THE ALNWICK GARDEN

CARBON NEUTRAL 2030

THE ALNWICK GARDEN

The Alnwick Garden Trust

Carbon Footprint Report

2024 - 2025

THE ALNWICK GARDEN TRUST

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CARBON NEUTRAL 2030

THE ALNWICK GARDEN

Carbon Footprint Overview

At The Alnwick Garden, we believe that the beauty of nature and the power of people are inseparable in the fight against climate change. The living landscape around us, from trees and flowers to bees and birds, reminds us daily of the urgency to act, while our visitors, staff, volunteers, and community inspire us to put that responsibility into practice. Together, we are shaping a future where The Alnwick Garden not only reduces its carbon footprint but becomes a place that gives back more than it takes: a thriving carbon sink, a haven for biodiversity, and a source of knowledge and inspiration for others. This report shares the progress of our journey so far, and our continuing commitment to protect both people and planet for generations to come.

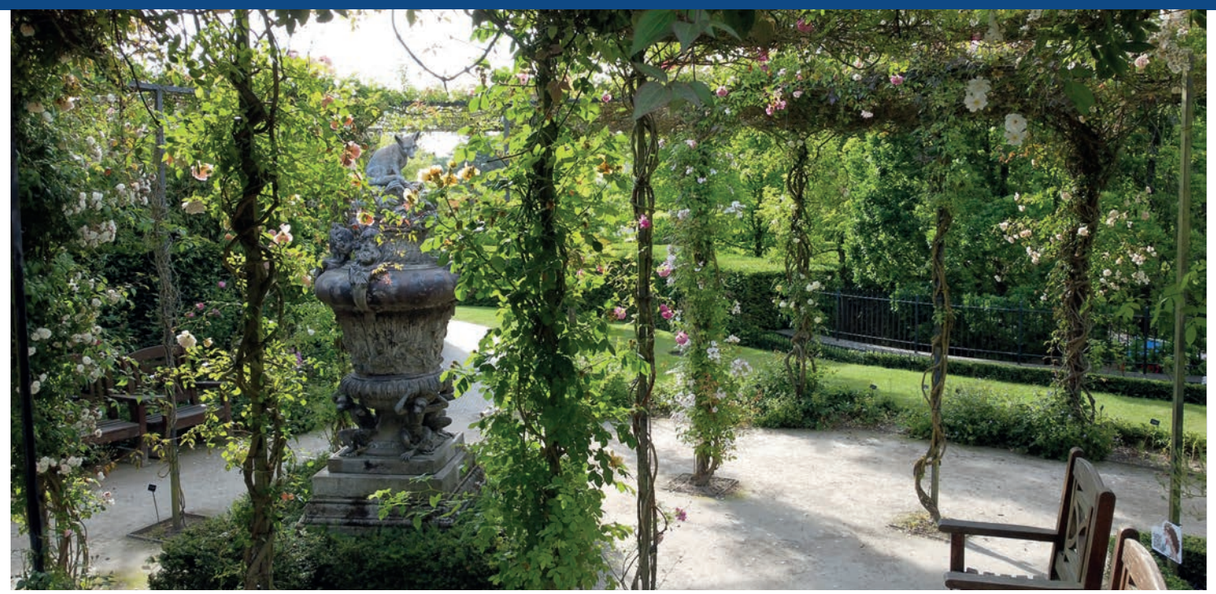
Our Aim

To achieve our Climate Action goals, The Alnwick Garden first established a Carbon Footprint Benchmark, providing an accurate measurement of emissions across all areas of our operations. Each year, this report re-evaluates our emissions over the previous 12 months, allowing us to track progress towards our target of reaching Carbon Neutral by 2030 for Scopes 1 and 2, as well as partial Scope 3. All data is collected, measured, and processed in the same way as the original benchmark to ensure consistency, transparency, and reliability in reporting our progress.

Overview Carbon Footprint Analysis

The Alnwick Garden Emissions

Year	Annual Tonnes	% Change
Tonnes CO_2 2019/20	791.18	Benchmark Year
Tonnes CO_2 2020/21	346.40	-56.20%
Tonnes CO_2 2021/22	568.99	64.26%
Tonnes CO_2 2022/23	624.64	9.78%
Tonnes CO_2 2023/24	718.38	15.01%
Tonnes CO_2 2024/25	647.65	-9.85%



Detailed Carbon Footprint Analysis

Reporting Scope	Emission Factor	Tonnes CO_2e 2019/20	Tonnes CO_2e 2020/21	Tonnes CO_2e 2021/22	Tonnes CO_2e 2022/23		Tonnes CO_2e 2023/24	Tonnes CO_2e 2024/25	Change on last year	Explanatory Notes
2	Electricity	441.16	193.57	292.99	311.73		365.59	330.31	-9.65%	Monitoring and Efficiency Improvements
3	Electricity Transmission & Distribution	37.45	16.56	25.93	28.12		31.64	28.89	-8.69%	Monitoring and Efficiency Improvements
1	Natural Gas	179.80	83.53	154.03	160.57		187.73	157.88	-15.90%	Monitoring and Efficiency Improvements
1	Calor Gas	7.56	2.15	5.38	7.93		9.78	10.41	6.44%	Gardeners Cottage heating
1	Company Vehicles	1.41	1.60	1.06	1.27		0.72	1.39	93.06%	Increased use of Isuzu pickup
1	Equipment Fuel Use	3.48	1.68	2.96	5.84		8.16	7.08	-13.24%	Redistribution between Alnwick Castle Ventures and The Alnwick Garden
1	Refrigerant	31.22	7.08	1.30	25.55		0.26	2.60	900.00%	Repair work to freezers
N/A	Water	8.02	7.58	8.01	7.70		8.07	6.13	-24.04%	Monitoring and Efficiency Improvements
N/A	Wood	2.68	0.00	0.68	0.47		0.48	0.48	0.00%	Treehouse wood burner
1	Charcoal	N/A	N/A	0.00	0.00		0.00	5.31	N/A	Lilidorei cooking facility
3	Business Travel	2.35	0.00	1.28	2.35		3.92	8.70	121.94%	Additional flights to Australia
3	Employee Commute	65.76	27.40	65.76	63.3		90.06	81.96	-8.99%	More employees living closer to The Alnwick Garden
3	Waste Disposal	10.29	5.26	9.61	9.80		11.97	6.51	-45.61%	Government Conversion reduction
	Total	**791.18**	**346.40**	**568.99**	**624.64**		**718.38**	**647.65**	**-9.85%**	

