

Net Zero Plan

Abacus Valves International

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1 Executive Summary

This Net Zero Plan (NZ Plan) sets out our strategy for action, and a roadmap for progress to achieve net zero by 2035. Reducing greenhouse gas (GHG) emissions is not just about our commitment to reduce the effects of climate change but it is also about identifying and achieving financial savings through improved efficiency. In turn this will increase our resilience and help to grow our business sustainably.

Our baseline emissions were calculated to be 76.45 tonnes of carbon dioxide equivalent (tCO₂e) for the year 2024-2025 and covered - all our scope 1 emissions (gas), all scope 2 emissions (electricity location based), Scope 3 for waste, homeworking and business travel have been included for year 2024/2025) Our scope 1 emissions accounted for 17%, scope 2 accounted for 36.1% with Scope 3 accounting for the remaining 46.89%

For years 2024-2025 some of our stage 3 calculations have been added with an obvious increase in our overall emissions since last years report. This will be the case over the next few years while the systems develop. The overall CO₂ emissions have reduced for stage 1 and stage 2 as in Figure 1 by 7.3 tCO₂.

Based on the UK target of 78% by 2045 we have set a near-term target to reduce our total annual GHG emissions by 4.02 tCO₂e per annum, this equates to a 7.8% reduction which will keep us on track to achieve our long-term target of reaching net zero by 2045.

By 2045, we will have reduced our GHG emissions by 78% against a 2024 baseline. This equates to a figure of 40.02 tonnes CO₂e.

The following graphs detail our annual carbon footprint.

Figure 1

Source	Scope 1 (t CO ₂ e) 2023/24	Scope 1 (t CO ₂ e) 2024/25	Scope 2 (t CO ₂ e) 2023/24	Scope 2 (t CO ₂ e) 2024/25	Scope 3 (t CO ₂ e) 2023/24	Scope 3 (t CO ₂ e) 2024/25	Total (t CO ₂ e) Current Year
Gas	16.0	13.0					13.0
Electricity			31.9	27.6			27.6
Homeworking					0.16	0.09	0.09
Business Travel <ul style="list-style-type: none"> • Company Vans • Employee Commuting. 						7.2	7.2
Waste						28.56	28.56
Total		13.0		27.6		35.85	76.45

Reductions will be achieved through a range of near-term and long-term actions. In line with SBTi, near term targets outline what we will do now and over the next 10 years to reduce emissions. We will aim, wherever possible, to detail the carbon savings and financial savings from all our actions.

The project lead for this Net Zero Plan is Robina Williams, Quality Director. The plan is viewed as a 'live' document. We commit to reviewing our progress on an annual basis and publishing annual updates on our website – www.abacusvalves.com.

2 Foreword

At Abacus Valves International it is our net-zero emissions goal to achieve a lower carbon footprint in an energy-intensive manufacturing industry. It's ambitious, for sure, but we are confident that we can get there. That's because, in our pursuit of change, we are leaving no stone unturned, questioning everything that can be questioned, and finding inspiration from our support network both from government assistance, suppliers and clients alike.

Our dedicated team, from Directors to shop floor are committed in our goals to reach the targets. We aim to train and educate our team to enable them to meet these goals set out in our Net-Zero plan to look at the following areas:

- **Waste Management:**
Finding new ways to create upcycled products in conjunction with our material suppliers.
- **Energy efficiency:**
High-temperature furnaces are essential for basic material production however in conjunction with our suppliers we aim to challenge and work along with our suppliers to find energy savings within this process.

Review and modernization of our facilities by investing in renewable energy, improve energy efficiency by streamlining internal processes, recycle where possible, reduce waste, reduce water consumption and carbon offsetting projects that reduce emissions in other locations.
- **Travel:**
Abacus do not have a heavy emissions due to travel as we minimise the amount of travel our people do in terms of business requirements. That said however, we aim to monitor the amount of travel by employees and third parties to the facility and report on the amount of CO2. We have invested and offer remote access through live streaming where the CO2 emissions could be greatly reduced. It is our hope that we can going forward reduce this amount considerably.

