Carbon Reduction Plan

Darwin Gray LLP

Reporting Period
1st April 2023 – 31st March 2024

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Foreword

Established in 2002, Darwin Gray LLP is an award-winning commercial law firm providing tailored legal advice to individuals and businesses across Wales and the UK. As a national law firm, Darwin Gray has 2 offices located in Cardiff, South Wales and Bangor, North Wales and this Carbon Reduction Plan provides an overall assessment of the firm's carbon emissions across both locations.

Location 1 – 9 Cathedral Road, Cardiff CF119HA

Image 1 – 9 Cathedral Road

Image 2 – Carlyle House – 5 – 9 Cathedral Road

Headquartered at 9 Cathedral Road, Cardiff, Darwin Gray's primary office is a three storey, purpose-built office building located at 9 Cathedral Road (visible above in image 1), situated approximately 0.5 miles from Cardiff city centre. The leasehold property is situated towards the lower end of Cathedral Road, close to the junction at Cowbridge Road East and is leased via a private landlord.

The building itself is a Victorian townhouse, renovated and modernised in 1999 as a larger development titled Carlyle House covering 5-9 Cathedral Road (visible above in image 2), the property provides good quality office accommodation, and benefits from a kitchen, private meeting rooms, multiple male and female w/c's and the provision of on-site parking.

While the total area of the property at 5-9 Cathedral Road is 27,030 square feet, Darwin Gray's office space occupies a smaller portion, specifically 4,224 square feet consisting of the main building at 3,073 square feet and the basement at 1,151 square feet.

Most of the services provided to Darwin Gray's office space are apportioned to the actual usage and consumption at each office such as Gas, Electricity, Water, Waste Water and Confidential Waste Paper Collection with the relevant unit usage referenced from invoices received during the reporting period. Some services referred to in this Carbon reduction plan such as the provision of General Waste services are communal in nature, are unapportioned and account for all the businesses located at both Carlyle House and 9 Cathedral Road. Calculations to account for these communal services have been apportioned in accordance with the space occupied in the building referred to above.

Location 2 – Uned F12, Intec, Parc Menai, Bangor LL57 4FG

Image 3 – InTec, Parc Menai

InTec is situated on Parc Menai, Bangor, with direct access to the A55 expressway for direct regional access to North Wales. The two-storey office space (visible above in image 3) totals 2,109 m2 is divided into two wings extending from a shared reception and exhibition area on the ground floor, with conference and shared kitchen areas on both wings. Spaces to let range from 20m2 and 40m2 carpeted offices on the first floor to 70m2 - 100m2 carpeted offices and laboratories on the ground floor.

Darwin Gray's Bangor Office is located at F12 with an area spanning 36m2. The leasehold office itself is owned and managed by Gwynedd Council and is serviced by a communal kitchen, private meeting rooms and multiple male and female w/c's.

Unlike 9 Cathedral Road, services consumed at F12 such as electricity, gas, water, general waste and waste water are charged at a monthly fee. No usage data are included in the invoices Darwin Gray receives from the Council and an account was requested and provided by the local authority outlining the usage at the property. This data has been apportioned and allocated to the relevant square footage of each tenant's occupancy. Services such as confidential waste are arranged separately by Darwin Gray and is accounted for in the amount of waste collected.

In preparing this CRP we have referenced the Government guidance on adopting and applying the Procurement Policy Note (PPN) 06/21 which introduced new selection criteria for government contracts requiring suppliers to "*submit a Carbon Reduction Plan [detailing] their organisational carbon footprint [and confirming] their commitment to achieving Net Zero by 2050*".

The selection criteria outlined in PPN 06/21 applied to central government departments, executive agencies and non-departmental public bodies for the procurement of major goods, services or works contracts commenced on or after 30 September 2021. Major contracts in this instance were defined as contracts with a value of over £5m.

The Welsh Government adopted the UK PPN 06/21 through WPPN 06/21 (first published on the 31th September 2021). The WPPN was published to assist Welsh Government departments, NHS Wales bodies and Welsh Government Sponsored Bodies to:

a. consider Carbon Reduction Plans as a supplier selection criterion in all procurements of £6 million and over, and

b. encourage a risk-based approach to the use of Carbon Reduction Plans in procurements below the £6 million.

c. Recommend the WPPN as best practice to all Welsh Public Sector (WPS) bodies.

For public contracts valued at £6m or more, the inclusion of a Carbon Reduction Plan (CRP) or equivalent is a mandatory requirement at the selection stage of the procurement of public contracts.

For public contracts valued below £6m, which is assumed will be most relevant to Darwin Gray, WPS bodies are strongly advised to take a risk-based assessment and use their discretion to apply a CRP requirement to contracts in high emission categories. The key sectors with the largest estimated emissions for the public sector in Wales being Manufacturing, Construction, Transportation and Human Health and Social Work activities. It may also be helpful to consider activities that are major components of contract delivery that might not be immediately apparent from a category or contract title e.g. energy use, product or materials transportation and distribution, waste management.

It is anticipated that some WPS contracts that Darwin Gray wish to tender for may relate to the above sectors in which case the CRP will be presented as required by the relevant selection criteria and guidance documents.

1. Introduction

The greenhouse gas protocol was established in 1998 by the World Resource institute to assist organisations with assessing and reducing environmental impacts. It helps companies to understand how business activity can result in greenhouse gas emissions by using a standardised accounting system. The emissions are reported in three different categories, namely Scope 1, 2 and 3.

