Carbon Reduction Plan

version 4.0

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Document Version Control

Version	Amendment	By	Date
0.1	New policy document created in accordance with PPN-0621 Carbon Reduction Plan template.	Mike Smith	11/11/2021
1.0	Published Carbon Reduction Plan for Reporting Year 2020/2021 following review by Management Team	Mike Smith	12/11/2021
2.0	Published Carbon Reduction Plan for Reporting Year 2021/2022 following review by Management Team	Leigh McLaren Brierley & Mike Smith	26/09/2022
3.0	Published Carbon Reduction Plan for Reporting Year 2022/2023 following review by Management Team	Leigh McLaren Brierley & Mike Smith	27/09/2023
3.1	Reviewed content. Amended the measures taken to reduce the impact of our operations.	Jill Davis	15/03/2024
3.2	Minor adjustments to 21/22 and 22/23 figures.	Mike Smith	02/09/2024
4.0	Published Carbon Reduction Plan for Reporting Year 2023/2024 following review by Management Team	Mike Smith	02/09/2024

Commitment to achieving Net Zero

Astun Technology is committed to achieving Net Zero emissions by 2050.

Baseline Emissions Footprint (2018-19)

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.

Baseline Year: 1 April 2018 to 31 March 2019	
Additional Details relating to the Baseline Emissions calculations.	
We have selected this year as our baseline, as it pre-dates the COVID 19 Pandemic and reflects our activities prior to us starting to take actions to reduce our Carbon Footprint.	
Baseline year emissions:	
EMISSIONS	**TOTAL (tCO_2e)**
Scope 1	• Emissions from the gas used to heat Astun offices • Emissions from the gas used to heat Astun staff homes for staff working from home
Scope 2	• Emissions from purchased electricity to run Astun offices • Emissions from purchased electricity to run Astun staff homes for staff working from home
Scope 3 **(Included Sources)**	• Business travel • Emissions from the combustion of staff cars

Baseline Year: 1 April 2018 to 31 March 2019	
Additional Details relating to the Baseline Emissions calculations.	
The calculations made to determine our baseline emissions are set out in Appendix 1.	
Baseline year emissions:	
EMISSIONS	**TOTAL (tCO_2e)**
Scope 1	**4,581 kg**
Scope 2	**2,885 kg**
Scope 3 **(Included Sources)**	**18,305 kg**
Total Emissions	**25,770 kg**

Emissions Reporting (2020-21)

Reporting Year: 1 April 2020 to 31 March 2021	
The calculations made to determine our emissions for the reporting year are set out in Appendix 2.	
EMISSIONS	**TOTAL (tCO_2e)**
Scope 1	**7,891.70 kg**
Scope 2	**900.57 Kg**
Scope 3 **(Included Sources)**	**695.62 Kg**
Total Emissions	**9487.89 kg**

Emissions Reporting (2021-22)

Reporting Year: 1 April 2021 to 31 March 2022	
The calculations made to determine our emissions for the reporting year are set out in Appendix 3.	
EMISSIONS	**TOTAL (tCO_2e)**
Scope 1	**8,338.72 kg**
Scope 2	**812.67 kg**
Scope 3 **(Included Sources)**	**2,591.97 kg**
Total Emissions	**11,743.36 kg**

Emissions Reporting (2022-23)

Reporting Year: 1 April 2022 to 31 March 2023	
The calculations made to determine our emissions for the reporting year are set out in Appendix 4.	
EMISSIONS	**TOTAL (tCO_2e)**
Scope 1	**9664.74 kg**
Scope 2	**934.49 Kg**
Scope 3 **(Included Sources)**	**6470.53 kg**
Total Emissions	**17,069.76 kg**

Current Emissions Reporting (2023-24)

Reporting Year: 1 April 2023 to 31 March 2024	
The calculations made to determine our emissions for the reporting year are set out in Appendix 5.	
EMISSIONS	**TOTAL (tCO_2e)**
Scope 1	**10,538.40 kg**
Scope 2	**1,091.11 Kg**
Scope 3 **(Included Sources)**	**4,981.53 kg**
Total Emissions	**16,611.04 kg**