3 Introduction

3.1 Background to the Organisation

Abacus Valves was established in 1988 to manufacture and supply wafer check valves to the process industry. We operate on one site located in Kilbirnie, Scotland. There are 2 buildings within the site that serves as our manufacturing site and stores for commodity products.

Through many years of experience and specialisation we have developed the most comprehensive range of wafer valves in the UK.

3.2 Plan Structure

This Net Zero Plan details our strategy for reducing GHG emissions over the next Ten years and sets out a clear timetable as well as identifying the responsibilities and internal resources required to deliver the plan. The main objectives of the plan are:

- To adopt net zero as a key objective company wide and embed emissions reduction into our organisation's culture.
- To adopt targets for the measurable reduction of GHG emissions and to deliver these reductions.

To ensure that there is effective and ongoing ownership of our net zero strategy, it is important to define a governance structure. This is detailed in section 8. The plan will be reviewed and an update on the organisation's environmental performance will be published on an annual basis.

The plan contains the following sections:

Emissions Baseline and Data Sources discuss our baseline carbon footprint, including the organisation and operational boundaries that have been applied as well as the data that was used.

Emission Reduction Projects outlines the carbon reduction projects currently implemented, our targets and our future actions.

Target Setting details our interim and final net zero target.

Financing Actions details the capital we are allocating this year for implementing actions as well as public funding we will be applying for.

Management and Delivery of the Net Zero Plan define the management structure in place to ensure the plan's success.

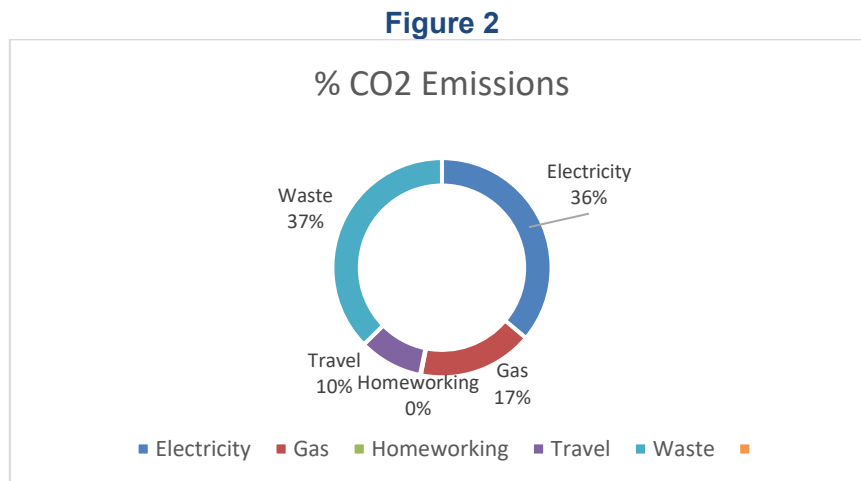
Progress Reporting outlines how the net zero progress will be monitored, measured and communicated both internally and externally.

4 Emissions Baseline and Data Sources

4.1 Carbon Footprint Baseline

Our overall carbon footprint for the baseline year of 2023/24 was 50.3 tonnesCO₂e using a market based approach, which is our chosen reporting method.

Figure 2 below for 2024/2025 shows that electricity and waste constitutes the highest portion of our carbon footprint at 37% for waste and 36% for electricity representing the next largest contributor.



4.2 Scope and Boundaries of the Carbon Footprint

The resources to be included in a carbon footprint are defined in relation to two boundaries, the organisational and the operational boundary.

Definition of the boundaries is determined by the extent of the property, goods, and services over which we have operational control, and the availability of good quality data.

4.2.1 Organisational Boundary

The organisational boundary sets out which assets are to be included in the footprint. We have chosen an operational control approach. Operational Boundary

The operational boundary sets out the emissions sources to be included in the footprint. Our operational boundary is shown in table 1 below.

In keeping with the Greenhouse Gas Protocol¹ (WRI 2004), our operational boundary includes all Scope 1 and Scope 2 emissions. Scope 3 emissions are considered discretionary, but we have included these where data is available as for most businesses, including ourselves, scope 3 will account for the largest proportion of emissions for a company. We aim to increase the number of scope 3 categories we include in our carbon footprint as we improve our stakeholder engagement and develop our data collection methodologies.