- Scope 1 emissions or direct emissions represent any emissions that occur from fuels being burnt on site. These are direct emissions from sources that are owned or controlled by Darwin Gray LLP, namely the use of gas at each of Darwin Gray's offices.
- Scope 2 emissions are defined as indirect emissions associated with purchased energy. These are indirect emissions from the generation of purchased electricity, steam, heating, and cooling consumed by the firms' offices. This primarily involves the electricity used in the Bangor and Cardiff offices.
- Scope 3 emissions include all other emissions that occur up and down the supply chain including employee travel. These impacts fall outside the direct control of the business and data can often be difficult to obtain in long or complex supply chain. For a professional services company like Darwin Gray, this includes emissions from business travel, employee commuting, waste disposal, and the procurement of goods and services.

Collectively, Scope 1 – 3 emissions represent the emissions a business or company generate in the usual course of operating.

There are several data sources available to measure the environmental impacts of business activity. The most commonly used are the DEFRA conversion factors with processes that can be used to calculate impacts such as burning fossil fuels, purchased energy, business travel, homeworking and distribution of goods. In some cases, when supplier data are not available, inventory might be compiled based on generic information and to do this data sources such as Ecoinvent are useful. Other acceptable approaches include extracting data from peer review academic studies and manufacturers sustainability reports.

Before an organisation sets out goals for reducing its environmental footprint, it is necessary to understand the current impacts of business-as-usual activity. These are often referred to as baseline emissions and can be reported as either annual emissions or as a functional unit such as kilogram of product. This report for the reporting period 1st April 2023 – 31st March 2024 is Darwin Gray's first reporting period and will serve as the firm's Baseline emissions. It presents the findings, provides a commitment as to its overall carbon reduction target and achieving Net Zero and recommended activities and projects to start progressing against these targets. It is expected that carbon reduction goals will be defined once baseline emissions have been defined as the reference point against which emissions reduction can be measured.

The first consideration when evaluating carbon emissions of any product or service is to define the goal and scope and establish the extent of the study by setting out the system boundaries.

The goal of this Carbon Reduction Plan is to evaluate the environmental impact of Darwin Gray LLP firm wide and across both of its locations and considering the impact of each

employee. The scope focuses on the entire lifecycle of Darwin Gray LLP activity and will include direct, indirect and all impacts that occur throughout the supply chain including disposal and waste management. The system boundaries simply align with the greenhouse gas methodology and presented as Scope 1, 2 and 3 emissions.

As a company providing professional services, several factors impact the firms overall carbon emissions:

#	Factor	Description
1	**Office Space**	The design, location, and management of the firm's 2 office locations significantly impacts its carbon emissions. Factors such as building insulation, lighting efficiency, and the use of eco-friendly materials in office construction and maintenance play a crucial role. Additionally, optimizing space usage to avoid unnecessary expansion can help reduce the overall environmental footprint.
2	**Energy Consumption**	The electricity and heating used in office buildings are major contributors to carbon emissions. Efficient energy use and sourcing renewable energy can make a big difference.
3	**Business Travel**	Frequent travel for client meetings, conferences, and other business purposes, can lead to high emissions. Encouraging virtual meetings and using more sustainable travel options can help reduce this impact.
4	**Employee Commuting**	The daily commute of employees to and from the office can add up, particularly if many employees drive. Promoting remote work, carpooling, and the use of public transportation can mitigate these emissions.
5	**Office Supplies and Equipment**	The procurement of office supplies, furniture, and electronic equipment also contributes to carbon emissions. Choosing suppliers with sustainable practices and opting for energy-efficient products can lower this footprint.
6	**Waste Management**	The way office waste is handled, including paper, plastic, and electronic waste, affects emissions. Implementing robust recycling programs and reducing overall waste generation are key strategies.
7	**IT Infrastructure**	The energy used by computers and other IT infrastructure can be significant. Adopting energy-efficient technologies and cloud services with green credentials can help reduce emissions.

Assumptions

Calculations for the preparation of this Carbon Reduction Plan have been made utilising a separate Carbon Footprint Calculator tool in excel. Several key assumptions have been made in the preparation of the Calculator, details of which are as follows:

#	Assumption	Details
1	Conversion Factors	Reference is made throughout the calculator to "Conversion Factors". To calculate the Global Warming Potential (GWP) of the Scope 1, Scope 2 and Scope 3 emissions we have applied Conversion factors in preparing kg tCO2e (Kilogram Carbon Dioxide Equivalent) calculations which are used to convert the amount of greenhouse gases (GHGs) emitted by different sources into a common measure. This allows for the comparison and aggregation of different GHGs in terms of their Global Warming Potential (GWP).
2	Employee Commuting Patterns	We assume a standard commuting pattern for employees, considering the average distance travelled and the mode of transportation used.
3	Energy Consumption	Where possible calculations have been made with reference to the actual usage as referenced on company invoices and where this information is not available, on the average energy consumption data for office buildings of similar size and usage.
4	Business Travel	Frequency and distance of business travel have been estimated based on historical data and where relevant, projected future travel needs.
5	Waste Generation	Industry benchmarks have been used to estimate the amount of waste generated by both Darwin Gray offices.
6	Procurement	Where possible, we consider the carbon footprint of goods and services procured, using average emissions data for common office supplies and services.

Limitations

The best available data was used to conduct this assessment which utilises conversion factors published by DEFRA however some assumptions have been made when calculating consumption figures for some scope 3 inventory items. No data could be accessed regarding Darwin Gray events and some consumables such as blue paper roll, toilet paper, washing up liquid and other office consumables and it is recommended that tracking of such items be implemented for future reviews.