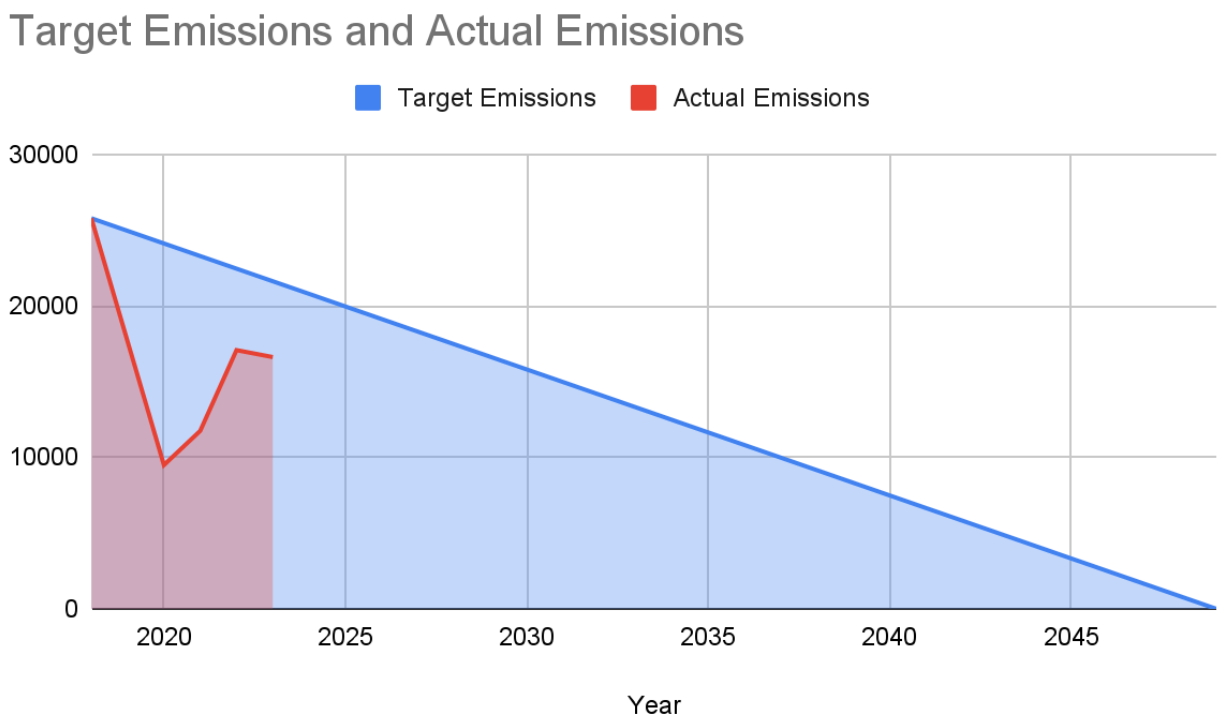
Emissions reduction targets

In order to continue our progress to achieving Net Zero, we have adopted the following carbon reduction targets.

We project that carbon emissions will decrease over the next five years to 19,951 kg tCO_2e by 2025/2026. This is a reduction of 22.5% when compared to our 2018/2019 baseline.

Note: Our emissions for the current reporting year 2022/23 show an increase in our emissions when compared to 2021/22. This is largely due to the fact that our travel resumed following the Covid-19 pandemic. We did expect our emissions to rise as things return to normal, however we feel we are still on track with our predictions.

Progress against these targets can be seen in the graph below:



Note: The year shown is the first year of the reporting year i.e. 2020 = Reporting Year 2020/2021.

Note: The carbon footprint of external hosting is not included in this Carbon Reduction Plan. We offer hosting to clients as an greener alternative to them hosting in-house (on-premise). We therefore acknowledge that any beneficial environmental impacts are to be recognised in their carbon reduction reports and not ours.

Carbon Reduction Projects

Recognising that climate change poses a threat to the economy, nature and society-at-large, we have demonstrated our commitment to environmentally sustainable practices by signing the SME Climate Commitment. This is our first step towards halving our emissions before 2030 and striving to achieve net zero emissions before 2050. In doing so, we are proud to be recognised by the **United Nations Race to Zero** campaign, and join governments, businesses, cities, regions, and universities around the world that share the same mission.

