Sonardyne

2023 Carbon Neutrality Report

> Our blue planet is our business...we will always remain deeply connected to the health and vitality of our oceans and seas.

I am delighted to present our 2023 Carbon Neutrality Report, a landmark document that captures the incredible progress we have made in our ongoing commitment to sustainable business in the UK and environmental stewardship globally.

Our blue planet is our business. From the day we were founded over 50 years ago to now, Sonardyne has - and will always remain - deeply connected to the health and vitality of our oceans and seas. This report not only details our carbon footprint and reduction efforts across our UK sites and operations, but also reflects our broader mission to support those charged directly with protecting and preserving the oceans and marine ecosystems that are integral to our work and the future of our planet.

2023 was particularly significant for us as we have achieved carbon neutrality - two years ahead of the ambitious target we set ourselves in 2021. Reaching this milestone is a testament to the dedication and hard work of our entire team who helped meet this incredibly challenging goal. From installing energy-efficient technologies in our three headquarter buildings to Sonardyne-led innovations in marine autonomy which are enabling our customers to realise their own environmental targets.

Our success in reaching carbon neutrality earlier than anticipated is a clear indication that by acting now, at a local level, yields significant results. It underscores the importance of setting bold targets and fostering a culture of environmental responsibility throughout an organisation.

In the following pages, you will find a detailed account of the initiatives we have undertaken, the challenges we have faced, and the lessons we have learned.

I hope this report will inspire confidence in our stakeholders and partners as we continue to lead by example in the offshore energy and ocean science sectors. Together, we can make a meaningful difference in protecting the blue planet we all depend on.

Graham Brown \ Managing Director
Sonardyne International Ltd.

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Thank you for your interest in Sonardyne and our journey towards being carbon neutral.

The climate crisis is the defining challenge of our time, with rising sea levels and ocean temperatures serving as critical indicators of our planet's health. As the science surrounding global warming becomes increasingly clear, the urgency for action by governments, businesses, and individuals has never been greater.

Sonardyne is a privately-owned UK-based company specialising in the design, manufacture, sale and support of advanced marine technology. With operations spanning three sites across Scotland, the South East, and the South West of England, our reach extends globally, serving customers in the offshore oil, gas, and wind energy sectors, as well as leading research organisations dedicated to climate science.

Our vision is centred on sustainable and ethical business - one that benefits the communities we operate in, fosters economic enterprise, and preserves the natural environment. We measure, monitor and manage our footprint, and are guided by ISO 14064, ISO 14068 and the GHG Protocol, the internationally accepted standard for carbon accounting.

This report marks the release of our inaugural Carbon Neutrality Report, which provides a comprehensive overview of our greenhouse gas (GHG) emissions across Scopes 1, 2, and 3. I hope you find it informative, and we look forward to reporting on future progress.

Carl Holland \ HSE Manager
Sonardyne International Ltd.


“Our vision is centred on sustainable and ethical business - one that benefits the communities we operate in, fosters economic enterprise, and preserves the natural environment.”

Sustainability at Sonardyne

In June 2021, Sonardyne committed to becoming carbon neutral across all Scope 1, 2, and measurable Scope 3 emissions by December 2025. For a manufacturer, exporter, and organisation active in the offshore energy and ocean science sectors, this goal was ambitious - especially when many peers were setting targets for 2040 and beyond.

But at Sonardyne, bold action and rapid progress are part of our DNA. Whether it's innovating safer and more efficient ways to explore our planet or aligning our operations with recognised sustainability standards, we are committed to making a positive impact.

At our UK headquarters in North Hampshire, the most visible symbol of our sustainability efforts are the 1,300 solar panels blanketing the roofs of our three buildings - shown opposite. However, many other less visible improvements are contributing to our sustainability strategy, each representing a marginal gain that collectively results in significant progress.

Marginal gains which add up

Our approach has included upgrading all our lighting to energy-efficient LEDs and implementing a site-wide building management system to intelligently control energy use. In 2023, we invested in voltage stabilisation equipment to ensure our electrical systems run at peak efficiency, reducing both energy consumption and emissions. And by the end of 2024, we will have completed a major upgrade of our heating and ventilation systems, removing the last of our gas-fired boilers and transitioning to air-source heat pumps for all our buildings at the Blackbushe site. This will reduce consumption by 42% in our head office alone.