As leaseholders, Darwin Gray LLP also face several limitations that impacts their ability to fully control and reduce their carbon emissions related to office space:

#	Limitation	Description

1	Building Infrastructure	As a leaseholder, the firm has limited control over the building's infrastructure, such as insulation, windows, and HVAC (Heading, Ventilation and Air Conditioning) systems which restricts their ability to implement energy-efficient upgrades or modifications.
2	Energy Sources	The choice of energy sources (e.g., renewable vs. non-renewable) is determined by the building owner and as a leaseholder they have limited options to switch to greener energy providers or install renewable energy systems like solar panels.
3	Space Utilization	The lease agreements currently in place limits the firm's ability to reconfigure office space to optimize energy use. For example, creating open-plan areas to reduce lighting and heating needs would not be feasible without the landlord's approval.
4	Maintenance and Upgrades	Any significant changes or upgrades to improve energy efficiency, such as installing energy-efficient lighting or smart thermostats requires the landlord's consent.
5	Waste Management	The building's waste management policies and facilities are controlled by the landlord with the firm having limited influence over recycling programs or waste reduction initiatives.
6	Green Building Certifications	Achieving certifications like LEED or BREEAM, which recognize sustainable building practices, would be challenging if the building owner is not committed to these standards.

2. Overall Carbon Reduction Target - Commitment to achieving Net Zero

Darwin Gray is committed to achieving Net Zero emissions by 2050.

Darwin Gray LLP has not previously assessed or reported emissions prior to this report and will use this first reporting period as the firm's baseline emissions footprint. Darwin Gray will seek to set Scope 1, Scope 2 and Scope 3 reduction in future Carbon Reduction Plan using these baseline emissions as the reference point against which emissions reduction can be measured and has set the following targets for overall carbon emissions reduction:

- **Scope 1 Reduction** – 50% by 2035[1]
- **Scope 2 Reduction** – 50% by 2035[2]

[4] Subject to the phased transition to and purchasing of electric vehicles by staff
[5] Subject to Green Tariff and Solar PV installations. Assumption is that the National Grid is expected to be Net Zero by 2035

3. Baseline Emissions Footprint

Baseline emissions are a record of the greenhouse gases that have been produced in the past and were produced prior to the introduction of any strategies to reduce emissions. Baseline emissions are the reference point against which emissions reduction can be measured.

Darwin Gray LLP has not previously assessed or reported emissions prior to this report and will use this first reporting period as Darwin Gray's baseline emissions footprint.

Baseline Year: 1st April 2023 to 31st March 2024

Additional Details relating to the Baseline Emissions calculations.

Scope 1 emissions – direct emissions

Cardiff

The total gas consumption for the period of April 2023 to March 2024 was 43,037kWh across both Cardiff and Bangor locations. The data on gas consumption for the Cardiff office is based on monthly readings from Opus Energy that are issued to the company monthly and at the time of reporting there was a complete account of consumption figures.

Bangor

Invoicing and accounting arrangements at the Bangor office is provided by Gwynedd Council. Invoices are inclusive of Electricity Charges, Gas, Photocopying and Other services however detailed usage data is not included with only an overall due amount being included for the reporting period.

Detailed consumption data for Gas was requested from the council and confirmed by the Council Assistant Estates Surveyor on Friday 2nd August 2024 for the reporting period 2023/24.

Summary

The global warming potential for scope 1 emissions is 7,873 kg CO2 eq. Table 1 shows the demand for natural gas at both locations. The conversion factor utilised for calculating kg tCO2e for Scope 1 emissions was 0.18292 as referenced in the UK Government DEFRA GHG Conversion Factors for Company Reporting 2024.

Table 1 – Annual energy demand for natural gas

Location	Date	Energy	Global Warming Potential
Cardiff	April 2023 – March 2024	38,792 kWh	7,096
Bangor	April 2023 – March 2024	4,245 kWh	777
	Total	43,037 kWh	7,873 kg CO2 eq

Scope 2 emissions – indirect emissions

This category exclusively represents Darwin Gray's emissions from purchased electricity. Reducing the

impact of scope 2 emissions can involve a combination of measures such as energy conservation, improvements to efficiency and supporting low carbon energy generation. As both offices are leasehold this may limit Darwin Gray's ability to implement some measures.

Cardiff

Total electricity consumption at the Cardiff office is based on monthly readings from Valda Energy that are issued to Darwin Gray monthly and at the time of reporting there was a complete account of consumption figures for the reporting period. It was unclear from reviewing the invoices whether a renewable tariff has been selected (Valda | 100% Renewable Electricity (valdaenergy.com)) and this would be one area to explore further when considering opportunities for reducing overall emissions.

Bangor

Detailed consumption data for electricity was also requested from the council and confirmed by the Council Assistant Estates Surveyor on Friday 2nd August 2024 for the reporting period 2023/24.

It is understood based on the energy consumption data provided by Gwynedd Council that a solar PV panel is already installed at the building which generated and reduced Darwin Gray's overall consumption by 150kWh during the reporting period. Given the lack of guidance on reporting scope 2 emissions, company reports can vary in terms of accuracy creating difficulties with internal and external decision making. This has led companies to report the market-based method and location method.