We have been using the tools and resources available from the **SME Climate Hub** to make the changes required to meet our commitment. The SME Climate Hub allows us to access best-in-class tools and resources, which are helping us to develop our strategy beyond our current **Environmental and Sustainability Policy**, a copy of which can be provided upon request.

We adopted 2018/2019 as our baseline, as it pre-dates COVID and reflects our activities prior to us starting to take actions to reduce our Carbon Footprint.

We have committed to taking action to reduce the carbon footprint and pollution caused by our business activities through various initiatives and measures. These include:

- Reducing Business Travel by making use of video-conferencing as an alternative to “face to face” for meetings.
- Providing online training rather than in-person training.
- Continuously improving our environmental performance and integrating recognised environmental management best practice into our business operations.
- Complying with all relevant environmental regulations and legislations.
- Reducing our consumption of resources and improving the efficiency of resource utilisation.
- Managing waste generated from our business operations, including IT equipment, according to the principles of reduction, re-use and recycling (or disposal as a last resort).
- Ensuring environmental criteria are taken into account in the procurement of goods and services.
- Providing employees with a better understanding of environmental issues and the company’s commitments, policies, and programmes to preserve and improve the environment.
- Using a hosting provider that has made a commitment to Net Zero and supports other sustainability measures and practices.
- Proactively monitoring hosting utilisation to reduce unnecessary electricity consumption.

In the future we hope to implement further measures such as:

- Revisiting requirements for a company head office.
- Assisting staff to take advantage of government schemes to promote the take-up of electric vehicles in replace of existing petrol/diesel cars.

Declaration and Sign Off

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standards 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 and uses the appropriate Government emission conversion factors for greenhouse gas company reporting.

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[3].

This Carbon Reduction Plan has been reviewed and signed off by the Astun Technology Management Team.

Signed on behalf of the Supplier:

Michael Saunt

Managing Director

Date: 2 September 2024

Appendix 1 - Baseline Emission Calculations

Baseline year is 1 April 2018 to 31 March 2019.

Computations made using the official conversion factors for 2018.

Scope 1

Emissions from the gas used to heat Astun offices

Astun purchased 561kWh of natural gas to heat its head office during the baseline period.

Multiplying by the emissions factor for natural gas, which is 0.18396 kg of CO2 per kWh we get **103.20 kg**

Emissions from the gas used to heat Astun staff homes for staff working from home

Astun Staff spent 1825.5 days Working from Home during the year. On the basis of an 8.0 hour day, this equates to 14,604 hours.

14,604 * 2/3 * 6/12 * 5 = 24,340kWh

Multiplying by the emissions factor for natural gas, which is 0.18396 kg of CO2 per kWh we get **4,477.58 kg**

Assumptions:

- It takes 5kWh gas to heat your home for an hour.
- Heating is only on between October - March, and not for 24 hours a day.
- One third of employees work in a household where the heating would be on even if they weren't working from home.

Scope 2

GHG Emissions from purchased electricity to run Astun offices

Astun purchased 8000kWh of electricity to run its head office during the baseline period.

Multiplying by the emissions factor for electricity, which is 0.28307 kg of CO2 per kWh we get **2,264.57 kg**

GHG Emissions from purchased electricity to run Astun staff homes for staff working from home

Laptops: 0.140 * 14,604 = 2,044.6 kWh

Lighting: 0.01 * 14,604 = 146.0 kWh

Together, that's 2,190.64 kWh of electricity per year for all employees working from home.

Multiplying by the emissions factor for electricity, which is 0.28307 kg of CO2 per kWh we get

620.10 Kg

Assumptions

- Laptops are rated at 140 watts = 0.140kW
- Lighting is rated at 10 watts = 0.01kW

Scope 3

Business travel: GHG emissions from the combustion of Staff Owned Cars

Astun Staff drove 39,725.4 business miles during the year.

Multiplying by the emissions factor, which is 0.27927 kg of CO2 per mile we get **11,094.11 Kg**

Business travel: GHG emissions from Air Travel

Astun staff made 13,268 kilometres of short haul international air journeys during the year.

Multiplying by the emissions factor, which is 0.16236 kg of CO2 per kilometre we get **2,154.19 Kg**

Astun staff made 13,580 kilometres of long haul international air journeys during the year.