Committing to doing the right thing has also brought tangible business benefits. Beyond reducing our carbon footprint by 120 tonnes annually, we've achieved a 30% reduction in energy costs - benefiting both the planet and our bottom line.

Simultaneously, our sustainability and finance teams have been meticulously analysing our emissions across all three scopes as defined by the Greenhouse Gas Protocol. We now have a systematic method for calculating emissions across all relevant scopes and sub-categories. This work, though complex, provides a solid foundation for further reducing our emissions.

Our analysis revealed that Scope 3 emissions, particularly from purchased goods and services, are the largest contributor, accounting for approximately 10,000 tonnes of CO_2 equivalent in 2023. These emissions must be either eliminated or offset as we move forward.

Offsetting: who, what where?

Addressing the challenge of offsetting has led us to carefully consider who we trust to manage this for us, what constitutes a credible scheme, and where to focus our efforts. In 2024 we partnered with Earthly, selecting them for their high levels of transparency, professionalism and their adherence to internationally recognised standards such as Verra's Verified Carbon Standard, the Gold Standard's Voluntary Emission Reductions, and the United Nations' Certified Emission Reductions.

These are the largest and most regulated carbon offsetting standards, ensuring that our offsetting efforts are both accurate and verifiable.

Where next?

Looking beyond 2024, we will intensify our focus on reducing emissions by following our Carbon Neutral Pathway shown later in this report. Particular attention will be given to the reduction of carbon within our value chain, sustainable procurement policies, fleet electrification and self-generation of power.

Finally, while we initially planned to follow PAS 2060, in 2023, the new ISO 14068 'Climate Change Management – Transition to Net Zero' standard was published. This standard builds upon and will replace PAS 2060, and Sonardyne will aim to achieve formal certification to ISO 14068 in 2025.

Our Building Management System helps us to reduce wasted energy at our HQ facility

Our Green Team looks for ways we can reduce our impact and invest in a greener future

We're embracing electrification for our business and staff

Using our technology to help combat climate change: our seagrass story

Seagrass beds, crucial for marine biodiversity and helping to mitigate climate change by removing carbon dioxide from the atmosphere, have traditionally been challenging to map due to limitations for boat-based surveys in shallow waters. Working with our sister Covelya Group company Wavefront Systems, we have introduced a technological solution to help address these challenges.

Our combined technology, incorporating Wavefront's Solstice Multi-Aperture Sonar (MAS) and our SPRINT-Nav Mini navigation system, offers a more efficient and accurate approach to seagrass mapping. Solstice MAS provides high-resolution sonar images, while SPRINT-Nav Mini ensures precise navigation and positioning. This enables detailed mapping of seagrass beds in shallow environments, aiding their conservation and restoration efforts.

The Ocean Conservation Trust's (OCT) seagrass restoration project in Plymouth Sound benefits significantly from this technology. The ability to accurately map seagrass beds is essential for understanding their distribution, health and the factors influencing their growth or decline. This information is used by the OCT to inform their conservation strategies, such as habitat restoration, and to monitor the effectiveness of their projects.

Beyond their application in seagrass mapping and restoration, these technologies have broader implications for marine research and conservation. They can be used to study other underwater ecosystems, monitor changes in marine environments and support sustainable fisheries management.

As technology continues to advance, we will develop even more sophisticated tools and techniques, further enhancing our ability to help protect and restore the health of our oceans.

Our Green Team: driving sustainability from within

As part of ensuring our sustainability commitment is embedded across the company, our Green Team was founded in June 2024. Championed by four members of staff as part of a management development project, the team ensures we communicate our contribution to sustainability and social responsibility across the company and looks at how we secure these commitments at the heart of our business.

Their focus is to build a team of like-minded people with the aim of helping to identify and implement better practices around the business, as well as connect with external initiatives to contribute towards or be a part of. Not only will this reduce the environmental impact of our daily operations, but it will help to actively improve the planet we all share.

The Green Team initiative has received a really positive response from both management and employees who want to be a part of the team. An “everyone in the office day” at our headquarters saw volunteers collect over 26 kgs of litter from around the Blackbushe Business Park and surrounding common in just an hour.

Line managers are encouraged to accommodate those who want to take part in Green Team events, and it’s not just limited to our headquarters. Our Aberdeen office removed a considerable amount of litter from Aberdeen Beach with their inaugural beach clean-up event.

