

ENVIRONMENTAL ACTION PLAN UPDATE

Presented by the Head of Projects and Funding Delivery

SUMMARY

This report updates on the progress of the Authority's Environmental Action Plan, spend to save program and reports on the last two years of monitoring for our carbon footprint. The report also updates Members on the focus of work going forwards to seek to reduce our carbon footprint and to ensure the Authority is doing all it can to help support actions to reduce emissions and contributes positively to the climate emergency. The report updates Members about the work of the Environment Group and actions it has taken to improve the Authority's environmental performance.

RECOMMENDATIONS

- Members Note:
- (1) the report and progress on the Environmental Action Plan; and
 - (2) the continued focus on the action plan to seek further initiatives which will support carbon reduction and environmental sustainability.

BACKGROUND

- 1 The Authority adopted its current Environment Policy on 27 April 2023 (Paper A/4336/23). Sitting underneath the policy is a strategy and an action plan both of which are working documents and have been developed with the support of the Scrutiny Committee and launched in June 2023 (Paper S/64/23). The current action plan is given at Appendix A to this report.
- 2 In November 2023 (Paper S/64/23) Scrutiny Committee agreed for officers to work on the action plan and carry on research and delivery where possible with a report back to Scrutiny each November.
- 3 Officers set up an Environment Group which developed a Terms of Reference (Appendix B to this report) and has supported actions from the plan and advised SMT on potential activity and reviews of our current estate to explore various elements of the action plan. Officers on this group act as champions for the Authority internally and encourage other staff to be more environmentally aware and to support our action plan by working towards the objectives within it.

- 4 A range of other connected activities have been completed including a review of our land holding and options for solar photo voltaic (PV) cells. This proved complex with a range of issues including grid connection and space for battery storage. On balance it was felt the Authority was not in a position to currently progress any of the potential ideas put forward and we will keep this under review. We have also looked at a carbon audit for each venue. A carbon audit of any venue will look at possible retro fitting options, solutions such as ground or air source heat pumps and ways to make the building as close to net zero as possible. The audit will make recommendations and suggestions on options and cost out the investment with calculations on pay back and value. This is potentially a costly exercise to do all the Authority venues in particular as we are undertaking and planning a large range of projects which will help to improve performance. However, the Authority commissioned APSE to complete an audit on Lee Valley White Water Centre and develop an improvement plan. This was completed in late November 2023 and officers have looked at options, some of which have been taken up. For example, we are in the process of having PV cells fitted to the roof for energy generation. The centre already has a ground source heat pump and a full audit and changes to the operation of the Building Management System (BMS) as been undertaken. Some other solutions including fitting of EV chargers with solar generating canopies in the car park were investigated but the investment and pay back were not economically viable at this point in time. Officers will continue to explore further solutions and seek more economically viable solutions.

ENVIRONMENTAL ACTION PLAN PROGRESS

- 5 The Environment Action Plan (Appendix A to this report) that was agreed by Scrutiny Committee in June 2023 is a working document with many of the actions requiring funding to complete, research to determine best practice or the development of new technological solutions. Target dates have been set and many of them are linked to one of the Environmental KPI measures that we are reporting against (paragraphs 14, 15 and 16). Many of the actions are still ongoing. Actions that have been achieved or are now in place are marked in green on the action plan to help to show progression. The Action Plan is split into six areas of operation, and each is dealt with in respective paragraphs 6 to 10 below. Where they are ongoing the final column labelled progress gives regular updates on the current position and work taking place.
- 6 New Construction – most of these actions are now in place. Primarily through the Asset Maintenance and Protection Department (AMPD). Many of these were simple things to consider on all new builds and we are now working to these with all construction. The remaining areas to work on are contractors and their green credentials which will come in time through procurement regulations and changes. This will support some of our scope 3 emissions which are one of the most difficult areas to influence as they are not under our direct control.
- 7 Open Spaces – two actions in this section have been addressed for our Biodiversity Action Plan and climate impact assessment for all projects. Many however are in progress and the Ranger service is in the process of a trial of electric vehicles, all new machinery is replaced with battery powered replacements and the Ranger and Open Spaces teams continue to work on the list of actions to improve our performance.

- 8 Venues – one action has been completed and we have put in a water use monitoring system which is looked at centrally by the Research Officer. As with Open Spaces, many of the actions are ongoing and all venue managers have been met with on an individual basis and we have gone through the action plan in detail with each one to ensure they are still working on potential improvements. This is also regularly discussed at Facility Manager meetings to keep the focus on seeking carbon reduction savings where possible.
- 9 Events Open Spaces and Events Venues – events are one of the most difficult areas as we use event providers under contract, but we have not yet managed to insist on green credentials or monitoring for events to the same level we are now seeking to work to. Some event providers are aware whilst others are still grappling with the issue. The Event team have recognised there are two distinct areas of events, and they are different in how they are run. Open space events require infrastructure to be “built” where venue events tend to have this in place. Some of the large events at venues are benefiting from our work such as fitting LED lighting and savings in electricity and carbon footprint reductions are starting to come through and will for future events. The Events team have reviewed the action plan and will over the next couple of years start to review their hire agreements and event provider contracts. Working with the event providers they will seek to address some of the actions we have identified that will support carbon reduction. These are all still scope 3 emissions, but we will seek going forward to try to influence through the hire agreements and contracts a more sustainable event provision across the Park.
- 10 Corporate – a few of the corporate actions are now complete and of note are the communication and publicity of the policy and strategy, Carbon Literacy training for senior officers and an e-learning course (paragraph 11). Electric Performance Certificates (EPC’s) for the Authority’s rental properties are all within the regulations and the Property team is working towards the next set of improved regulations to be introduced in 2030 where all leased property will require a much higher energy rating for the estate. The Travel Policy has been reviewed by officers and was adopted at Authority in October.
- 11 The Environment Action Plan has been introduced along with the policy to all staff in a course that has been developed and delivered in house via e-learning. The course is a carbon and environmental awareness course and is mandatory for all staff. Whilst it is not as detailed as the Carbon Literacy training that senior officers went through, it has been designed to deliver very similar messages and encourage staff to consider their actions whilst at work. Around 60% of staff have completed this course so far and is working towards one of our corporate actions on the plan. The action plan has also been discussed with a wide range of officers responsible for individual areas of operation and a range of actions and projects are being progressed. Many small changes are starting to be made in some areas and the continued focus is reaping benefits. For example, the Visitor Centre at Myddelton House now offers a discount for staff who take their own cup to the café for coffee thus reducing takeaway and disposable cups. Staff through e-learning are encouraged to come to the Environment Group with ideas and this is an example of one idea put forward to the group that has been implemented.