Multiplying by the emissions factor which is 0.21256 Kg of CO2 per kilometre we get **2,886.56 Kg**

Business travel: GHG emissions from Taxi Travel

It is estimated that Astun staff made 484 miles of taxi journeys during the year. This equates to 778 kilometres.

Multiplying by the emissions factor, which is 0.021482 kg of CO2 per kilometre we get **16.71 kg**

Business travel: GHG emissions from Rail Travel

It is estimated that Astun staff made 30,215 miles of rail journeys during the year. This equates to 48,672 kilometres.

Multiplying by the emissions factor, which is 0.04424 kg of CO2 per kilometre we get **2,153.25 kg**

Assumptions

- 75% of travel expenses (excluding car mileage) are for Rail travel
- 15% of travel expenses (excluding car mileage) are for Taxi travel
- The average cost of rail travel is 20p per mile
- The average cost of taxi travel is £2.50 per mile

Appendix 2 - Reporting Year Emission Calculations 20/21

Reporting year is 1 April 2020 to 31 March 2021.

Computations made using the official conversion factors for 2020.

Scope 1

GHG Emissions from the gas used to heat Astun offices

During the pandemic, Astun took the decision not to renew its lease on its business premises as all staff were working remotely.

Zero.

GHG Emissions from the gas used to heat Astun staff homes for staff working from home

Astun Staff spent 3,219 days Working from Home during the year. On the basis of an 8.0 hour day, this equates to 25,752 hours.

25,752 * 2/3 * 6/12 * 5 = 42,920 kWh

Multiplying by the emissions factor for natural gas, which is 0.18387 kg of CO2 per kWh we get **7,891.70 kg**

Assumptions:

- It takes 5kWh gas to heat your home for an hour.
- Heating is only on between October - March, and not for 24 hours a day.
- One third of employees work in a household where the heating would be on even if they weren't working from home.

Scope 2

GHG Emissions from purchased electricity to run Astun offices

During the pandemic, Astun took the decision not to renew its lease on its business premises as all staff were working remotely.

Zero.

GHG Emissions from purchased electricity to run Astun staff homes for staff working from home

Laptops: 0.140 * 25,752 = 3,605.3 kWh

Lighting: 0.01 * 25,752 = 257.5 kWh

Together, that's 3,862.8 kWh of electricity per year for all employees working from home.

Multiplying by the emissions factor for electricity, which is 0.23314 kg of CO2 per kWh we get

900.57 Kg

Assumptions

- Laptops are rated at 140 watts = 0.140kW
- Lighting is rated at 10 watts = 0.01kW

Scope 3

Business travel: GHG emissions from the combustion of Staff Owned Cars

Astun Staff drove 2,526 business miles during the year.

Multiplying by the emissions factor, which is 0.26775 kg of CO2 per mile we get **676.34 Kg**

Business travel: GHG emissions from Air Travel

Astun staff made no air journeys during the year.

Zero.

Business travel: GHG emissions from Taxi Travel

It is estimated that Astun staff made 5 miles of taxi journeys during the year. This equates to 8 kilometres.

Multiplying by the emissions factor, which is 0.20369 kg of CO2 per kilometre we get **1.62 kg**

Business travel: GHG emissions from Rail Travel

It is estimated that Astun staff made 297 miles of rail journeys during the year. This equates to 478 kilometres.

Multiplying by the emissions factor, which is 0.03694 kg of CO2 per kilometre we get **17.66 kg**

Assumptions

- 75% of travel expenses (excluding car mileage) are for Rail travel
- 15% of travel expenses (excluding car mileage) are for Taxi travel
- The average cost of rail travel is 20p per mile
- The average cost of taxi travel is £2.50 per mile

Appendix 3 - Reporting Year Emission Calculations 21/22

Reporting year is 1 April 2021 to 31 March 2022.

Computations made using the official conversion factors for 2021.

Scope 1

GHG Emissions from the gas used to heat Astun offices

During the pandemic, Astun took the decision not to renew its lease on its business premises as all staff were working remotely.

Zero.

GHG Emissions from the gas used to heat Astun staff homes for staff working from home

Astun Staff spent 3189.50 days Working from Home during the year. On the basis of an 8.0 hour day, this equates to 25,516 hours.