Outside of the UK, our regional offices are being encouraged to get in on the action and help to improve their local environments. As the initiative develops, The Green Team will ensure that sustainability and social responsibility is truly embedded within the organisation across the globe.

Carbon neutral pathway

2015 - 2017

- Certification to OHSAS 18001 Safety Management System.
- Phased change to LED lighting begins at all of our facilities.
- Replacement of new, efficient lab equipment.
- Purchasing procedure to include provision for purchase of energy efficient plant and equipment.

2018

- Installation of BMS at Blackbushe site.
- Replaced original gas boilers in Ocean House with new.
- Introduction of cycle to work scheme.
- New, fully insulated roof on Ocean House.
- Introduction of employee well-being activities.
- Certification to ISO 50001 Energy Management System.
- Compartmentalisation of open spaces in Haven House to better control airflow and temperatures.

2019 2020

- Compartmentalisation of open spaces in Fathom House to better control airflow and temperature.
- Certification to ISO 45001 Occupational Health and Safety Management System.
- Installation of solar arrays giving us 30% of our annual electricity needs.

2021 2022

- Initial commitment to carbon neutrality agreed.
- 100% green gas contract takes effect.
- Installation of solar arrays at Brazil facility.
- Installation of EV charging points for visitors and staff.
- Introduction of salary sacrifice EV Scheme.
- First electric pool car delivered.
- Complete picture of Scope 1, 2 and 3 carbon emissions for 2022. Methodologies for calculations agreed.
- Company offset of carbon emissions from Business travel and Employee Commute (Scope 3).
- Calculations started to work out carbon footprints of regional offices (Houston, Singapore and Brazil) plus sister companies.
- Installation of EV charging points at Plymouth facility.

2023

- Construction of new, super-insulated production area on Fathom House mezzanine.
- Installation of voltage stabilisation equipment allowing greater equipment efficiency.
- Installation of solar arrays on Singapore office roof.
- Passed 2 million hours without a Lost Time Accident (UK facilities).