¹ The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition, World Resources Institute; World Business Council for Sustainable Development, 2004.

Table 1 - operational boundary

Source	Scope 1 (t CO ₂ e)	Scope 2 (t CO ₂ e)	Scope 3 (t CO ₂ e)	Total (t CO ₂ e)
Gas	13.0			13.0
Electricity		27.6		27.6
Homeworking			0.09	
Business Travel <ul style="list-style-type: none"> • Company Vans • Employee Commuting. 			7.2	
Waste			28.56	
Total				76.45

4.3 Data Sources

The data sources used in our baseline emissions are based on robust data provided by both internal and external partners. The data used has been based on data in table 2. The main streams of data input are as follows:-

Table 2

Data	Source	Units
Electricity	Electricity invoices that detail the amount of Kw/h.	kWh
Gas	Gas invoices that detail the amount of Kw/h .	kWh
Waste	The kg of waste sent to disposal suppliers.	Kg
Transport	Annual fuel use used to estimate each vehicles mileage.	miles
Employee Commuting	an employee survey is conducted on an annual basis.	miles
Business Travel	employees are asked to calculate mileage when submitting expenses	miles

Data was then collated and converted to a CO₂e tonnage equivalent using DESNZ factors for Company Reporting². The chosen reporting year was 2024/2025.

²Government conversion factors for company reporting of greenhouse gas emissions - GOV.UK (www.gov.uk)

4.3.1 Data Gaps

Data Gaps 2024/2025

Water	We have had issues with the water companies getting data however this will be resolved for the next report for 2025/2026	m ³
Procurement	This is a massive area that will include the foundries and stockiest. It will be reviewed in 2026 with an aim of establishing data collection systems to cover this area.	GHG

5 Emission Reduction Projects

Our commitment

Climate Change: Take action to understand our carbon footprint and reduce it through science-based targets.

We will gather data from across the business to understand our current carbon output and establish our carbon baseline for 2024/2025.

This will include a colleague travel survey, data gathering on energy use in the office and use of the Government's assumptions for home working. We will analyse the data to establish a baseline for 2025 and develop an action plan to improve our carbon footprint, including creating KPIs to measure our progress.

Objective

- Calculate and publish MOSL's Scope 1, 2, 3 GHG emissions on an annual basis using UK Government or auditable emissions factors
- Improve the accuracy of emissions calculation over time
- Increase the scope of emissions reporting over time
- Identify opportunities to reduce our emissions
- Introduce and embed the impact of GHG emission in our procurement and tendering strategy

We have segmented our actions into eight main categories.

It covers in order:

- Electricity
- Gas use
- Water
- Transport
- Waste
- Employee commuting
- Business travel
- Procurement

We recognise that to successfully achieve our emission reduction targets, the following key elements need to be in place:

- An organisational framework that is sufficiently robust to support the financing, delivery and monitoring of emission reduction actions.
- Clearly identified responsibility and accountability for delivery against emissions reduction targets.
- Identification of a realistic suite of short-, medium- and long-term actions across a range of areas relevant to our carbon footprint; this list must be regularly reviewed and flexible to adapt to emerging needs and opportunities for funding.
- A data collection and collation system that is integrated sufficiently to inform an annual progress update of our net zero plan.

5.1 Electricity

5.1.1 Current emissions

Our electricity emissions for the baseline year of 2024/25 was 27.6 tonnesCO₂e using a location based approach. This is a reduction of 4.3 tonnes CO₂ over the last financial year.

Electricity use contributes 36.1% to our total footprint. Rising costs and legislative drivers continue to make this a priority area for action. Solar Panels will be installed in our Block 4 site where we house the machine shop that consumes most of the electricity. We estimate that we will save 9 tonne CO₂ per year with the installation. Installation will be completed in March.

We will continue to focus on increasing the energy efficiency of the organisation by installing up-to-date technologies, including renewables where practicable, and engaging with staff and other stakeholders. We have already installed all LED lighting which is reflected in our baseline. Further projects for renewable energy installation are being considered.

5.1.2 Our commitments

- To reduce electricity consumption by 7.8% per annum against the current baseline.

5.1.3 Actions

- Install XkWp of solar panels by month 2030. This has been brought forward and is being installed in March as per above statement.
- Switch to 100% renewable electricity tariff by month 2045.