Detailed Consumption Analysis 2024/25

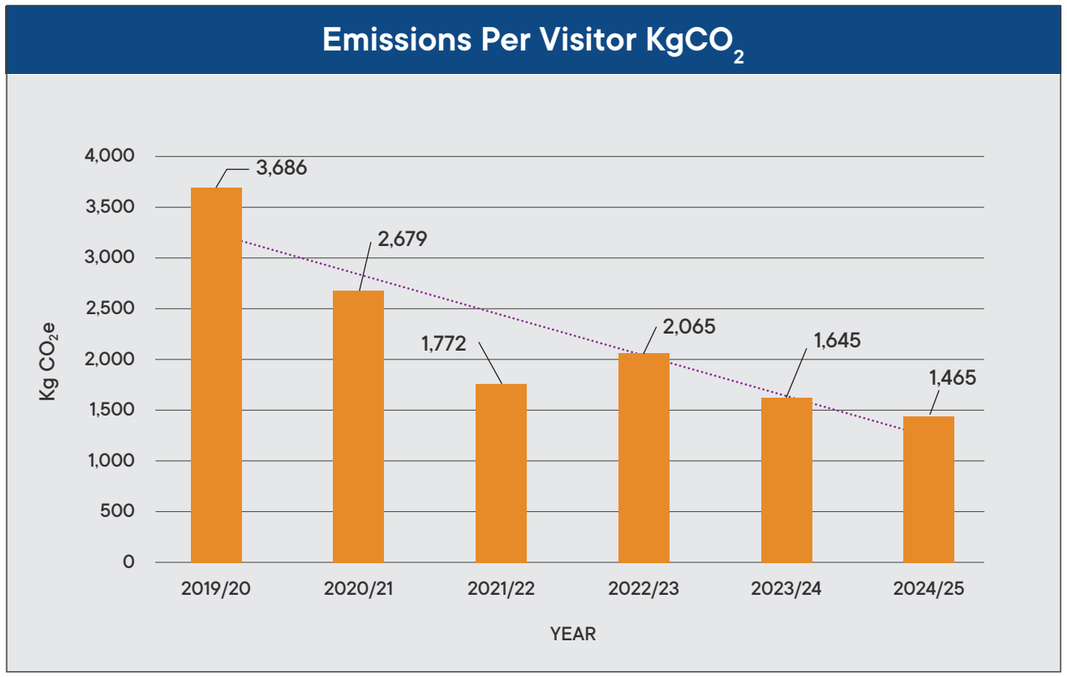
Reporting Scope	Emission Factor	Consumption 2023/24	Consumption 2024/25	Consumption Change	The Alnwick Garden Actions Taken
2	Electricity	1765503 KwH	1595327 KwH	**-9.64%**	Monitoring and Efficiency Improvements
3	Electricity Transmission & Distribution	1765503 KwH	1595327 KwH	**-9.64%**	Monitoring and Efficiency Improvements
1	Natural Gas	88,918 m^3	75,471 m^3	**-15.12%**	Monitoring and Efficiency Improvements
1	Calor Gas	6,272 litres	6,687 litres	**6.62%**	Increased use of heating in Gardeners Cottage
1	Company Vehicles	2,113 miles	4,046 miles	**91.48%**	Use by Community and Education for outreach project
1	Gardeners' Equipment Fuel Use	3,096 litres	2,694 litres	**-12.98%**	Shared purchasing with Alnwick Castle 2024/25
1	Refrigerant	0.2 kg	2.0 kg	**900.00%**	2 complete refills for faulty equipment needed.
N/A	Water	44,749 m^3	37,561 m^3	**-16.06%**	Monitoring and efficiency with quicker leak detection.
N/A	Wood	11 tonnes	11 tonnes	**0.00%**	Treehouse use only.
1	Charcoal	0 Kg	1,450 Kg	**N/A**	Use in cooking. No records for previous purchases prior to 2024/25
3	Business Travel	33,315 Km	67,024 Km	**101.18%**	Business flight with internal flights to Australia
3	Employee Commute	884,631 Km	826,973 Km	**-6.52%**	Change of staff, recruited closer to TAG
3	Waste Disposal	442 tonnes	396 tonnes	**-10.41%**	Removal of on site skips, increased cardboard and wood recycling. Improved data from 2nd supplier.

Strategic Expansion and Carbon Footprint Management

One of the major challenges on the path to Net Zero is finding ways to grow an organisation while simultaneously reducing its carbon footprint, particularly during ongoing strategic implementation.