Summary

Market based emissions is calculated based on the electricity that organisations have chosen to purchase and considers contractual arrangements under which organisations procure power from specific sources, such as renewable energy. However, as no emission or tariff related information is included in the Valda Energy or Gwynedd Council readings, the location-based emissions have been used with emissions being calculated using DEFRA conversion factors with 1 kWh of electricity equivalent to 0.20705 kg CO2 eq (as referenced in the UK Government DEFRA GHG Conversion Factors for Company Reporting 2024). This factor is the UK grid average for 2024, regions such as North Wales often have lower emissions because of renewable sources feeding into the local grid system but no local conversion factor could be sourced for this report.

The total electricity demand across both locations for the reporting period was 26,881 kWh however this has been reduced by 150 kWh to account for the electricity generated and apportioned to the Bangor office, bringing the final consumption figure to 5,521 kg CO2 eq.

Table 2 shows the electricity demand for both locations. The conversion factor utilised for calculating kg tCO2e for Scope 1 emissions was 0.20264 as referenced in the UK Government DEFRA GHG Conversion Factors for Company Reporting 2024.

Table 2 – Annual energy demand for electricity

Location	Date	Energy	Global Warming Potential
Cardiff	April 2023 – March 2024	24,555 kWh	5,085
Bangor	April 2023 – March 2024	2,256 kWh	467
		26, 881 kWh	5,552
	Less PV Generation at InTec	150 kWh	31.061

Total	26,661 kWh	5,521 kg tCO2e

Scope 3 emissions

This GWP for scope 3 emissions have been calculated using a variety of data sources including DEFRA conversion factors, peer review studies, life cycle assessment inventory databases and manufacturers sustainability reports. This reporting category cover all other emissions that occur up and down the supply chain. Table 3 shows a list of inventory items with corresponding GWP for locations in Cardiff and Bangor and a breakdown of work-related staff travel and accommodation. Certain items such as print paper, IT equipment and general refreshments are procured from the Cardiff office for the provision of both locations and accordingly have not been apportioned.

IT Equipment

The biggest contributor to scope 3 emissions is the provision of IT equipment across the firm. There are approximately 232 pieces of IT equipment issued across the firm as follows:

Table 3 – IT Equipment

IT Equipment	Number
PC	31
Laptop	26
Keyboard	57
Monitor	57
Mouse	57
Printer	4 (3 in Cardiff / 1 in Bangor)
Total	232

Emissions across IT equipment stands at 34,938 kg CO2 eq. The kg CO2 eq of existing IT equipment will only have to be reported in this current year and will not need to be accounted for in future reporting periods and the firm will see a reduction of this figure in the next reporting period. If any further IT equipment is purchase in subsequent years, an account of the kg CO2 eq of these pieces of equipment will need to be reported.

Each member of the team was recently issued with 2 monitors which is relatively standard in a professional services company. IT related emissions are calculated using Product Carbon Footprint data sourced from the HP website for PC's, Product Carbon Emissions Information Sheets from HP for Laptops and for the Keyboard and Mouse we have substituted comparable items by Logitech to calculate estimate emissions using Logitech's Carbon Clarity Tool. No GWP data was available for either Benq OR Acer K242HL 24" monitors which are the standard monitors in issue therefore we have applied a comparable model of LCD Widescreen Monitor by Acer to estimate the GWP for monitors. There are 4 printers located across both offices, 3 Ricoh IMC3500 printers (copier, printer and scanner) which are on lease with Infinity Document Solutions in Cardiff and one HP Officejet Pro 9020 series in the Bangor office. No GWP information was available for the printing equipment themselves and despite requesting information from Infinity Document Solutions who manage printing services for the 3 x Ricoh

models, no emission information was available at the time of reporting. Despite the lack of GWP information, the invoices received from Infinity Document Solutions were analysed and total printing usage for the reporting year was approximately 331,949 consisting of a total of 237,076 mono printed sheets and 94,873 colour printed sheets. This would be consistent with the estimated paper consumption of the approximately 420,000 sheets that are purchased annually considering that a portion of those sheets are allocated to the Bangor office. No data was available accounting for the specific number of boxes allocated to Bangor and this would be something to track in the subsequent reporting periods.

Travel

The second biggest contributor to scope 3 emissions is the impact of staff travelling to and from work. In this study we have used actual mileage provided by employees to account for their return journey to and from their home to their place of work and for most staff members this is under 100 miles per week (based on approximately 41 FTE) with total annual mileage for all staff across both locations being 115,947 miles per annum. Commuting days have been calculated based on total annual days in 2023 / 2024 (Leap Year) of 366 days (applying 7.5-hour days), less weekend days of 104 which equates to a total available working days of 262. Less holidays of 25 days, public holidays of 8 days and 3 days to account for Christmas closure, the total amount of available working days per year for full time employees has been calculated as 226. This has then been apportioned across individual days to account for individual who work reduced hours with 0.2 FTE's having 45.2 working days per year, 0.4 FTE's having 90.4 working days per year, 0.6 FTE's having 135.6 working days per year and 0.8 FTE's having 180.8 working days per year.

The impact of staff travel is calculated using DEFRA conversion factors for Lower Medium and Upper Medium, Petrol and Diesel fuel car categories. It is understood that one member of staff owns an electric vehicle during the dates covered in this report, a zero-carbon emission for daily commute has been recorded in this single case.

Mode of transport to and from work is included below and where transportation is by car we have included fuel type.

Table 4 – Mode of Transport

Mode of Transport		Number
Car		25
	Petrol	18
	Diesel	7
Bus		4
Train		4
Walk		17
Cycle		3
		52

*There are 11 members of staff who use multiple means of transportation to commute e.g. Walk, Bus and Car

The global warming potential for staff commute to and from work is estimated to be 27,824kg CO2 eq.