5.2 Gas

5.2.1 Current emissions

Gas use contributes 13% of our total footprint which is a reduction of 3 tonne CO₂ over the financial year.

Rising fuel costs and legislative drivers continue to make this a priority area for action. Our gas use is predominantly from heating in the winter months. We engage staff on the benefits of turning heating down by 1 degree.

5.2.2 Our commitments

- To reduce energy consumption by 0.1% per annum against the current baseline.

5.2.3 Actions

- Install BMS system by month 2030 to manage the monitoring and measuring of gas usage more effectively.

5.3 Transport Fleet

5.3.1 Current emissions

Abacus do not operate a transport fleet and operate only small vans for local use. This said an analysis of employee travel and any business travel has been recorded into the system and will be reported going forward. Business travel accounted for 7.2 tonne CO2 over the financial year.

5.3.2 Our commitments

We aim to monitor business travel through Abacus expense process and report annually starting with this report.

5.3.3 Actions

- Continual monitoring.

5.4 Waste

5.4.1 Current emissions

We are currently monitoring our waste through external companies who recycle any waste coming from the Abacus Site. The data is now collated in our carbon emissions calculator and have now been updated in this report. Waste accounted for 37.36% of our CO2 emissions over the financial year.

5.4.2 Our commitments

To recover waste for its highest and best use and to promote recycling where possible.

5.4.1 Actions

- Baseline has been set, however better systems are required to be put in place to reduce the carbon footprint over the coming years as this is the highest contributor to our CO2 output.
- To look at implementing paper recycling by 2026.
- Look at engaging external companies who can offer better recycling systems.

5.5 Water

5.5.1 Current emissions

Abacus are currently investigating the invoicing from the various water companies involved in supply and waste management. Once established and finalised this will be reported from 2024/2025 Net Zero report. There has been no change this year in the situation with the water however we aim to have this resolved in 2026.

5.5.2 Our commitment

- To reduce water use by 0.1% by end of FY 2030 on the baseline established in 2024/2025 report.

5.5.1 Actions

- Look into the possibility of using compressed air to verify sealing of the valves within the current installed test rigs to reduce the amount of water used that will result in lower CO2.

5.6 Employee Commuting

5.6.1 Current emissions

Employee survey has taken place. Employee commuting data is incorporated into the business travel which accounted for 7.2 tonne CO2 emissions over the last financial year.

5.6.2 Our commitment

Commitment to reduce emissions by 0.1% per annum by trying to hire candidates locally and encouraging / promoting low emission transport possibilities through toolbox talks.

5.6.3 Actions

- To promote public transportation where available
- Encourage carpooling and active commuting.
- Survey Employees, this will be an annual survey.
- Analyse survey responses.

5.7 Business Travel

5.7.1 Current emissions

Abacus do not have large travel commitments due to the nature of our business.

As above business travel accounted for 7.2 tonne CO2 emissions over the last financial year. .

5.7.2 Our commitment

- To reduce emissions associated with business travel by 0.1% by end of FY 2026 once our baseline has been calculated in 2025.

5.7.3 Actions

- Implement an approval procedure for all staff business travel by month 2026.

5.8 Procurement

5.8.1 Current emissions

No system in place as of 2024 therefore no figures are available.

5.8.1 Our commitments

We recognise that purchase of equipment, tangible goods and services have a whole life cost that we as an organisation are partly responsible for.

- To measure emissions from the purchase of main component parts and company assets by the end of FY 2028.

5.8.2 Actions

- Develop an engagement plan with by month 2028.
- Ensure all suppliers we work with have an environmental policy in place by month 2026.

6 Target Setting

Based on the above commitments, we commit to an interim target of 26.18 tCO₂e (48%) reduction from our baseline by 2030 and commit to achieving net zero by 2045

By 2030, we will have reduced our carbon emissions by 48% on a baseline of 2024. This equates to a figure of 26.18 tonnes CO₂e in 2030

We are confident we will achieve this target if all actions are implemented in accordance with the intended timescales.