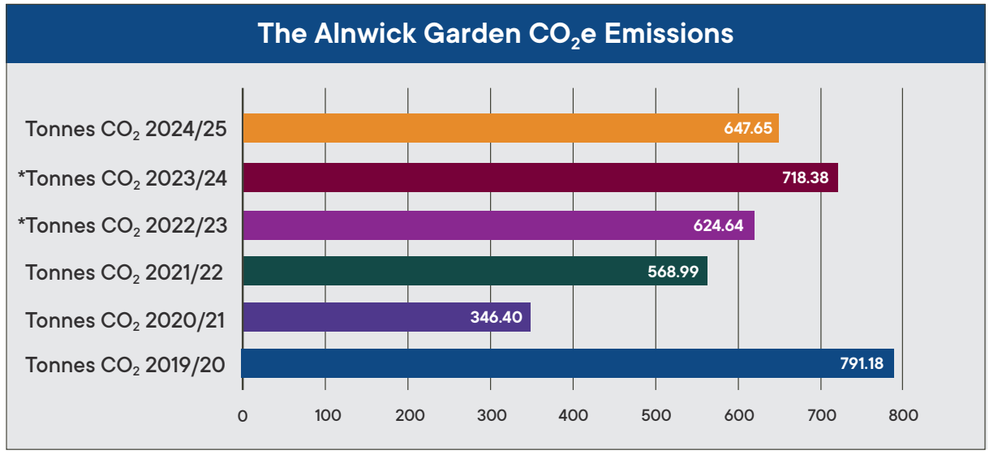
To help address this, emissions per visitor (measured in kilograms) have been calculated. This provides useful context when viewed alongside the organisation's absolute reported emissions.

These calculations are highlighted below.



Reporting Scope	Emission Factor	Tonnes CO_2e 2019/20	Tonnes CO_2e 2020/21	Tonnes CO_2e 2021/22	Tonnes CO_2e 2022/23	Tonnes CO_2e 2023/24	Change on last year
	Total	**791.18**	**346.40**	**568.99**	**624.64**	**713.38**	**15.01%**
	Annual Footfall	335,480	171,218	312,522	313,332	364,568	16.35%
	Emissions per visitor Kg per visitor	2.358	2.023	1.821	1.994	1.970	-1.16%

Carbon Footprint Analysis Year-on-Year



*Addition of Lilidorei infrastructure.

The Alnwick Garden - 2024/25 Carbon Balance

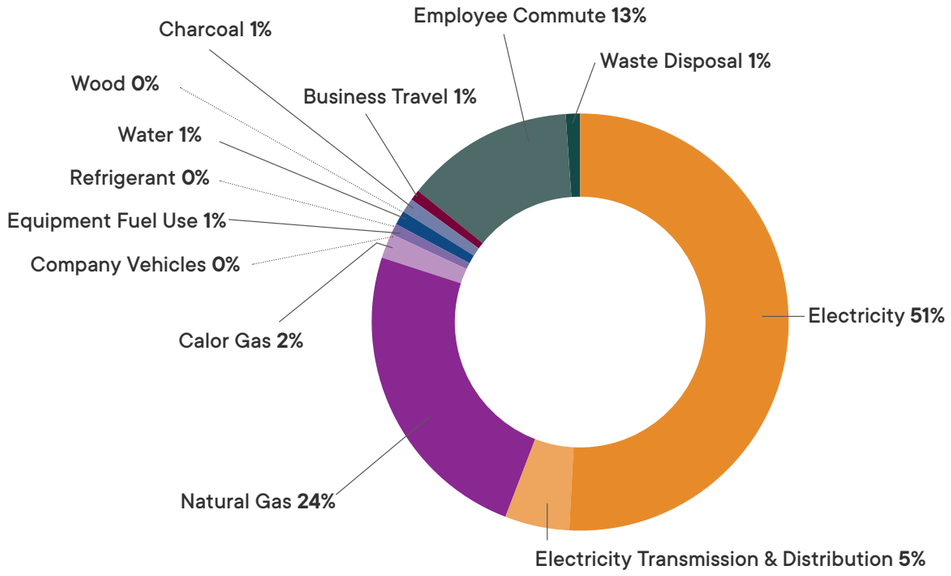
Overall Annual Carbon Emissions of The Alnwick Garden 2024/25	=	647.65 tonnes CO_2e
Overall Annual Carbon Sequestration of The Alnwick Garden	=	172.26 tonnes CO_2e

Net Carbon Footprint Calculation

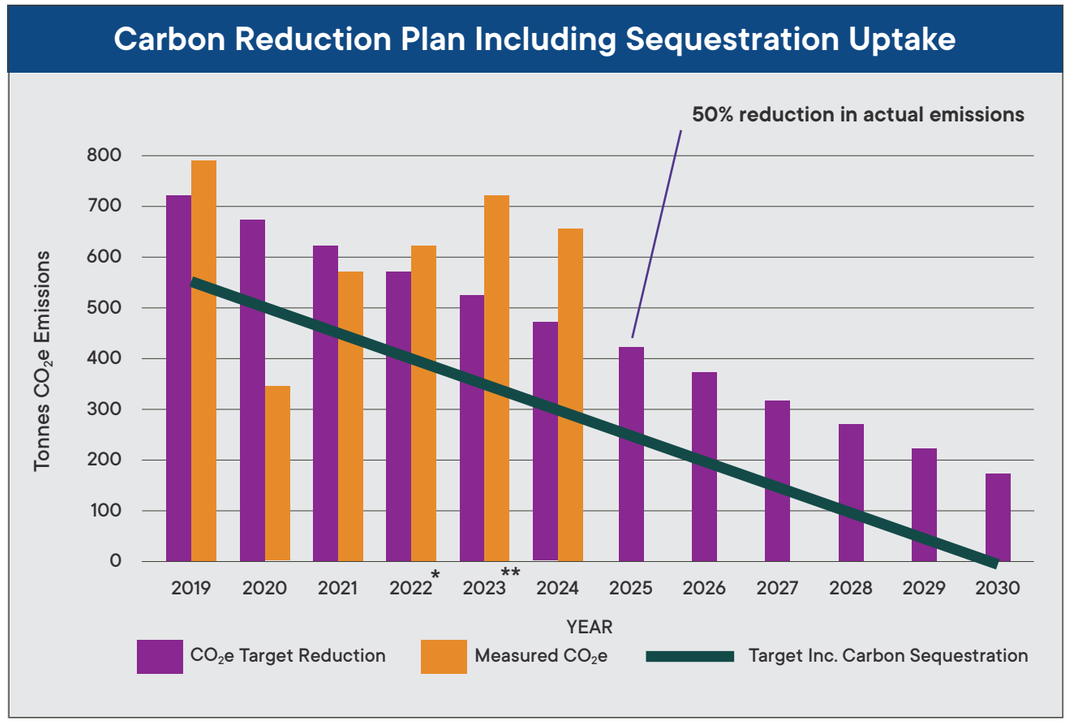
Emissions 647.65 tonnes CO_2e	−	Sequestration 172.26 tonnes CO_2e	=	Net Carbon Footprint 475.39 tonnes CO_2e

Net Carbon Footprint for 2024/25: 475.39 tonnes CO_2e

Tonnes CO_2e 2024/25



Carbon Reduction Plan Including Sequestration Uptake



*Addition of Lilidorei infrastructure. **First full year of Lilidorei infrastructure.

