2023 Progress Report

For the

Pledge to Net Zero

For

Axiseng M&E Ltd.

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Document History

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0.0	Original document	ZT	GC	15/05/2022
1.0	2022 Carbon Footprint	DMCE	GC	16/01/2023
2.0	2023 Carbon Footprint	ZT	GC	19/02/2023

Contents

1. Purpose of the Report

This is a report summarising our baseline and 2023 carbon footprint in terms of the progress towards our targets set for the Pledge to Net Zero initiative. We have signed up under the guidance of ACEI.

It explains how we calculated our current carbon footprint figure of our company's carbon emissions and our progress in terms of our short/mid-term and long-term targets for the initiative.

It also includes further ideas for reducing our carbon footprint in the next couple of years, working towards our goals.

2. General Information

Axiseng is a highly resourced, independent building services consulting engineering practice. As responsible professional advisers, we represent our client's best interests in every aspect of our service with advice, designs and lifetime costs tailored to suit the specific mechanical, electrical and environmental needs of each individual project.

Axiseng currently maintains a core staff of over 40 professional personnel. All our staff are highly experienced and formally qualified in building services engineering. All projects are led by a Chartered Engineer with support from specialists in energy management, sustainability and building energy rating. Our leadership team comprising Cian Dowling, Ray Mason, Rachel McKenna, Bryan Dolan and Gillian Corrigan are well known in the construction industry for their integrity, expertise and project commitment. They are supported by our Associate Directors, Ciarán Fagan, Aaron O'Doherty and Eugene Wisely. The size of our practice allows the Directors and Associates to maintain a strong personal presence throughout the full duration of every project.

We have established a reputation for consistently delivering a high-quality service across a broad range of commercial, institutional and industrial developments for our clients who include some of the foremost institutions and eminent professionals in Ireland.

We are based at 47 Mount Street Upper, Dublin 2, D02 AC95.

Organisational and operational boundaries

For our baseline year, we have taken 2019. This is due to 2020 and 2021 being un-precedented with most of our staff working remotely and not attending the office.

For the purposes of the calculations, we have taken the number of staff being 48, as it was in 2019.

For the purposes of calculations, we have taken the number of staff being 44, as it was in 2023.

For the operational boundaries, it was quite a simple decision. We only have one office to consider (47 Mount Street) in which we have a long-term lease, more importantly it is managed by us so we can control and implement many decisions about how we use the building.

Scope 1
For Scope 1, we have taken the natural gas consumption for the building as that is the current provisions for heat.

The building is naturally ventilated so there is no need to include a refrigerant in this category.

We also do not have a company fleet, so this is excluded from the calculations.

Scope 2
For this, we have taken our electricity consummation and we have chosen the location-based approach.

We have calculated the emissions with the help of the SEAI emission factors which was available on their website.

Scope 3
Following the guidance of ACEI, we have included these categories in the Scope 3 calculations.

Category 1 - Purchased Goods and Services
Category 3 - Transmission and Distribution Loss
Category 5 - Waste generation in operation
Category 6 - Business travel
Category 7 - Employee commuting
Category 15 - Investments

3. Methodology for calculating the carbon footprint

Scope 1
We compiled the natural gas consumption data from our energy supplier, Energia. The invoices offered a very good breakdown of the actual consumption by year.

This was multiplied by the emission factor as published by the SEAI on their website in the section of emission factors for natural gas.

Scope 2
The data about our electricity consumption for the year was collected from the invoices supplied by our supplier, Energia. We also track these individually on our energy tracker, so the amounts were readily available.

The consumption was multiplied by the National Grid Emission Factor 2022 (the latest available) as we chose the location-based approach for this scope.

Scope 3
We used an independent calculation for this scope as the GHG calculation tool did not cover all the categories we needed to include. We took guidance from the GHG Protocol's Scope 3 Calculation Guidance.

Category 1 – Purchased Goods and Services

We chose the spend-based approach as we have excellent data accuracy for our spend divided into different spend categories. The spend in Euro was converted into American Dollars using an average conversion course for 2023.

This was multiplied by the cradle-to-gate emission factors from the Environmentally-extended input-output (EEIO) databases that were available online.

Category 3 – Transmission and Distribution Loss
We did not calculate this category as with the location-based approach for Scope 2, these were included in the national grid emission factor.

Category 5 – Waste Generation in Operation
For this category, we have compiled our waste/recycling data from the invoices of our waste provider, Panda.

The weight of each category was then multiplied by the emission factor of the waste disposal method as published in the whitepapers available online.

We have amended the calculation to include the emissions produced by the incinerators when producing energy. This was previously excluded as the information available indicated that there is no CO2 release. This data became available from the document published by Zero Waste Europe, ZWE Policy briefing -The impact of Waste to Energy incineration on Climate.

Similarly, we have amended the calculation to include the carbon emissions produced by composting (previously omitted) and mixed recyclable and mixed electronics as published by the Stanford University in 2023.

Category 6 – Business Travel
For this category, we have used the spend-based method.

The spend for the year was taken from the expense documentation for accounting purposes and multiplied by the emission factor (taken again from EEIO) for petrol (as majority of the travel was in petrol-fuelled vehicles).