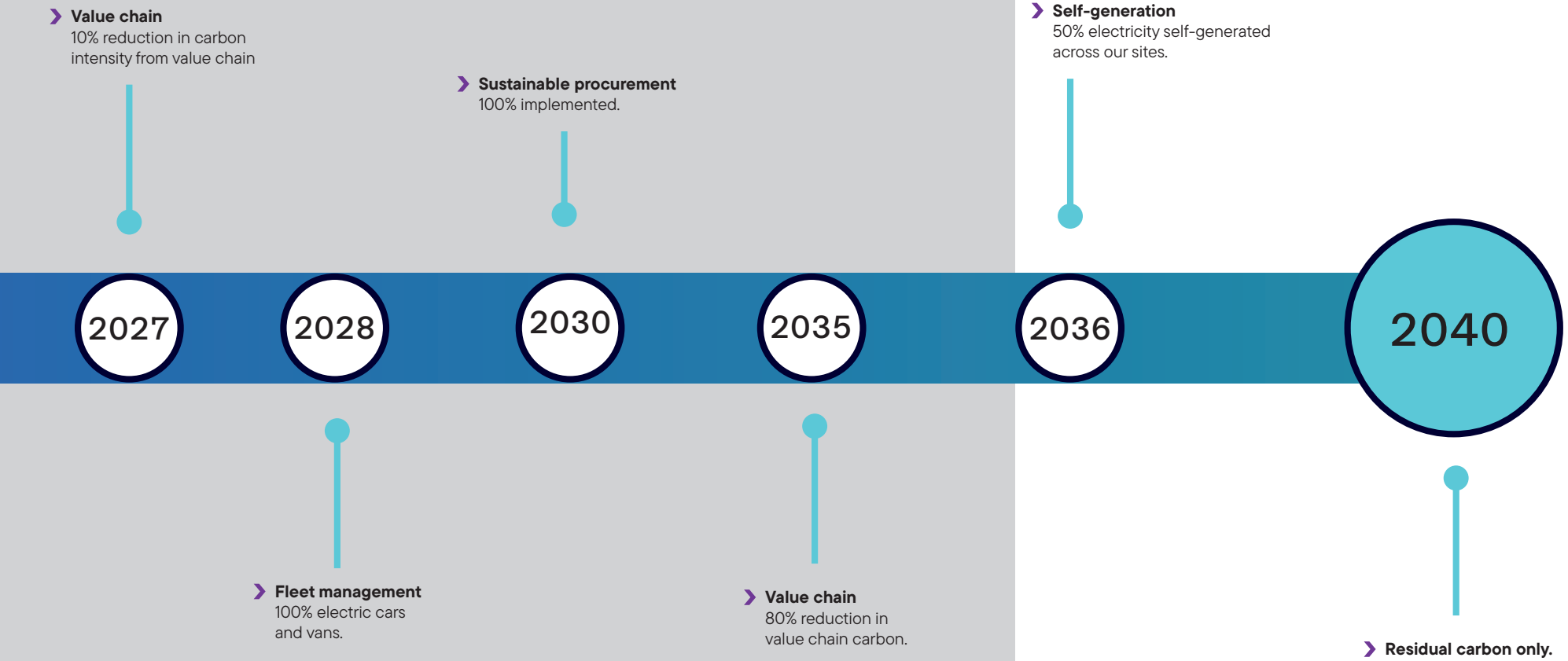
2024

- 80% of facilities all electric.
- Carbon offsetting in perpetuity of all scoped carbon.
- Replace old air conditioning with new, more efficient units.
- Work with supply chain to determine top carbon emitters and encourage to calculate and reduce.
- Independent audit to ISO14068
- **Certification** UKAS certification to ISO 14068
- Potential to install power factor correction equipment to better stabilise electricity supply.