Important analysis factors:

Significant decreases have occurred during 2024/25 including:

Decrease in electricity consumption

Decrease in waste disposal quantities

Decrease in employee commute

Decrease in natural gas for site heating

Decrease in water use on site

With an increase in Visitor Footfall:

Increase in visitor footfall

Scope 2

Electricity Emissions & Consumption Data

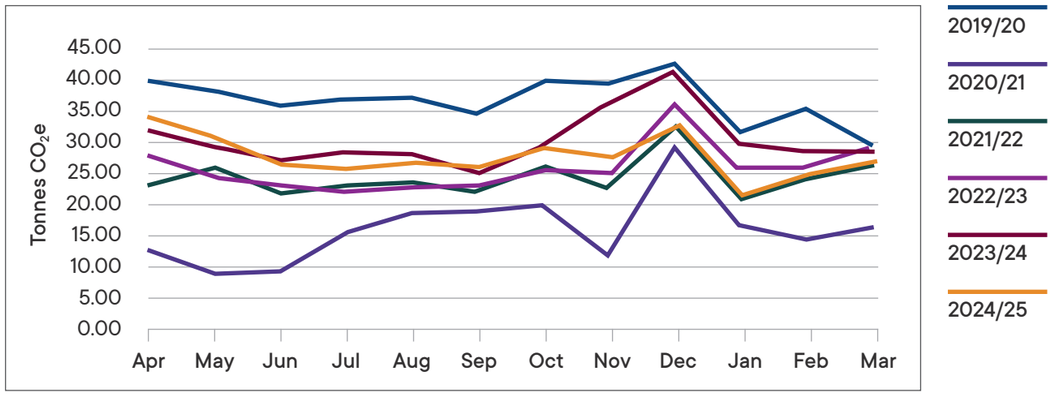
- Overall **decrease** from last year of **9.65%** in CO_2 emissions.
- Overall **decrease** from last year in electricity consumption of **9.64%** with significant decreases over winter months with increased control of building heating systems.
- Significant impact using ClearVue energy monitoring system for September 2024 to March 2025, with application of findings. This included reduced Cascade running times, control of overnight on-site lighting and replacement of large equipment that incorporated soft start motors.

Future Actions

1. **Groundwork for a solar car port to start September 2025 with potential to reduce emissions by more than 150 tonnes per annum.**
2. **Discussions for supply and purchase of Green Energy. Result should reduce emissions further to offset electricity CO_2 output.**
3. **Development 5-year maintenance programme to repair or replace equipment and improve efficiencies to Grade B and above.**
4. **Training and effective use of enhanced ClearVue and EON Building Management System to highlight energy hotspots. Train more staff to use system and apply corrections.**

Overall	Tonne CO_2e 2019/20	Tonne CO_2e 2020/21	Tonne CO_2e 2021/22	Tonne CO_2e 2022/23	Tonne CO_2e 2023/24	Tonne CO_2e 2024/25
April	39.47	12.66	23.33	27.86	31.83	33.82
May	38.06	9.13	25.65	24.89	29.31	30.71
June	35.99	9.51	21.86	23.12	27.27	26.30
July	36.95	15.27	22.70	22.19	28.64	25.73
August	37.26	18.70	23.27	22.95	28.23	26.46
September	34.74	19.09	22.27	23.37	25.08	25.80
October	39.77	19.96	26.23	25.54	29.70	28.99
November	39.65	12.07	22.63	25.10	36.27	27.47
December	42.63	29.81	32.81	36.43	41.77	32.21
January	31.64	16.34	21.06	25.52	29.77	21.55
February	35.31	14.61	24.54	25.78	28.83	24.19
March	29.69	16.42	26.63	28.98	28.88	27.10
Total	**441.16**	**193.57**	**292.99**	**311.73**	**365.59**	**330.31**

Monthly Carbon Emissions Tonnes CO_2e - 6 years



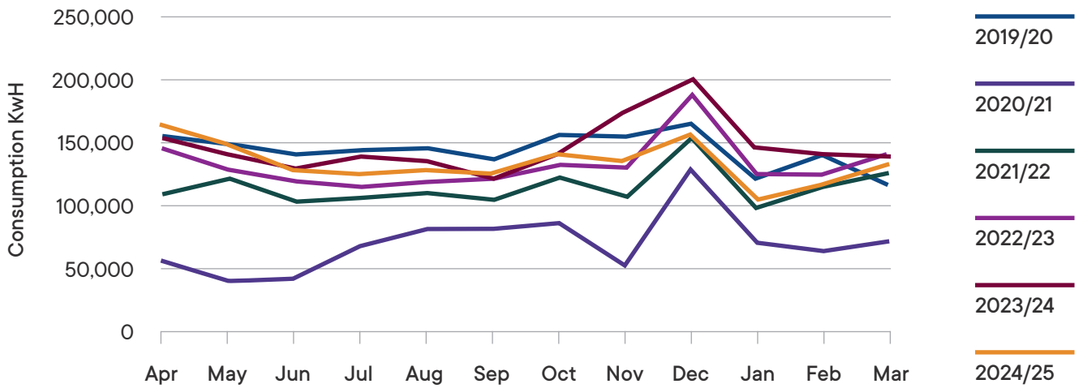
Electricity Emissions & Consumption Data (continued)