Category 7 – Employee commuting
To collect the data for this category, we carried out an employee survey where we enquired about the type of transport and the distance travelled by each employee.

As the hybrid working pattern was more established throughout the year, we calculated that on average, every employee travelled to the office 4 days of the 5-day working week.

The responses received were summarised and extrapolated to include all the employees in the year (44 people).

We have added the remote working emissions segment into the calculation and achieved greater precision in the calculating of this category of the scope.

Category 15 – Investments
This category, even though recommended by ACEI, does not apply on our business.

4. Carbon Footprints Reported

	Source	Baseline year (tCO2e)
Scope 1	Natural gas	15.06
Scope 2	Electricity (location-based)	9.70
Scope 3	Business travel	1.52
	Commuting	83.68
	Purchased Goods & Services	42.62
	Transmission & Distribution Losses	0
	Waste Generated in Operation	1.15
	Investments	0
TOTAL	Location-based emissions	153.72

	Source	2023 (tCO2e)
Scope 1	Natural gas	6.86
Scope 2	Electricity (location-based)	11.76
Scope 3	Business travel	2.98
	Commuting	30.46
	Purchased Goods & Services	32.85
	Transmission & Distribution Losses	0
	Waste Generated in Operation	-0.43
	Investments	0
TOTAL	Location-based emissions	84.48

	Base year		
	2019	2022	2023
Scope 1	15.06	10.84	6.86
Scope 2	9.7	8.31	11.76
Total (tCO2)	24.76	19.15	18.61
Y-o-Y		-22.7%	-2.8%
Y-o-Baseline		-22.7%	-24.8%
Scope 3	128.97	106.32	65.87
Y-o-Y		-17.6%	-38.0%
Y-o-Baseline		-17.6%	-48.9%

5. Set Targets and Progress

For our target setting, we used the SBTI Target setting tool.

Our target

46% absolute reduction of Scope 1, 2 and 3 GHG emissions by 2030 and 90% by 2050. This corresponds the 1.5C degree scenario.

1.5 degree scenario (1.5C)

Review all target modelling data

	Base year (2019)	Target year (2030)	% Reduction
Scope 1 emissions (tCO2e)	15	8	46.2%
Scope 2 emissions (tCO2e)	10	5	46.2%
Scope 1+2 emissions (tCO2e)	25	13	46.2%

Section 2. Absolute Contraction Approach

	Base year (2019)	Target year (2030)	% Reduction
Company | Scope 3 emissions - 2C (tCO2e)	129.0	111.5	13.5%
Company | Scope 3 emissions - WB2C (tCO2e)	129.0	93.5	27.5%
Company | Scope 3 emissions - 1.5C (tCO2e)	129.0	69.4	46.2%

As demonstrated in the overleaf calculations, we have further reduced the emissions in 2023, delivering a reduction of almost 25% of Scope 1 and 2 GHG emissions and a 49% reduction for Scope 3. This means that for the Scope 3 we have achieved our 2030 target!

We noted a significant reduction in gas usage in the office for 2023 which was achieved through better heating management. There was an increase in the electricity consumption which was caused by the stabilising of the hybrid work pattern and more people choosing to work in the office. We have accounted for this shift in the Scope 3 emissions where we introduced a combined employee commuting and working from home emissions calculations to increase the calculation precision.

The reduction in Scope 3 emissions came primarily from the 'Employee commuting' category. We have seen a reduction in 2022 already on the baseline but this was strengthened in 2023. We have seen a shift from petrol/diesel cars to either electric cars or public transport commuting instead. This is an area we want to further focus on as it drives almost half of the emissions of the Scope 3.

The Purchased Goods and Services category in Scope 3 was also reduced significantly from the baseline year. This was achieved through a better purchasing management and focussing on reuse and repair.

Although we cannot 'recycle our way out of this', given that recycling brings negative carbon emissions into the equations, through a targeted recycling campaign we have managed to add some carbon emission savings for the Scope 3 in the Waste generated in Operation category.

All of the above is keeping us on a positive trajectory in achieving our short-term and long-term targets.

6. Future Plans

To continue delivering on our set targets, we are regularly reviewing our management practices to approach this systematically and efficiently.

Some top line initiatives for the short-term reduction of emissions in Scope 1 & 2 that we are considering are include better management of the electricity usage in the office (for example, changing to LED lights, installing motion-sensor light-switches for areas of lesser use, turning off devices not in use, etc.)

For Scope 3, as our biggest contributor to the office carbon footprint is still employee commuting, we want to focus on encouraging employees to take less carbon-heavy journeys and increase walking, cycling, using public transport, etc. These would include financial incentives, pursuing a Cycling Friendly Employer certification, etc. This might also translate in the reduction in the Business Travel category where the use of public transport would be more encouraged.

Through increased engagement and education, we are planning to reduce our absolute amount of generated waste (general refuse and recoverable materials) and increase recycling rates of the produced waste.

We will also investigate options of offsetting our carbon in various ways, while including the employees in the process, increasing wellbeing and environmental behaviour (planting trees, restoring boglands, etc.).