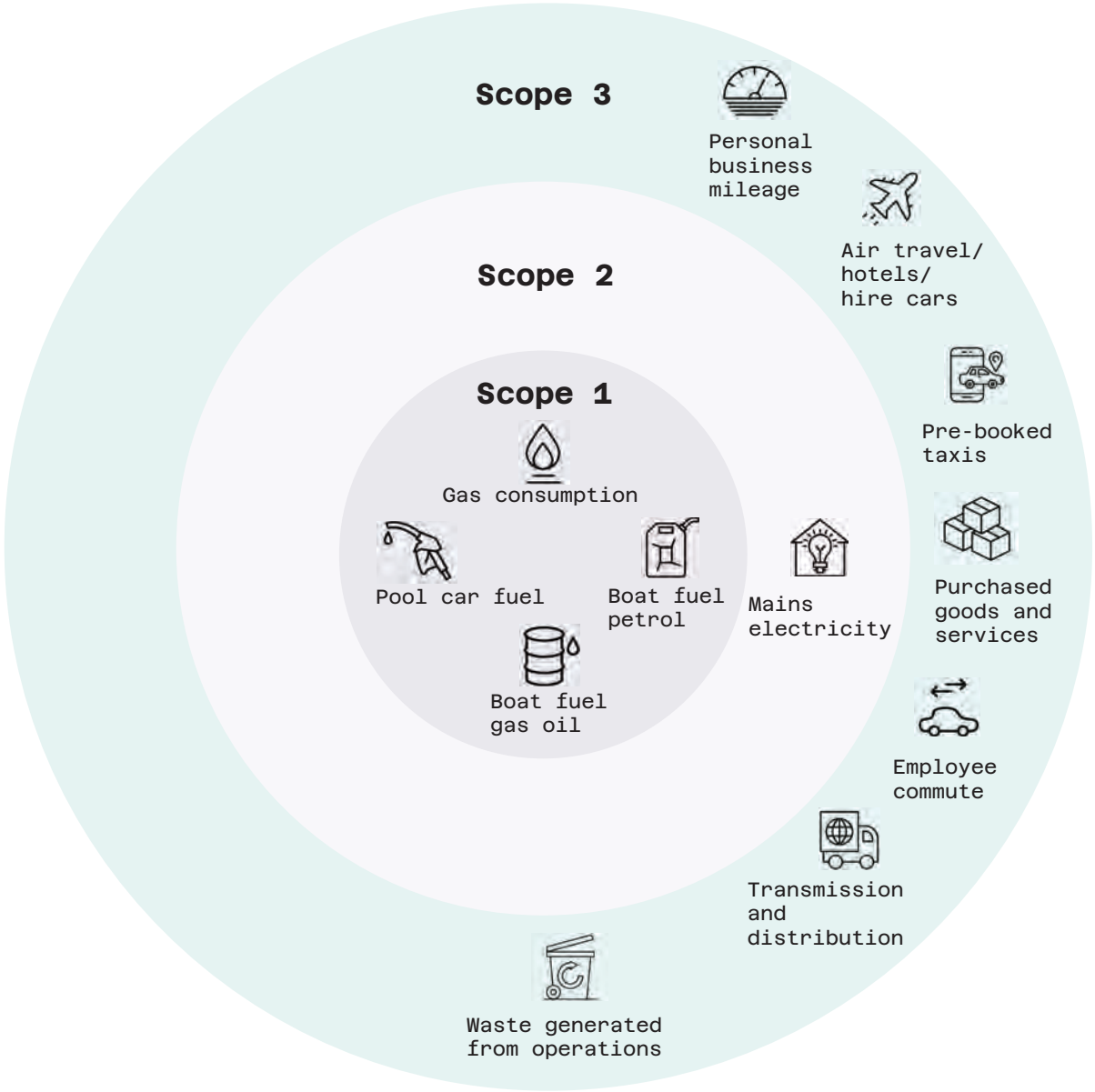
2025

2026

- **Sustainable travel policy** Minimising our environmental impact.


2027
Value chain
10% reduction in carbon intensity from value chain
2028
Fleet management
100% electric cars and vans.
2030
Sustainable procurement
100% implemented.
2035
Value chain
80% reduction in value chain carbon.
2036
Self-generation
50% electricity self-generated across our sites.
2040
Residual carbon only.

Our carbon footprint



The calculated carbon footprint of Sonardyne UK activities for 2023 is 11,531 tCO2e (using market based approach to mains electricity and gas at Sonardyne facilities).

Scope 1 (Direct)	**tCO2e**
Gas consumption	0
Pool car fuel	15.52
Boat fuel gas oil	32.18
Boat fuel petrol	0.58
Total	**48.28**

Scope 2	**tCO2e**
Mains electricity	1.16
Indirect	-
Total	**1.16**

Scope 3 (Indirect)	**tCO2e**
Personal business mileage	7.85
Air travel/hotels/hire cars	600.80
Pre-booked taxis	5.02
Purchased goods and services	10,551.23
Employee commute	291
Transmission & distribution	23.68
Waste generated from operations	2.18
Total	**48.28**

Grand total	**11,531.20**

Location based electricity calculation for 2023 is 274.32 tCO2e (not used in the above calculation). Location based gas calculation for 2023 is 30.14 tCO2e (not used in the above calculation).

Carbon footprint methodology

We have identified and quantified our carbon footprint (GHG emissions and removals) following the principles, requirements and guidance set out in ISO 14064 and the Greenhouse Gas Protocol and its Technical Guidance.

We have reported our greenhouse gas emissions using both market based and location based approaches in the carbon neutrality report for electricity.

The quantification of the greenhouse gas inventory will be summed to represent our carbon footprint.

The following methodologies have been used to quantify our carbon footprint.

Scope 1 – Market and location based

Emission source	Activity data	Calculation method	tCO2e
Gas use at Blackbushe and Plymouth facilities	Consumption taken from supplier invoices	Gas is certified green gas from renewable sources	0 (market based)
Gas use at Blackbushe and Plymouth facilities	Consumption taken from supplier invoice	KWH's consumed multiplied by DEFRA 2023 (gross CV, 100% mineral blend) converted to CO2 (tonnes)	30.14 (location based)
Pool cars	Litres purchased through fuel card invoices	Litres purchased multiplied by Defra 2023 (Fuels - diesel average biofuel blend) converted to CO2 (tonnes)	15.52
Boat fuel (gas oil)	Litres purchased through fuel card invoices	Litres purchased multiplied by Defra 2023 (fuels – marine gas oil) converted to CO2 (tonnes)	32.18
Boat fuel (petrol)	Litres purchased through fuel card invoices	Litres purchased multiplied by Defra 2023 (Fuels – average biofuel blend) converted to CO2 (tonnes)	0.58

Scope 2 – Market and location based

Emission source	Activity data	Calculation method	tCO2e
Location based electricity for appliances, HVAC and vessels berthed in marina	Consumption taken from supplier invoices	Purchased kWh's multiplied by Defra 2023 conversion factor (UK electricity) converted to CO2 (tonnes)	274.32 (not used in final carbon calculation)
Market based electricity for appliances and HVAC	Consumption taken from supplier invoice	Supply is certified to come from 100% renewable sources so no calculation	30.14 (location based)