Scope 2

Scope 2 - Electricity Consumption

Month	KwH 2019/20	KwH 2020/21	KwH 2021/22	KwH 2022/23	KwH 2023/24	KwH 2024/25
April	154,422	54,315	109,880	144,047	153,717	163,346
May	148,904	39,170	120,821	128,703	141,555	148,300
June	140,787	40,784	102,946	119,549	131,683	127,016
July	144,573	65,484	106,886	114,737	138,316	124,273
August	145,782	80,191	109,597	118,665	136,351	127,818
September	135,912	81,878	104,884	120,853	121,122	124,603
October	155,589	85,624	123,555	132,076	143,449	140,034
November	155,122	51,781	106,601	129,813	175,151	132,652
December	166,785	127,860	154,532	188,381	201,707	155,543
January	123,797	70,083	99,201	123,245	143,752	104,063
February	138,132	62,666	115,571	124,519	139,232	116,810
March	116,165	70,419	125,426	139,947	139,467	130,870
Total	**1,725,969**	**830,255**	**1,379,897**	**1,584,533**	**1,765,503**	**1,595,327**

Monthly Electricity Consumption KwH



Electricity Transmission & Distribution Emissions Data

Scope 3

In line with the decreased electricity consumption trend, the emissions created in the production of this energy at source and its transmission to TAG has decreased.

Scope 3 - Electricity Transmission & Distribution Emissions

Month	Tonne CO_2e 2019/20	Tonne CO_2e 2020/21	Tonne CO_2e 2021/22	Tonne CO_2e 2022/23	Tonne CO_2e 2023/24	Tonne CO_2e 2024/25
April	3.35	1.09	2.06	2.55	2.75	2.96
May	3.23	0.79	2.27	2.28	2.54	2.69
June	3.06	0.82	1.93	2.11	2.36	2.30
July	3.14	1.31	2.01	2.03	2.48	2.25
August	3.16	1.61	2.06	2.10	2.44	2.31
September	2.95	1.64	1.97	2.14	2.17	2.26
October	3.38	1.72	2.32	2.34	2.57	2.54
November	3.37	1.04	2.00	2.30	3.14	2.40
December	3.62	2.56	2.90	3.33	3.61	2.82
January	2.69	1.41	1.86	2.21	2.58	1.88
February	3.00	1.26	2.17	2.23	2.50	2.12
March	2.52	1.32	2.36	2.51	2.50	2.37
Total	**37.45**	**16.56**	**25.93**	**28.12**	**31.64**	**28.89**

Scope 1

Natural Gas Emissions & Consumption Data

- Overall **decrease** from last year of **15.90%** in CO_2 emissions.
- Overall **decrease** from last year in natural gas consumption of **15.12%**
- There is a significant decrease in consumption across May, June and September 2024. This is due to better control of heating during periods of warmer weather.
- Most of the gas usage is for heating within the main complexes of the garden and The Treehouse.

Future Actions

1. **Continued review of timescales for when heating is in operation.**
2. **Installation of change AMR to Automated Meter Reader gas monitoring unit linked to ClearVue system giving hourly data usage.**
3. **Promote training and support from EON controls regarding effective use of Building Management System (BMS).**
4. **Energy Audit of invoices and consumption by Telex UK to include gas.**
5. **Key findings report from ClearVue efficiency.**
6. **Investigate replacement of gas cookers with induction hobs.**

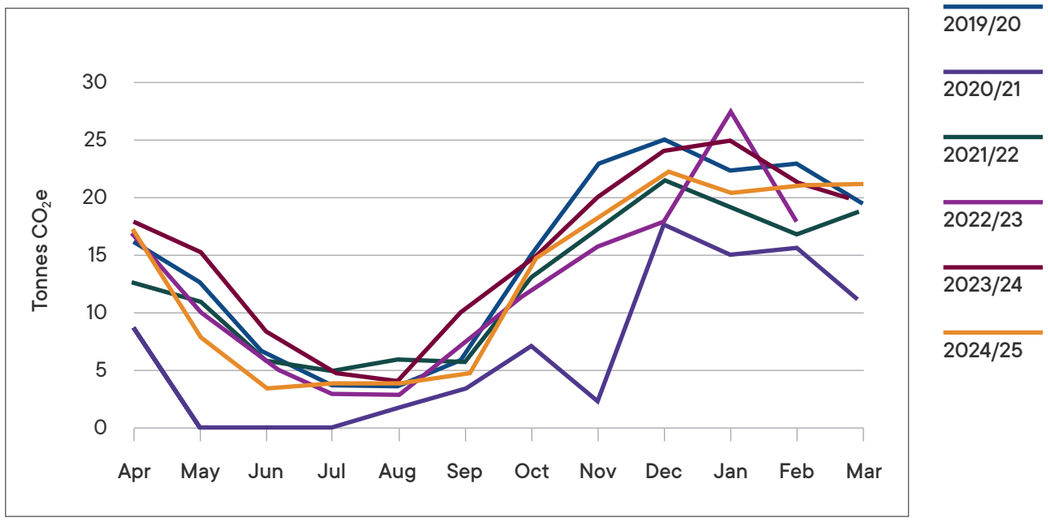
Scope 1 - Natural Gas Carbon Emissions

Month	Tonne CO_2e 2019/20	Tonne CO_2e 2020/21	Tonne CO_2e 2021/22	Tonne CO_2e 2022/23	Tonne CO_2e 2023/24	Tonne CO_2e 2024/25
April	16.51	8.65	13.18	16.87	18.16	17.23
May	13.21	0.00	11.13	10.74	15.35	7.93
June	6.49	0.00	5.96	5.97	8.54	3.76
July	3.76	0.05	4.51	3.11	4.44	3.99
August	3.93	1.80	6.11	3.11	4.42	3.77
September	6.10	3.50	5.89	7.51	10.70	4.74
October	15.54	7.08	13.07	12.46	14.64	14.61
November	22.95	2.27	17.44	16.24	20.67	17.86
December	25.61	17.99	21.69	18.05	24.10	21.97
January	22.64	15.18	19.09	27.88	25.22	20.04
February	23.02	15.79	16.79	18.31	21.67	20.90
March	20.05	11.23	19.18	20.32	19.93	21.08
Total	**179.80**	**83.53**	**154.03**	**160.57**	**187.83**	**157.88**