25,516 * 2/3 * 6/12 * 5 = 42,527 kWh

Multiplying by the emissions factor for natural gas, which is 0.18316 kg of CO2 per kWh we get **8338.72 kg**

Assumptions:

- It takes 5kWh gas to heat your home for an hour.
- Heating is only on between October - March, and not for 24 hours a day.
- One third of employees work in a household where the heating would be on even if they weren't working from home.

Scope 2

GHG Emissions from purchased electricity to run Astun offices

During the pandemic, Astun took the decision not to renew its lease on its business premises as all staff were working remotely.

Zero.

GHG Emissions from purchased electricity to run Astun staff homes for staff working from home

Laptops: 0.140 * 25,516 = 3,572.2 kWh

Lighting: 0.01 * 25,516 = 255.2 kWh

Together, that's 3,827.4 kWh of electricity per year for all employees working from home.

Multiplying by the emissions factor for electricity, which is 0.21233 kg of CO2 per kWh we get **812.67 Kg**

Assumptions

- Laptops are rated at 140 watts = 0.140kW
- Lighting is rated at 10 watts = 0.01kW

Scope 3

Business travel: GHG emissions from the combustion of Staff Owned Cars

Astun Staff drove 5800 business miles during the year.

Multiplying by the emissions factor, which is 0.26549 kg of CO2 per mile we get **1539.84 Kg**

Business travel: GHG emissions from Air Travel

Astun staff made no air journeys during the year.

Zero.

Business travel: GHG emissions from Taxi Travel

It is estimated that Astun staff made 294 miles of taxi journeys during the year. This equates to 473 kilometres.

Multiplying by the emissions factor, which is 0.20826 kg of CO2 per kilometre we get **98.51 kg**

Business travel: GHG emissions from Rail Travel

It is estimated that Astun staff made 16,696 miles of rail journeys during the year. This equates to 26870 kilometres.

Multiplying by the emissions factor, which is 0.03549 kg of CO2 per kilometre we get **953.620 kg**

Assumptions

- The average cost of rail travel is 20p per mile
- The average cost of taxi travel is £2.50 per mile

Appendix 4 - Reporting Year Emission Calculations 22/23

Reporting year is 1 April 2022 to 31 March 2023.

Computations made using the official conversion factors for 2022.

Scope 1

GHG Emissions from the gas used to heat Astun offices

During the pandemic, Astun took the decision not to renew its lease on its business premises as all staff were working remotely.

Zero.

GHG Emissions from the gas used to heat Astun staff homes for staff working from home

Astun Staff spent 4027 days working from home during the year. On the basis of an 8.0 hour day, this equates to 32,216 hours.

32,216 * 2/3 * 6/12 * 5 = 53,693 kWh

Multiplying by the emissions factor for natural gas, which is 0.18000 kg of CO2 per kWh we get **9664.74 kg**

Assumptions:

- It takes 5kWh gas to heat your home for an hour.
- Heating is only on between October - March, and not for 24 hours a day.
- One third of employees work in a household where the heating would be on even if they weren't working from home.

Scope 2

GHG Emissions from purchased electricity to run Astun offices

During the pandemic, Astun took the decision not to renew its lease on its business premises as all staff were working remotely.

Zero.

GHG Emissions from purchased electricity to run Astun staff homes for staff working from home

Laptops: 0.140 * 32,216 = 4510.24 kWh

Lighting: 0.01 * 32,216 = 322.16 kWh

Together, that's 4832.4 kWh of electricity per year for all employees working from home.

Multiplying by the emissions factor for natural gas, which is 0.19338 kg of CO2 per kWh we get **934.49 Kg**

Assumptions

- Laptops are rated at 140 watts = 0.140 kW
- Lighting is rated at 10 watts = 0.01kW

Scope 3

Waste generated in operations:

Business travel: GHG emissions from the combustion of Staff Owned Cars

a. Astun Staff drove 12,996.50 business miles during the year, using petrol cars.

   Multiplying by the emissions factor, which is 0.29724 kg of CO2 per mile we get

   3,863.07 Kg

b. Astun Staff drove 4260 business miles during the year, using diesel cars.

   Multiplying by the emissions factor, which is 0.27039 kg of CO2 per mile we get

   1,151.86 Kg

c. Astun Staff drove 456 business miles during the year, using electric cars.