Scope 3

Emission source	Activity data	Calculation method	tCO2e
Category 1. Purchased goods and services	95% of goods and services purchased. Data from Syspro spend report managed by Finance. SIC code applied to each supplier. Overseas companies allocated same sector UK SIC codes where possible	Spend by supplier multiplied by Defra 2020 SIC code conversion factor and adjusted for inflation, converted to CO2 (tonnes)	10,589
Category 2. Capital goods	Spend from Syspro and finance reports	Emissions calculated within Category 1 purchased goods and services	0
Category 3. Fuel and energy related	Purchased kWh's from supplier invoices	Electricity consumption multiplied by Defra 2023 conversion factor (transmission and distribution), converted to CO2 (tonnes)	23.68
Category 4. Upstream transport and distribution	Currently unable to differentiate between the cost of product and transport and distribution	Emissions calculated within Category 1 purchased goods and services	0
Category 5. Waste generated in operation	Weight of waste transferred from organisational boundaries (date from waste operators)	Weight of waste multiplied by Defra 2023 conversion factor for type of waste (waste disposal), converted to CO2 (tonnes)	2.18
Category 4. Upstream transport and distribution	Currently unable to differentiate between the cost of product and transport and distribution	Emissions calculated within Category 1 purchased goods and services	0
Category 5. Waste generated in operation	Weight of waste transferred from organisational boundaries (date from waste operators)	Weight of waste multiplied by Defra 2023 conversion factor for type of waste (waste disposal), converted to CO2 (tonnes)	2.18
Category 6. Business travel - flights	KM's travelled from monthly supplier reports	KM's travelled multiplied by Defra 2023 conversion factor (business travel – air) depending on class, distance travelled etc), converted to CO2 (tonnes)	585.67
Category 6. Business travel – pre-paid hotels	Number of nights stayed in hotel as stated in monthly supplier reports	Number of nights multiplied by Defra 2023 conversion factor (hotel stay)	12.28
Category 6. Business travel – hire cars	Cost of hire car as per supplier monthly report (UK SIC code 77110 applied)	Hire car spend multiplied by 2020 SIC code conversion factor, converted to CO2 (tonnes)	2.56
Category 6. Business travel – pre-booked taxis	Data from supplier invoices	KM's travelled multiplied by Defra 2023 conversion factor (business travel – land – regular taxi) converted to CO2 (tonnes)	5.02
Category 6. Personal business mileage	Data from expense claims	Claimed mileage multiplied by Defra 2023 conversion factor (business travel land – upper medium unknown fuel), converted to CO2 (tonnes)	7.85
Category 7. Employee commute	Distance travelled per day by each employee calculated using Google maps, fastest route. Employee postcode used supplied by HR	KM's travelled multiplied by Defra 2023 conversion factor (Passenger vehicles -dependent on transport type), converted	291
Category 8. Upstream leased assets	OH and ABZ leases left in purchased goods and services.	Emissions calculated in Scopes 1 and 2. Taken out of purchased goods and services to avoid duplication	291
Category 8. Business travel – pre-paid hotels	Number of nights stayed in hotel as stated in monthly supplier reports	Number of nights multiplied by Defra 2023 conversion factor (hotel stay)	0
		Grand total	**11,531.20**


Our technology is
enabling the
energy transition
XOCEAN

Sonardyne and its boundary

Earthly: Rimba Raya project

Subject

The subject of the CNMS is our operations and activities at our UK facilities. This applies to all UK facilities (Blackbushe, Aberdeen and Plymouth).

Boundary

The boundaries of Sonardyne International Ltd comprise of Scope 1, Scope 2 and applicable Scope 3 emissions.

Rationale for selection of UK activities

The rationale for the selection of UK companies is that comprehensive carbon data is available and that the UK companies emit the largest proportion of carbon.

Carbon neutrality plan

Our Managing Director signed our commitment to carbon neutrality statement on the 3rd July 2024.

The following targets are in place for 2024 and beyond:

- Implement an ISO 14068 carbon neutrality management system
- Replace heating/cooling system in Ocean House
- Run supplier engagement workshops and encourage quantification and reduction.