In addition to day-to-day commuting, an account has also been made of members of the team who travel between both locations in which case we have utilised the AA mileage calculator (Mileage calculator | AA (theaa.com)) to measure the distance to and from each office, this totalling approximately 360 miles per return journey. We have averaged that 2 team members who are located at the Bangor office would visit Cardiff monthly for 3 nights, approximately 12 times per annum with a third member of the team visiting quarterly, or 4 times a year, a total of 84 individual nights across 3 members of staff. As the team try to coordinate the scheduling of their Cardiff visits to enable for car-sharing, we have assumed that the total frequency of individual return journeys is 12.

For the Cardiff based team, we have assumed approximately 5 members of the team will visit the Bangor office, 4 Partners consisting of the Managing Partner, 2 Commercial Property Partners and 1 Corporate Commercial Partner and 1 other member of staff, which is consistent with current practice and the department represented in the Bangor office. We have further assumed that each visit will consist of approximately 2 nights stay at a frequency of 1 visit per quarter with 2 cars being utilised assuming car sharing arrangements, with a total of 40 nights being allocated for hotel says in Bangor.

Total return mileage to the respective North and South Wales offices is 11,245 miles which equates to 3,284 kg CO2 eq applying a DEFRA conversion factor of 0.25827 for Upper Medium Diesel and 0.30501 for Upper Medium Petrol vehicles, which is consistent with the types of vehicles that these individuals drive.

DEFRA conversion factors have also been applied for hotels at 10.4000 kg CO2 eq for both Bangor and Cardiff based team member with an approximate 124 nights stays equates to a kg CO2 eq of 1,245.

Homeworking has been accounted for in the overall calculation recognising that a certain number of employees work from home on scheduled days and also work reduced hours with an annual kg CO2 eq of 1,245 being attributed to homeworking which has been calculated using the DEFRA conversion factor of 0.33378 per FIT working hour (inclusive of home equipment and heating).

Water Usage

Total Water and Waste Water consumption at the Cardiff office is based on monthly readings from Dwr Cymru that are issued to Darwin Gray every 6 months. At the time of reporting invoices for the period 26/01/23 – 12/07/23 and 12/07/23 – 25/01/24 were available providing an annual estimation of Water and Waste Water consumption figures for the reporting period. Water total per m3 used was 212m3 and Waster Water per m3 used was 202m3. Applying DEFRA conversion factors for Water Supply (0.176685) and Waste Water Treatment (0.201318) equates to a total kg CO2 eq of 37 for Water and 41 for Waste Water per annum.

Detailed Water and Waste Water consumption data for Bangor was also requested from the council and confirmed by the Council Assistant Estates Surveyor on the 8th August 2024 for the reporting period 2023/24. The data provided accounted for total Water and Waste Water usage at Intec over the calendar year 05/04/2023 to 31/03/2024 with a total m3 of Water used being 562 and total m3 waste water used being 534. To apportion and estimate the relevant consumption of the Bangor office, the Bangor office area of 36 m2 was divided by the total building area of 2109 m2 which equates to a proportion factor of 0.01707 which when multiplied with the total m3 Water and Waste Water used by the building, is apportioned as 9.59317 for Water and 9.11522 for Waste Water. Applying DEFRA conversion factors for Water Supply (0.176685) and Waste Water (0.201318) the total kg CO2 eq for Bangor's Water consumption is 2 kg CO2 eq and Waste Water is 2 kg CO2 eq.

Confidential Waste Collection

Total Confidential Waste at the Cardiff office is based on monthly invoices from Restore Datashred who

are contracted to process the Confidential Waste on behalf of Darwin Gray via monthly collections. Confidential Waste is calculated by weight in KG with each collection averaging 5 20kg bags, with a total weight per collection of 140kg. During the reporting period, the company was invoiced for a total kg weight of 3,500kg which, when applying the DEFRA conversion factor per kg Waste paper – Per Mixed Closed Loop (0.02128) (Restore confirmed that all their paper waste is recycled and used to produce tissue paper or recycled copy paper products) equates to kg CO2 eq for waste paper of 74.

A similar collection arrangement exists in the Bangor office with Antur Waunfawr who provide a confidential paper collection and shredding service. The total kg of waste paper collected over 6 months was 50kg (2 x 25kg) which equates to 100 kg per annum. When applying the DEFRA conversion factor for Waste Disposal – Waste Paper – Paper Mixed Closed Loop (0.02128) (Antur Waunfawr confirmed that all their paper waste is recycled and used to produce tissue paper) equates to 2 kg CO2 eq of confidential paper disposal in Bangor per annum. The total amount GWP of confidential waste collection is 76 kg tCO2e.

General Waste

General waste at the Cardiff office is distributed across 5 bins as follow:

Table 5 – General Waste distribution in Cardiff

Waste Type	Number of bins	Volume (litres)	Collection
General Waste	2	1,100	Every 2 weeks
Card and Paper Bin	1	660	Weekly
Plastics, Cans and Cartons	1	340	Every 2 weeks
Food Waste	1	240	Weekly

General Waste at both Cardiff and Bangor are treated communally and as such no detailed data is available which is apportioned to each individual office. Data has been provided across the entire office building in Cardiff (as above) and the General Waste volume has been calculated by multiplying the bin capacity with the relevant collection regularity over a 12-month period to reach a total annual volume in litres which is then converted to kg. The total volume is then divided by the relevant proportion (4224 square feet for the space occupied by Darwin Gray by the total space of the building of 27,030 square feet which equates to 0.1563) with a total volume of General Waste of 6,848kg per annum. We have then applied the Welsh Government policy of General Waste Treatment, this being 70% to be processed by Closed Loop Recycling with the remainder being by other processed which we have assumed to be Combustion at 25% and Landfill at 5% (Landfill has been included in consideration of the Audit Wales report titled “Waste Management – Cardiff Council 2021 – 2022” which concluded that the Council performance in 2021 – 2021 was 55.8% with “poor recycling rates” when the Welsh Government target for recycling and re-use in 2019 – 2020 was set at 64%).