Scope 1

Natural Gas Emissions & Consumption Data (continued)

Monthly Natural Gas CO_2e Consumption



Scope 1 - Natural Gas Monthly Consumption

Month	Monthly Consumption m^3 2019/20	Monthly Consumption m^3 2020/21	Monthly Consumption m^3 2021/22	Monthly Consumption m^3 2022/23	Monthly Consumption m^3 2023/24	Monthly Consumption m^3 2024/25
April	7,957	4,140	6,273	8,089	8,609	8,292
May	6,390	0	5,297	5,155	7,222	3,786
June	3,127	0	2,831	2,867	4,016	1,837
July	1,812	25	2,156	1,490	2,087	1,922
August	1,879	860	2,930	1,484	2,078	1,828
September	2,888	1,667	2,829	3,594	5,033	2,307
October	7,342	3,421	6,246	5,933	6,890	6,984
November	10,852	1,083	8,263	7,743	9,728	8,552
December	12,093	8,562	10,233	8,571	11,397	10,479
January	10,730	7,227	9,048	13,158	11,924	9,550
February	10,918	7,543	7,897	8,641	10,347	9,940
March	9,543	5,378	9,069	9,594	9,587	9,994
Total	**85,531**	**39,906**	**73,072**	**76,319**	**88,918**	**75,471**

Scope 1

Calor Gas Emissions & Consumption Data

- **Increase** from last year of **6.44%** in CO_2 emissions.
- Overall **increase** from last year in Calor gas consumption of **6.62%**.
- This fuel source supplies heating and hot water for the Gardeners Cottage only.

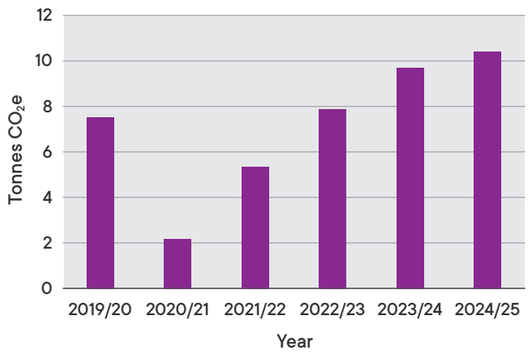
Future Actions

1. **Convert Calor gas supply to mains gas supply.**
2. **Evaluate switching off Rayburn in summer, install wall mounted electric boiler in kitchen and toilets.**
3. **Invest in window and draft insulation.**
4. **Investigate fully electric heating system throughout the Cottage if solar panels used.**

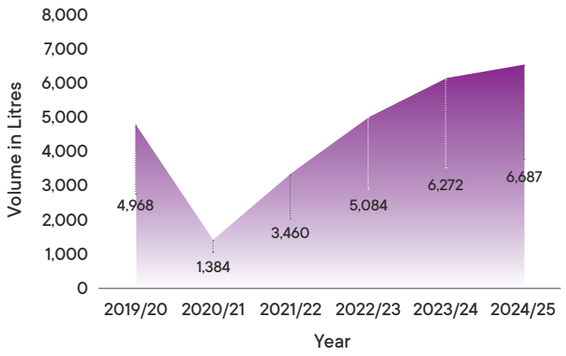
Scope 1 - Calor Gas Emissions & Consumption Data

Period	Litres of Fuel	Kg CO_2e	Tonnes CO_2e
01/04/2019 to 31/03/2020	4,968	7,564	**7.56**
01/04/2020 to 31/03/2021	1,384	2,153	**2.15**
01/04/2021 to 31/03/2022	3,460	5,388	**5.39**
01/04/2022 to 31/03/2023	5,084	7,931	**7.93**
01/04/2023 to 31/03/2024	6,272	9,784	**9.78**
01/04/2024 to 31/03/2025	6,687	10,413	**10.41**

Annual Calor Gas Emissions



Annual Calor Gas Consumption



Scope 1

Company Vehicles Emissions Data

- Observed **increase** from last year of **93.06%** in CO_2 emissions.
- **91.48% increase** in vehicle mileage due to Community and Education National Lottery project.
- Data includes mileage adjustment for previous years, with emission quantities unaffected.

Future Actions

1. **If new vehicles introduced, look at EV units.**

Scope 1 - Company Vehicle Emissions and Mileage Data

Period	Vehicle Miles	Kg CO_2e	Tonnes CO_2e
01/04/2019 to 31/03/2020	4,271	1,410	1.41
01/04/2020 to 31/03/2021	4,889	1,596	1.60
01/04/2021 to 31/03/2022	3,324	1,061	1.06
01/04/2022 to 31/03/2023	3,880	1,271	1.27
01/04/2023 to 31/03/2024	2,113	724	0.72
01/04/2024 to 31/03/2025	**4,046**	1,387	**1.39**

Scope 1

Gardeners' Equipment Fuel Emissions & Consumption Data

- First **decrease** in emissions of **13.24%** following on from 2 years of significant increases in CO_2 emissions.
- Overall **decrease** includes the proportion now listed as Alnwick Castle Ventures.
- 13.28% increase in gardeners' use of unleaded petrol. 5.79% decrease in diesel use.
- These fuels supply gardening and maintenance equipment.