Our reduction strategy is to identify reduction opportunities from direct emissions but focus more resources towards finding reductions in our value chain through engagement workshops and encouragement of quantification of supplier carbon footprint.

The target year when only residual carbon emissions remain is 2040.

Reporting period

The period to which this report corresponds is 1st January to 31st December 2023.

Unabated GHG emissions in excess of residual GHG emissions

There are unabated GHG emissions in excess of residual GHG emissions and our reduction strategy is detailed in our carbon management plan.

Baseline

The base period is January 2022 to December 2022, inclusive.

Total calculated baseline for 2022 is 8,859 tonnes tCO2e.

Aviation or shipping activities

There are no significant aviation or shipping activities but we have included non-GHG climate impacts (such as those arising from water vapour, contrails, soot and black carbon) in our carbon footprint calculations as published by the Department for Energy and Net Zero and DEFRA.

GHG removals within the boundaries of Sonardyne

There have been no GHG removals within the boundaries of Sonardyne.

GHG removal reversal

There have been no GHG removal reversals noted during the reporting period.

Justifications for exclusions from quantification

Several categories of Scope 3 emissions are excluded from quantification for the following reasons:

Category 10: Processing of sold product. We sell only completed products and no further processing is required. Therefore, this category is not applicable to our operations.

Category 11: Use of sold product. It is currently impossible for us to calculate these emissions. As such, they are not accounted for in our footprint.

Category 12: End of life treatment of sold product. Currently impossible to calculate due to lack of customer data on disposal methods and timings. As such, they are not accounted for in our footprint.

Category 13: Leased assets. Sonardyne has no downstream leased assets. This category is not applicable to our emissions.

Category 14: Franchises. We do not operate any type of franchises. This category is not applicable to our emissions.

Category 15: Investments. We do not have investments with the objective of making a profit. This category is not applicable to our emissions.

Changes to quantification methodology used previously

The only change to previously used quantification methodology is the annual change of conversion factors issued by various agencies.

GHG emission removal factors used

No GHG emission removal factors have been used.

Impact of uncertainties

Accuracy confidence is high due to methodology of data collection and conversion using recognised factors.

GHG emission reductions and removal enhancements

The reference source for the GHG emissions was taking data from invoices and multiplying by conversion factors published by the Department of Energy and Net Zero and DEFRA. Scope 3, category 1 Purchased Goods and Services was calculated using financial spend methodology utilising the University of Leeds SIC code conversion factors.

There has been no requirement to use removal factors.

Earthly: Maraolika mangrove project

Carbon crediting programmes and GHG projects

The carbon crediting programme Sonardyne chose to offset against is as follows:

Programme name: Rimba Raya Biodiversity Reserve, Borneo, Indonesia

Standards: VCS, CCB, SDVista

Methodology: VM0004

The project supports all 17 of the UN Sustainable Development Goals.

In addition, Sonardyne paid for the planting of 1,163 trees at Marolika Mangrove in Madagascar.

Number of carbon credits

We purchased 11,631 carbon credits to offset its stated 2023 carbon footprint.

Corresponding adjustments

Verra does not require corresponding adjustments for projects registered with the VCS programme.

Carbon credit confirmation

https://registry.verra.org/myModule/rpt/myrpt.asp?r=206&h=213750
https://registry.verra.org/myModule/rpt/myrpt.asp?r=206&h=207438
https://registry.verra.org/myModule/rpt/myrpt.asp?r=206&h=223536

Time period of carbon credit generation and retirement

Time period of carbon credit generation is between 01/01/2016 and 31/12/2017.

Retirement dates of purchased carbon credits is 05/07/24.

Verification opinion

*"**Sonardyne has achieved carbon neutrality for the financial year 2023, via a limited assurance verification of its Greenhouse Gas Footprint, Carbon Neutrality Report 2024, Carbon Neutrality Management Plan and supporting evidence. This is on the basis that the total amount of carbon emitted for 2023 (based upon a market calculation) has been wholly offset by carbon credits of legitimate provenance.**"* – taken from the Carbon Neutrality Verification and Validation Report completed by Samantha Stanfield BSc(Hons), Lead Verifier, on 29th August 2024.

Future carbon neutrality achievement and maintenance

Carbon neutrality will be achieved annually using purchased offsets whilst the company works to reduce its carbon emissions to residual only.

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