The total kg tCO2e for General waste for the reporting period in Cardiff was 212.

Volume data and frequency of collection was requested for the Bangor office, and although it was confirmed that there is 1 1100 litre bin on the premises, information relating to the frequency of collection was not available. It can however be assumed, given that only 2 individual was located at the Bangor office for the majority of the reporting period, and that most of the waste generated at the office, over and above paper waste which is accounted for earlier in this report, the general waste for the office is negligible and is limited to food waste and food wrapping. Further enquiries will be made with the Council to confirm waste collection frequency at the Bangor office however this information is not

available for this baseline assessment.

Office Consumables

The general office consumables that have been accounted for in this Carbon Reduction Plan includes the purchase and consumption of milk for the office which is estimated at approximately 50 litres per month (600 litres per annum) which equates to approximately 56 kg CO2 eq per month and a total of 672 kg CO2 eq per annum utilising a conversion factor of 1.12 based on the peer reviewed academic paper "*Global warming potential associated with dairy products in the Republic of Ireland – ScienceDirect, 2015*".

In addition to Milk consumption, we have accounted for daily refreshments that we've averaged across both locations with an assumption that each individual consumes approximately 4 refreshments daily (1 coffee and 3 teas), with the conversion factor for tea being 0.048 kg CO2 eq and coffee being 0.014. We have calculated annual days worked from the office stands at approximately 7,658 across the 41 employees with total daily consumption of 0.158 kg CO2 eq per person, and an annual kg CO2 eq annually being 1,210 kg tCO2e.

As referenced above under IT – Printer and given the nature of the professional services provided by Darwin Gray, this being the provision of legal services, the consumption of paper is also included and accounted for in the report. Actual expenditure for office paper was made available for a 6-month period between Jan 2024 – June 2024. The total boxes purchased within this timeframe of 80gsm sheet of paper was 83 with each box consisting of 5 reams of paper with each ream containing 500 sheets. To estimate monthly consumption during the reporting period the 83 was multiplied by 2 to account for a full year and divided by 12 to arrive at a monthly figure of approximately 14 boxes. This was then attributed across April to December 2023 with actual figures being used for Jan – March 2024.

The total boxes purchased annually is 167 which consists of 840 reams and 420,000 sheets. The total weight of the boxes (assuming 12.5kg per box) purchased annually is 2,081 kg which, when applying a conversion factor for Paper per kg of 0.958 as per the peer reviewed academic paper "*Comparison of methodologies for estimating the carbon footprint – case study of office paper – Science Direct, 2011*" this equates to a kg CO2 eq of 1,994 per annum.

The last office consumable expense that has been reviewed in preparing this Carbon Reduction Plan is referred to as "Other Stationary" however no detailed information was available to account for what this consists of above consumables such as post-it notes, Sellotape, Pens, notepads and paper-clips. The average monthly expenditure of "Other Stationary" was approximately £392 per month. Further detailed accounting of these items would require tracking of individual items and sourcing a related conversion factor for each however this is beyond the scope of this baseline report and can be considered as something to track going forward.

Events

During the period covered in this report, Darwin Gray arranged a total of 5 events. These events relate to marketing and networking for the firm and is an important part of Darwin Gray's annual calendar. Two of the events were held virtually with 3 events held in person in the Cardiff area with an estimated 255 people attending these events over the course of the year. No data is currently collected for Darwin Gray related events however it is recommended that the organisation of future events include efforts to capture data and information such as m2 of the venue, information on how the venue is heated, information from the caterers on their carbon emissions, details on waste management policy and surveys to be sent to attendees requesting information on distance to the venue and means of transport.

Scope 3 element of energy usage

In addition to direct Scope 1 and 2 emissions, there are indirect or scope 3 elements to this energy consumption.

Scope 3 emissions for natural gas Well to Tank (WTT) is calculated with a conversion factor of 0.03.021. For Cardiff the total kg CO_2e for Scope 3 natural gas emissions is 1,171.91 based on kWh consumption of 38,792 whilst Bangor is 128.24 kg CO_2e based on kWh of 4.245.

Scope 3 emissions for electricity accounts for electricity transmission and distribution together with WTT (generation) and WTT (T&D). Scope 3 electricity emissions for Cardiff is 1,664.49 kg CO_2e based on kWh consumption of 24,555 whilst Bangor stands at 142.76 kg CO_2e with kWh consumption of 2,106.