   Multiplying by the emissions factor, which is 0.0785 kg of CO2 per mile we get **35.8 Kg**

Business travel: GHG emissions from Air Travel

Astun staff flew 4683 miles during the year, on short haul flights.

Multiplying by the emissions factor, which is 0.15102 kg of CO2 per mile we get **707.22 Kg**

Business travel: GHG emissions from Taxi Travel

It is estimated that Astun staff made 58.7 miles of taxi journeys during the year. This equates to 94.5 kilometres.

Multiplying by the emissions factor, which is 0.20826 kg of CO2 per kilometre we get **19.68 kg**

Business travel: GHG emissions from Rail Travel

a. It is estimated that Astun staff made 12,062 miles of national rail journeys during the year. This equates to 19,412 kilometres.

   Multiplying by the emissions factor, which is 0.03549 kg of CO2 per kilometre we get **688.93 kg**

Assumptions

- The average cost of rail travel is 20p per mile
- The average cost of taxi travel is £2.50 per mile

b. It is estimated that Astun staff made 892.3 miles of international rail journeys during the year. This equates to 1436 kilometres.

Multiplying by the emissions factor, which is 0.00446 kg of CO2 per kilometre we get **3.979 kg**

Appendix 5 - Reporting Year Emission Calculations 23/24

Reporting year is 1 April 2023 to 31 March 2024.

Computations made using the official conversion factors for 2023.

Scope 1

GHG Emissions from the gas used to heat Astun offices

During the pandemic, Astun took the decision not to renew its lease on its business premises as all staff were working remotely.

Zero.

GHG Emissions from the gas used to heat Astun staff homes for staff working from home

Astun Staff spent 4391 days working from home during the year. On the basis of an 8.0 hour day, this equates to 35,128 hours.

35,128 * 2/3 * 6/12 * 5 = 58,547 kWh

Multiplying by the emissions factor for natural gas, which is 0.18000 kg of CO2 per kWh we get **10,538.40 kg**

Assumptions:

- It takes 5kWh gas to heat your home for an hour.
- Heating is only on between October - March, and not for 24 hours a day.
- One third of employees work in a household where the heating would be on even if they weren't working from home.

Scope 2

GHG Emissions from purchased electricity to run Astun offices

During the pandemic, Astun took the decision not to renew its lease on its business premises as all staff were working remotely.

Zero.

GHG Emissions from purchased electricity to run Astun staff homes for staff working from home

Laptops: 0.140 * 35,128 = 4917.92 kWh

Lighting: 0.01 * 35,128 = 351.28 kWh

Together, that's 5269.20 kWh of electricity per year for all employees working from home.

Multiplying by the emissions factor for natural gas, which is 0.207074 kg of CO2 per kWh we get

1091.11 Kg

Assumptions

- Laptops are rated at 140 watts = 0.140 kW
- Lighting is rated at 10 watts = 0.01kW

Scope 3

Waste generated in operations:

Business travel: GHG emissions from the combustion of Staff Owned Cars

a. Astun Staff drove 6,097.9 business miles during the year, using petrol cars.

   Multiplying by the emissions factor, which is 0.286757 kg of CO2 per mile we get

   1748.61 Kg

b. Astun Staff drove 7484 business miles during the year, using diesel cars.

   Multiplying by the emissions factor, which is 0.269016 kg of CO2 per mile we get

   2013.13 Kg

c. Astun Staff drove 718 business miles during the year, using electric cars.

   Multiplying by the emissions factor, which is 0.08390 kg of CO2 per mile we get **60.24 Kg**

Business travel: GHG emissions from Air Travel

Astun staff flew 4,060 miles during the year, on short haul flights.

Multiplying by the emissions factor, which is 0.18287 kg of CO2 per mile we get **742.45 Kg**

Business travel: GHG emissions from Bus Travel

It is estimated that Astun staff made 29.2 miles of taxi journeys during the year. This equates to 94.5 kilometres.

Multiplying by the emissions factor, which is 0.10215 kg of CO2 per kilometre we get **2.98 kg**

Business travel: GHG emissions from Rail Travel

c. It is estimated that Astun staff made 7,203.6 miles of national rail journeys during the year. This equates to 11,593 kilometres.

   Multiplying by the emissions factor, which is 0.035463 kg of CO2 per kilometre we get **411.12 kg**