7 Financing Actions

Abacus has not set a firm annual budget for the Net Zero project. Each section of the report will be analysed for the company's actions where each individual project will have the budget costs reviewed, and monies assigned in conjunction with available funds. This is a firm commitment from the owners and the directors of the company.

It is assumed that similar levels of capital funding will be provided in future years to stay on track to reach our net zero target.

Opportunities will be taken to maximise any other funding streams from the Scottish Government and other sources.

8 Management and Delivery of the Net Zero Plan

The key to success of this NZ Plan is effective engagement with staff and our stakeholders. Everyone has a role to play in embedding and delivering the NZ Plan and collaborative working is essential to deliver the desired carbon savings.

To ensure that there is effective and ongoing ownership of the Net Zero Plan, it is important to have a fully defined governance structure. We will continue to adopt the following structure for management accountability.

8.1 The Net Zero Committee

The Net Zero Committee (NZN) has responsibility for the strategic direction and implementation of the Net Zero Plan. Minutes of the NZC meetings will be reported to Directors along with any actions that need further approval. Mr. Scott Cook, co-owner / Mr. Scott Graham, co-owner / Mr. George Crooks, Managing Director.

The Net Zero Committee is convened by the Quality Director and meets once a year. The composition of the Net Zero Committee is listed in Table 3 below and comprises a wide range of operational managers and senior technical staff who are committed to driving the carbon reduction agenda forward.

Table 3: Net Zero Committee, Roles and Responsibilities

Name	Department/Current Role	Role within NZC	Responsibilities
George Crooks/Robina Williams	Director	Managing Director/Quality Director	ultimate responsibility for coordinating the implementation of the net zero plan and report on progress.
Alison Cooper	Accounts	Data analyst	Coordinating the data collection process required to measure progress
Laeanna McDade	Quality/Health & Safety	Green champion	raise awareness and engage staff to promote more environmentally conscious behaviour.

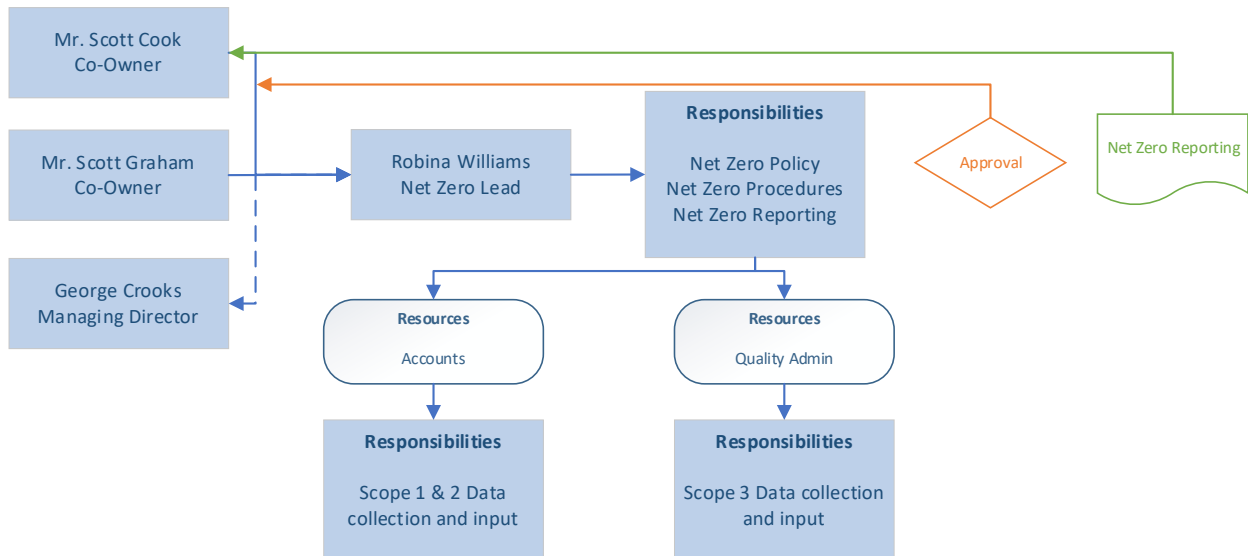
The remit of the [Net Zero Committee](#) includes:

- developing policies for consideration by the ELT.
- ensuring effective communication of the organisation's policies to staff.
- monitoring the organisation's-built environment performance against its carbon management targets, and
- raising the profile of built environment carbon management in the community and promoting environmentally sustainable behaviour by staff and visitors.