Table 6 – Summary Scope 3 life cycle inventory for Cardiff and Bangor

Cardiff

Materials	**Amount**	**Unit**	**GWP**
General waste	6848	kg	212
Mains water	212	m3	37
Waste water	202	m3	41
Ink toner	0	kg	0
Confidential Waste Paper Collection	3500	kg	74
Toilet paper	0	kg	0
Washing up liquid	0	kg	0
Blue rolls	0	kg	0
Natural Gas - WTT (Well-to-Tank)	38,792	kWh	1,171.91
Electricity - WTT Generation, WTT T&D, Transmission & Distribution	24,555	kWh	1,664.49

Bangor

Materials	**Amount**	**Unit**	**GWP**
Mains water	9.59317	m3	2
Waste water	9.11522	m3	2
Ink toner	0	kg	0
Paper waste	100	kg	2
General waste	0	kg	0
Natural Gas - WTT (Well-to-Tank)	4,245	kWh	128.24
Electricity - WTT Generation, WTT T&D, Transmission & Distribution	2,106	kWh	142.76

Across both locations

Materials	**Amount**	**Unit**	**GWP**
A4 Paper	2081	kg	1994
PC	31	Individual	13206

Laptop	26	Individual	6396
Keyboard	57	Individual	964
Monitor	57	Individual	14140
Mouse	57	Individual	232
Printer	4	Individual	0
Milk	600	Litres	672
Refreshments (Tea & Coffee) per annum	7658	Total number	1210
Homeworking	542	Days	1245
Average distance that staff travel from home to work annually	2864	Miles	27,824
Average nights that staff stay in Cardiff	84	Nights	843
Total miles travelling to Cardiff	4284.2	Miles	1106
Average nights that staff stay in Bangor	40	Nights	402
Total miles travelling to Bangor	7140.4	Miles	2178
	Total	**75,890 kg CO_2e**	

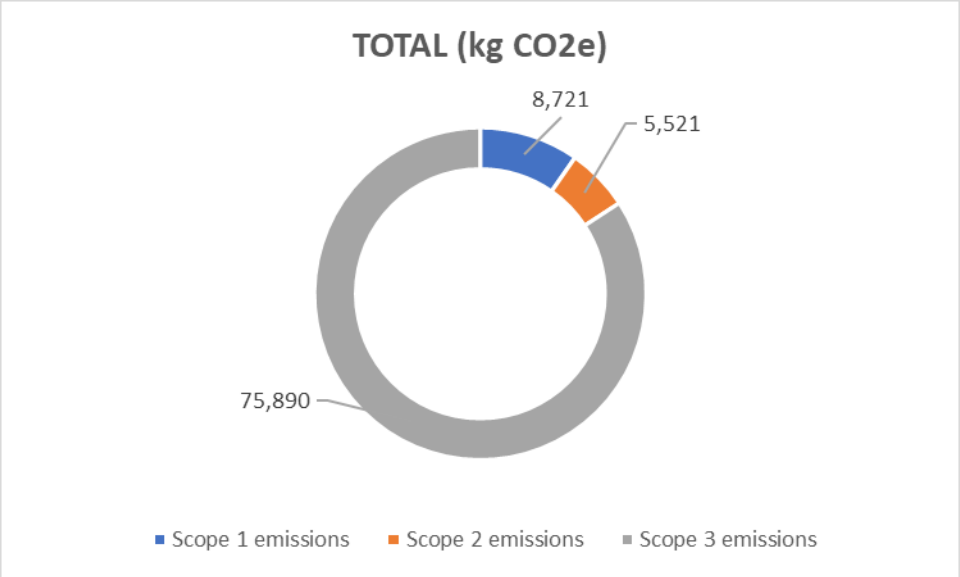
Baseline year emissions:

EMISSIONS	**TOTAL (tCO_2e)**
Scope 1	**8,721 kg CO_2e**
Scope 2	**5,521 kg CO_2e**
Scope 3 (Included Sources)	**75,890 kg CO_2e**
Total Emissions	**89,284 kg CO_2e**

4. Current Emissions Reporting

Darwin Gray LLP has not previously assessed or reported emissions prior to this report and will use this first reporting period as Darwin Gray's baseline emissions footprint.

Reporting Year: 2024	
EMISSIONS	**TOTAL (kg CO_2e)**
Scope 1	**8,721 kg CO_2e**
Scope 2	**5,521 kg CO_2e**
Scope 3 **(Included Sources)**	**75,890 kg CO_2e**
Total Emissions	**89,284 kg CO_2e**



5. Carbon Emissions Reduction Targets

As Darwin Gray LLP has not previously assessed or reported emissions, this report will be the company's first reporting period.

Darwin Gray is committed to achieving Net Zero emissions by 2050 which is in line with the Welsh government's target and has set the following targets for overall carbon emissions reduction:

- **Scope 1 Reduction** – 50% by 2035[3]
- **Scope 2 Reduction** – 50% by 2035[4]

As part of the company's journey to Net Zero, it will:

- Establish an ESG Committee to lead on the future development of Darwin Gray's Carbon Reduction Plan
- Join the Legal Sustainability Alliance
- Verify Scope 1, Scope 2 and Scope 3 emissions with an external expert
- Continue to reduce the company's carbon footprint where possible
- Explore the feasibility of working with landlords to reduce the carbon emissions of the buildings
- Finding a carbon offset that meets the requirements to counteract emissions we will be unable to negate in-house, namely from our buildings and employee commuting

[4] Subject to the phased transition to and purchasing of electric vehicles by staff
[5] Subject to Green Tariff and Solar PV installations. Assumption is that the National Grid is expected to be Net Zero by 2035

6. Carbon Reduction Projects

As Darwin Gray LLP has not previously assessed or reported emissions prior to this report and will be using this first reporting period as the Darwin Gray's baseline emissions footprint, the following initiatives and projects have been included as initial recommendations that may be implemented in support of developing the Darwin Gray's next Carbon Reduction Plan.

