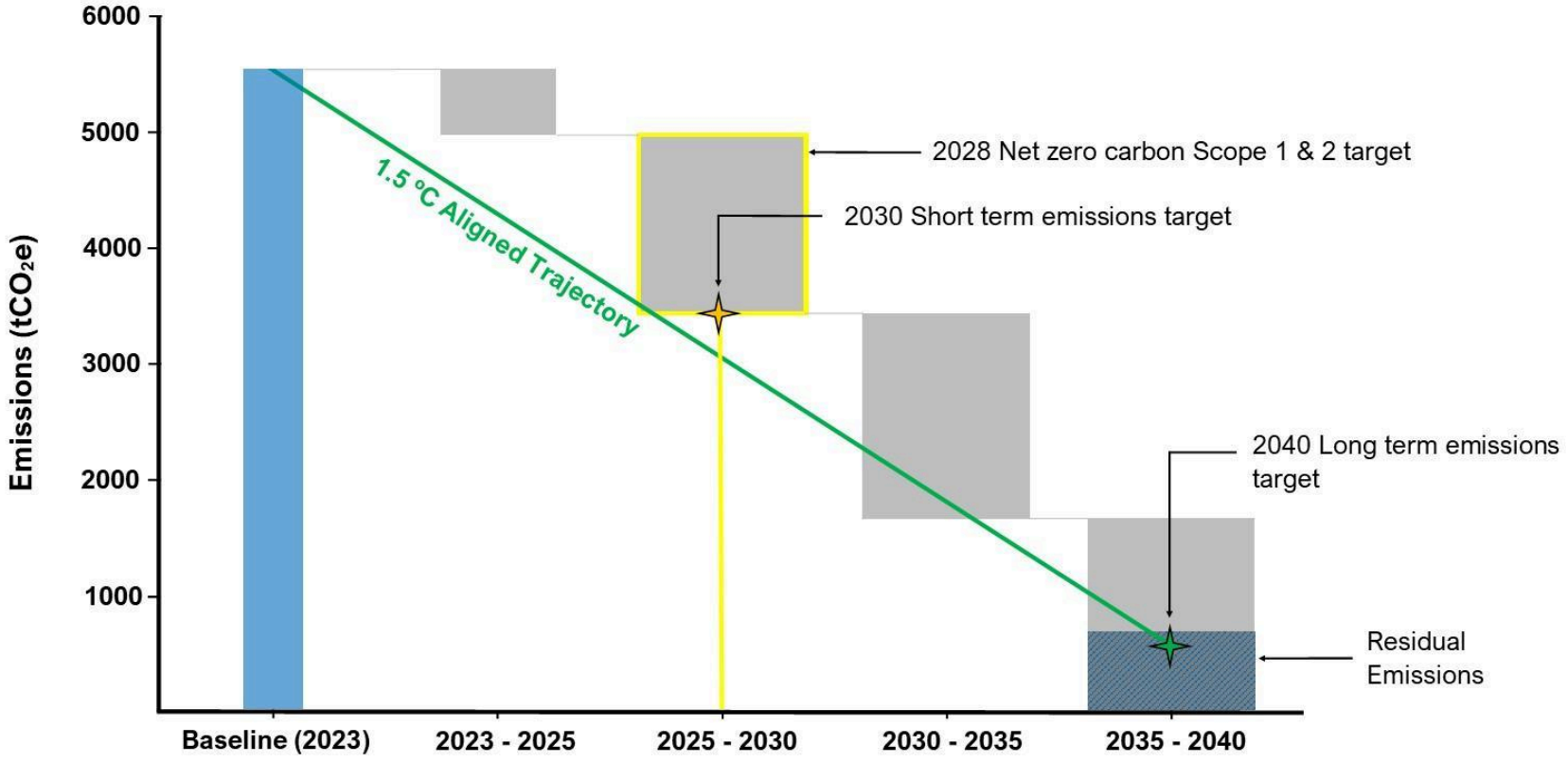

Figure STYLEREF 1 \s 4. SEQ Figure * ARABIC \s 1 1: Decarbonisation trajectory

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