Future Actions

1. **Replacement of equipment and vehicles with electric recharging units, to fall in line with potential on-site electricity generation scheme.**
2. **Decrease frequency of use of petrol consuming equipment i.e. lawnmowers and leaf blowers.**

Scope 1 - Gardener Unleaded and Diesel use Emissions and Consumption

Period	Litres of Fuel	Tonnes CO_2e
2019/20	1,567	3.48
2020/21	774	1.68
2021/22	1,292	2.96
2022/23	2,477	5.84
2023/24	3,096	8.16
2024/25	**2,694**	**7.08**

Scope 1

Refrigerant Emissions Data

- **Increase** of **2.34 tonnes** CO_2e emissions. This was due to increased quantity of refrigerant for repairs from 200 grams to 2 Kgs.
- Standard procedure in repairs is to refill with refrigerant on an annual basis if the leak is small. Age of equipment and evaluation of life left before replacement influences repair or replace procedure.
- Only two repairs requiring refrigerant this year.
- The Catering, Retail and Hospitality department is aware of this impact and will look to replace equipment if commercially viable when significant repairs are needed. Rolling programme.

Future Actions

1. **Higher quality equipment to be purchased. Replace old equipment. Reduce number of individual units.**
2. **Purchase equipment with specific non-polluting refrigerants as technology improves.**
3. **Continue to have Waste Electrical and Electronic Equipment recycling programme of disposal to ensure all refrigerant is captured on disposal.**

Scope 1 - Refrigerant Emissions

Period	Tonnes CO_2e
2019/20	31.22
2020/21	7.08
2021/22	1.30
2022/23	25.55
2023/24	0.26
2024/25	2.60

Period April 2024 to March 2025

Date	Refrigerant Type	Quantity Used Kgs	Conversion Factor	Kg CO_2e
17.05.2024	R134 (HFC134a)	1	1300	1,300
06.08.2024	R134 (HFC134a)	1	1300	1,300
				2,600

Scope 1

Non-reported Water Emissions & Consumption Data

- Significant **24.79% decrease** in emissions from water usage.
- High level of monitoring has helped identify high use areas and leakage due to faulty equipment. Reinstated weekly monitoring with additional Automatic Meter Reader unit to provide hourly data.
- Lilidorei saw an **85.8% reduction** in water use from 3,277 m^3 to 464 m^3. The high value for the previous year was the initial use of the irrigation system that is no longer used.

Future Actions

1. **Installation of Automatic Meter Reader water meter unit on mains incomer.**
2. **Investigation to map out on-site supply pipe structure.**
3. **Installation of further on-site meters to record unaccounted use.**
4. **Partner with Telex to challenge inaccurate billing and accounting.**

Scope 1 - Water Supply CO_2e Emissions Data

Month	Tonnes CO_2e 2019/20	Tonnes CO_2e 2020/21	Tonnes CO_2e 2021/22	Tonnes CO_2e 2022/23	Tonnes CO_2e 2023/24	Tonnes CO_2e 2024/25
April	0.83	0.14	0.65	0.62	0.73	0.61
May	0.99	0.14	0.63	0.65	0.78	0.52
June	0.92	0.34	0.73	0.65	0.88	0.54
July	0.86	0.62	0.67	0.65	0.78	0.98
August	0.78	0.72	0.99	0.66	0.78	0.81
September	0.79	1.01	0.69	0.66	0.65	0.83
October	0.44	0.88	0.37	0.66	0.54	0.31
November	0.35	1.06	0.69	0.64	0.65	0.42
December	0.60	1.80	0.67	0.66	0.66	0.15
January	0.50	0.38	0.69	0.67	0.42	0.37
February	0.46	0.22	0.66	0.54	0.55	0.21
March	0.50	0.27	0.57	0.63	0.65	0.37
Total	**8.02**	**7.58**	**8.01**	**7.70**	**8.15**	6.13

Scope 1

Non-reported Water Emissions & Consumption Data (continued)

Scope 1 - Water Consumption Data Garden Only

Month	Volume m^3 2019/20	Volume m^3 2020/21	Volume m^3 2021/22	Volume m^3 2022/23	Volume m^3 2023/24	Volume m^3 2024/25
April	4,361	769	3,368	3,191	4,082	3,780
May	5,180	769	3,227	3,398	4,394	3,091
June	4,799	1,830	3,889	3,363	5,115	3,314
July	4,053	3,371	3,538	3,364	5,000	6,119
August	3,684	3,917	5,675	3,477	4,418	5,005
September	3,709	3,994	3,656	3,477	3,508	5,148
October	2,035	4,924	1,520	3,438	2,797	1,808
November	1,846	6,126	3,656	3,335	3,572	2,510
December	3,082	11,096	3,539	3,459	3,640	791
January	2,363	1,592	3,656	3,484	1,923	2,154
February	2,116	474	3,421	2,615	2,784	1,188
March	2,400	832	2,811	3,251	3,516	2,189
Total	**39,628**	**39,694**	**41,956**	**39,852**	**44,749**	37,097

Scope 1

Non-reported Wood Use Emissions & Consumption Data

- All wood for The Treehouse fire is now sourced and dried on-site, aided by the purchase of a log splitter and recent land development.
- An assumption was made that the amount of wood used this year was equal to last year's, as there was no procedural change in the use of the open fire.

Scope 1 - Wood Usage CO_2e Emissions & Consumption Data

Period	Tonnes of wood used	Tonnes CO_2e emitted
01/04/2019 to 31/03/2020	11	2.68
01/04/2020 to 31/03/2021	0	0.00
01/04/2021 to 31/03/2022	42	0.68
01/04/2022 to 31/03/2023	11	0.47
01/04/2023 to 31/03/2024	11	0.48
01/04/2024 to 31/03/2025	11	**0.48**

Scope 3

Business Travel Emissions Data

- **101.18% increase** in the distance travelled for business.
- **121.94% increase** in emissions on last year.
- Additional 5.75 tonnes due to Australia trip (5 long haul flights plus 2 internal flights).
- Reduction in car travel improves green credentials.