1. **ESG Committee**: Establishing an ESG Committee to lead on the future development of our Carbon Reduction Plan
2. **External Carbon Assessment review**: Engaging with an external expert to review our baseline emissions footprint report.
3. **Energy Tariff Review**: Reviewing what level of the current energy tariff is generated via renewable energy.
4. **Energy Tariff switch**: assuming that the current energy tariff is not currently utilising renewable energy (or only a fraction), explore options of switching energy tariff to renewable when the current electricity tariff expires. This would reduce Scope 2 emissions by 80 – 90% for Cardiff
5. **Cycle to Work**: Promote further adoption of Darwin Gray's existing cycle to work scheme
6. **Car Sharing**: Promoting car sharing where possible
7. **Engaging with Landlords**: Collaborating with building owners to advocate for and support energy-efficient practices and upgrades.
8. **Energy Efficiency Measures**: Implementing measures within our control, such as using energy-efficient office equipment, optimizing lighting, and encouraging energy-saving behaviours among employees.
9. **Sustainable Practices**: Promoting sustainable practices like reducing paper use, recycling, and minimizing waste.

7. 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[5] and uses the appropriate Government emission conversion factors for greenhouse gas company reporting[6].

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[7].

This Carbon Reduction Plan has been reviewed and signed off by the board of directors (or equivalent management body).

Signed on behalf of the Supplier:

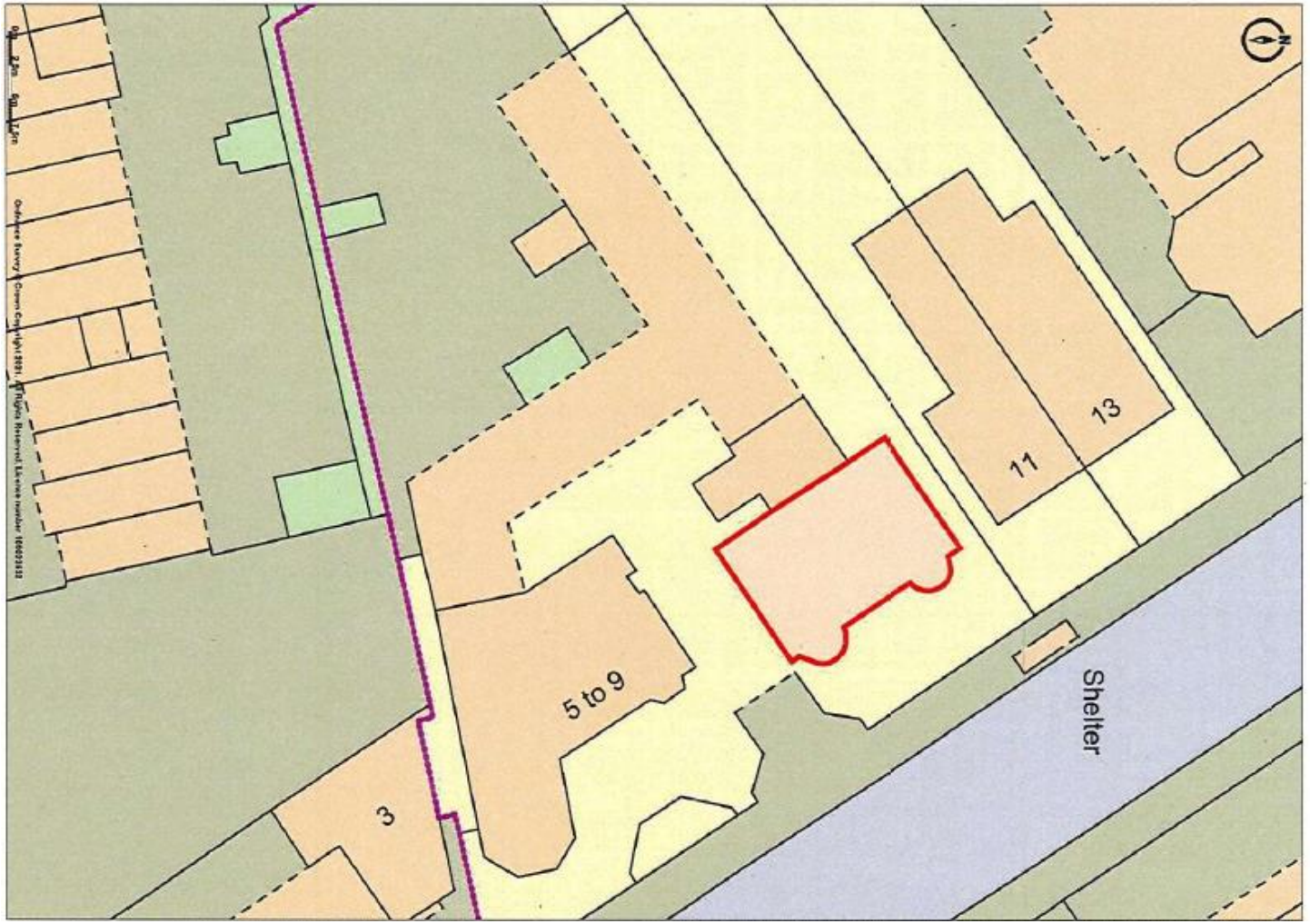
……

Date: ……

[5] https://ghgprotocol.org/corporate-standard
[6] https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting
[7] https://ghgprotocol.org/standards/scope-3-standard

Appendix

Location 1 – 9 Cathedral Road, Cardiff CF119HA



Location 2 – Uned F12, Intec, Parc Menai, Bangor LL57 4FG