8.2 Leadership and Approval

The Net Zero Plan and emissions saving target will be approved by the directors, providing endorsement and a clear commitment at the highest level, reinforcing the need for action across the organisation. The specific objectives of the NZ plan will be included in the organisation’s strategic plan. Director approval will continue to provide long-term organisational momentum for embedding the NZ plan and carbon savings across the organisation.

Our leadership structure is shown in the diagram below.



8.3 Data Collection and Management

Table 2, section 4.3 detailed the data sources we required to calculate our carbon footprint. To continue to measure our emissions and measure our performance on our actions, data collection for these sources will need to continue. All data will be kept on our electronic systems.

The following table shows who is responsible for collecting data, how often and where this data is kept.

Data	Source	Responsibility	Frequency
Electricity	Electricity invoices that detail the amount of Kw/h.	Accounts	Monthly
Gas	Gas invoices that detail the amount of Kw/h .	Accounts	Monthly
Waste	The kg of waste sent to disposal suppliers.	TBA	Monthly
Transport	Annual fuel use used to estimate each vehicles mileage.	QA Director	Monthly
Employee Commuting	an employee survey is conducted on an annual basis.	QA Director	Monthly
Business Travel	employees are asked to calculate mileage when submitting expenses	Accounts	Monthly

Data measuring the progress of the Net Zero Plan will be collected annually by Quality Director and presented to the various relevant levels of governance.

The data collected will include:

- Progress on specific projects
- Details of the performance of the variables contributing to the emissions in the quarter such as utilities, water, fuel, waste generated.

Data quality will be a standing item in our NZC meetings on a quarterly basis. We will continuously strive to improve the quality of our data and any changes to data collection will be documented in annual NZ plan updates.

8.4 Communication and Training

The Communications team have developed a planned approach to raising awareness of our net zero ambitions through the development of a robust communications and awareness strategy. This will include an external stakeholder engagement plan. Internally, performance data will be communicated to staff to raise their awareness of the implications of energy use. The Net Zero Committee and the Green Champions will provide support in delivering the net zero message through management reporting and toolbox talks with results being displayed on the company communication boards.

Effective communication and engagement are the key to success, and it is recognised that substantial cultural change will take time to deliver.

Initiatives for building awareness internally include:

- Climate literacy training
- Management reporting
- Company notices boards

Initiatives for engaging with external stakeholders include:

- Annual newsletter detailing performance
- Results on website
- Management Review

The Communication team will regularly monitor progress of initiatives and formally report to the Executive Leadership Team on performance.

9 Progress Reporting

9.1 Annual Updates

The Net Zero Plan is viewed as a 'live' document. To ensure that the plan remains 'fit for purpose' to deliver our net zero target, the document will be reviewed on an annual basis. This process will be overseen by the Net Zero Committee and coordinated by Quality Director.

Specifically, the following areas of the Net Zero Plan will be subject to annual review:

- Progress towards overall net zero target including CO₂e savings and quantifiable benefits
- Progress with identified emission reduction actions.
- Financial savings achieved because of completed actions.
- Wider benefits
- Stakeholder engagement, and
- Risk Register

The annual progress review will be placed on our website and sent to relevant stakeholders

Appendix A

Detail of the individual consumptions and costs for each element of the 2024/25 carbon footprint.

Category	Carbon Footprint	Cost
Electricity	27.6 kgCO ₂ e	£84,123.389
Natural gas	18.4 kgCO ₂ e	£ 6301.77
Business Travel	7.2 miles	Will be reported in next report
Waste	28.56 kg	Will be reported in next report

Appendix B

Actions	Timescale	Completion date	Project lead
Waste Management	1 Year	Jan 2026	Robina Williams
Business Travel	1 Year	Jan 2026	Robina Williams
Employee Travel	1 Year	Jan 2026	Robina Williams
Solar Panels	3 Years	Jan 2028	Directors
Develop a Net Zero Data Collection System	2 Months	Feb 2026	Robina Williams

All completion dates are the end of month unless stated otherwise.