Future Actions

1. **Detailed evaluation of impact of journey, i.e. measure increase in number of Australian visitors vs impact of travel undertaken by business.**
2. **Consideration to be given to the use of video conferencing instead of travel.**

Scope 3 - Category 6 - Business Travel

Period	Annual Km	Kg CO_2e	Tonnes
2021 - 2022	11,230	1,281	1.28
2022 - 2023	22,214	2,347	2.35
2023 - 2024	33,315	3,919	3.92
2024 - 2025	67,024	8,701	**8.70**

	Km 2023/24	Km 2024/25	Kg CO_2e
Car	21,140	18,506	2,239
Train	7,419	9,222	324
Plane	4,756	39,297	6,138
	33,315	67,024	**8,701**

Scope 3

Employee Commute Travel Emissions Data

- Number of employees 2023/24 has remained the same for 2024/25 at 238.
- Number of unreturned questionnaires 2024/25 = 18 compared to 37 last year, a 51.4% improvement
- 35.7% of employees walk to work for their full working week compared to 33.1% last year.

Scope 3 - Category 7 - Employee Commute

Period	Km per year	Emissions Kg CO_2e	Emissions Tonnes CO_2e
2021 - 2022	582,501	65,757	65.76
2022 - 2023	579,985	63,315	63.31
2023 - 2024	884,631	90,065	90.06
2024 - 2025	826,974	81,958	**81.96**

Electric car scheme as part of Employee Commute Data

- Electric car scheme had 9 participants this year.
- The expected reduction to zero emissions will not happen as Government data now requires the emissions from electrical charging to be included.
- The emissions have now reached their baseline at 7.21 tonnes for the 9 cars.
- Note 2021/22 emissions was for non-electric vehicles and was the benchmark for reduction.

		2021/22 emissions		2022/23 emissions	2023/24 emissions	2024/25 emissions	
Name	Km per year	CO_2 g/km	Emissions Kg	Emissions Kg	Emissions Kg	CO_2/km Battery electric recharge medium car	Emissions Kg
Employee 1	13,596	139	1,890	1,890	679	42	571
Employee 2	18,385	106	1,949	1,056	918	42	772
Employee 3	11,124	149	1,657	1,036	555	42	467
Employee 4	21,630	120	2,596	1,838	1,080	42	909
Employee 5	19,312	115	2,221	1,388	964	42	811
Employee 6	18,540	113	2,095	1,135	926	42	779
Employee 7	36,307	121	4,393	2,013	1,813	42	1,525
Employee 8	32,444	172	5,580	4,418	1,620	42	1,363
Employee 9	386		0	0*	19	42	16
Employee 10	3,090	103	318	318	277	0**	0
			22,699	15,092	8,851		7,214
	Tonnes CO_2e Emissions		22.70	15.09	8.85		7.21

*Employee 9 joined staff in May 2023 **Employee 10 left staff in December 2023

Scope 3

Waste Disposal Emissions Data

- Significant **decrease** of **45.61%** in emissions largely due to the reduction in Government conversion factors after reassessing how UK waste is processed. In some Government reporting areas emissions have reduced from 22 KgCO_2e per tonne to 8 KgCO_2e per tonne,
- An overall **reduction** in waste produced from **442.57 tonnes** in 2023/24 to **396.25 tonnes** in 2024/25.
- Significant **reduction** in amount being recycled by principal waste contractor.

Future Actions

1. **Increase in cardboard baling to allow greater recycling and reduction in collections. Implement second baler for Lilidorei waste.**
2. **Investigate third and fourth baler for plastics.**
3. **Waste contract out to tender September 2025 with greater emphasis on increased recycling.**
4. **Reduce number of waste contractors to a single main provider.**
5. **Ensure all Waste Electrical and Electronic Equipment is handled appropriately and recycled wherever possible.**
6. **Improved site handling to increase waste segregation.**
7. **Apply Simpler Recycling legislation to all visitor facing areas from July 2025.**
8. **Relocation of all bins to a single compound at rear of Lilidorei.**

Scope 3 - Waste Disposal Emissions Data

	Period	Kg CO_2e Bins	Kg CO_2e Skips	Total Kg CO_2e	Total Tonnes CO_2e		
Supplier 1 & Supplier 2	2021/22	9,454	152	9,607	9.61		
	2022/23	9,542	259	9,800	9.80		
	2023/24	8,938	527	9,465	9.46	11.97	Total Tonnes CO_2e
Supplier 3	2023/24	1,153	0	1,153	1.15		
Supplier 1	**2024/25**	4,623	0	4,623	4.62	**6.51**	
Supplier 3	**2024/25**	1,888	0	1,888	1.89		

Scope 3 - Waste Disposal Quantities

	Period	Tonnes of Bin Waste	Tonnes of Skip Waste	Total Tonnes of Waste	% Recycled	% Landfill	% Energy Recovery	Tonnes Recycled
Supplier 1 & Supplier 2	2021/22	392	15	407	21	0	79	85
	2022/23	412	25	437	24	0	76	106
	2023/24	348	25	373	16	0	84	60
Supplier 3	2023/24	69	0	69	88	1	11	61
Supplier 1	**2024/25**	**320**	0	320	7	0	93	23
Supplier 3	**2024/25**	**76**	0	76	85	1	14	65

Scope 3 - Waste Recycling Quantities

	Period	% Recycled	Total Tonnes of Waste	Total Recycled	Annual Tonnes Recycled
Supplier 3	2023/24	16	373	60	121
Supplier 1	2023/24	88	69	61	
Supplier 3	**2024/25**	7	320	23	**88**
Supplier 1	**2024/25**	85	76	65	

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