AUTOMATED METER READERS (AMR)

- 12 One recommendation from work completed by APSE was that we should fit Automated Meter Readers (AMR). This will enable more accurate billing and also ensure that bills are received within the correct financial year and do not

run over into the next financial year. This helps with budgets but also helps with monitoring our usage as in the past electricity used in one particular year has not been reported until the following year, corrupting our monitoring figures and annual carbon footprint. AMR can be fitted for electricity, gas and water. The current position with each provider is that electricity and gas are fitted by the supplier at their cost. However, water is fitted by the provider at our cost, which when priced was a considerable investment for all of our facilities for not a particularly big saving. The decision was to press ahead with requests for the electric and gas meters to be changed to AMR but to not progress the water meters due to the cost to the Authority.

- 13 A program of AMR retro fit on our electric and gas meters has been commissioned via LASER (our energy supplier) and the electricity meter fitting is pressing ahead well. Myddelton House only has a 200-amp supply so has been referred to OFGEM to seek a solution. Full AMR has now been fitted at Stanstead, Sewardstone, Dobbs Weir and Springfield. Three out of six meters have been fitted for the South Rangers and one out of three for the North Rangers. The Farm and Edmonton camp site are yet to be completed. No AMR gas meters have been fitted yet but we are progressing this piece of work and a programme is being drawn up.

MONITORING AND CARBON FOOTPRINT

- 14 Officers have supplied data to APSE in June 2023 and 2024 and a report on our carbon footprint written for each financial year 2022/23 (Appendix C to this report) and 2023/24 (Appendix D to this report). The idea was to produce a baseline that the Authority could then measure savings against year on year. Two complications have arisen in developing a baseline. The 2023/24 report includes the new Lee Valley Ice Centre coming on-line creating an increase in our energy usage and subsequently our carbon footprint. As the Authority is a regeneration organisation this may be an issue in the future should new facilities be developed, or additional activity be undertaken, and we will need to consider this going forward. The second issue which has arisen is the quality and timing of data being reported. A lot of work has been undertaken in the last 18 months to seek to address this. There is a clear improvement but some issues such as the improved accuracy of data that will be provided by fitting AMR (paragraphs 12 and 13) are still ongoing as the program of retro fitting continues. The report has also flagged up issues with our waste collections, contracts reporting and recording. This has generated a work stream to seek a new central contract with more of an environmental and recycling focus. A specification for the whole organisation is currently being drawn up.
- 15 Infographics have been produced from these reports and are given at (Appendices E and F to this report). These infographics give a steer on our direction of travel and are not the full picture reporting every potential line of activity under scope 1, 2 and 3 emissions. In 2022/23 the Authority's carbon footprint was 2208 CO²e and in 2023/24 it was 2389 CO²e. Whilst the overall carbon footprint has increased by 8% this is due in part to Lee Valley Ice Centre coming on-line, in part by the reduction in recycling and in part by other scope 2 and 3 factors not shown in detail on the infographic. Lee Valley Ice Centre was responsible for 434 tonnes of CO² if excluded from the 2,389 CO²e then the 2023-24 comparative total would have been 1,955 CO²e showing an overall reduction. However, the spend to save program has delivered energy savings which have reduced our usage and carbon footprint across all the venues where it has been rolled out (paragraphs 17 and 18).

There are also some scope 2 and 3 emissions which have gone up seemingly because they are out of our control, but they could be the result of better reporting and data gathering. Understanding the reporting and individual lines of our carbon footprint is complex and the infographics give a flavour of key areas that we are working towards reducing in the main under our scope 1 emissions only.

- 16 The infographic for 2023/24 (Appendix F to this report) shows the direction of travel for each KPI we are measuring. In the main most are positive as we are showing reductions in each area. It should be noted that our carbon footprint may increase as we gather more data. 2023-24 shows an 8% increase in gross carbon emissions from 2022-23 and is explained in paragraph 15. The leased assets (Leisure Service Contract (LSC) venues) account for 70% of total emissions. Biofuel, used at Myddelton House, although a green fuel, still has high CO² emissions, and we receive an incentive payment for it. A report on Lee Valley Ice Centre identified PV cell energy generation was low, but this generation covers water heating in the venue. The report was produced in September 2024 and was too late to include in the analysis of figures for the 2023-24 Carbon Footprint Baseline. Officers will ensure data is collected for next year's report and the extra energy generation included in our overall figure. Waste generation and recycling reporting was incorrect last year and as we interrogate further, we are finding gaps in the information from our suppliers that we hope a new waste contract will ensure we are able to report on. Campsites and marinas are showing a large increase in waste (14%) so this is something officers will look at going forward. Myddelton House gas use increased due to the woodchip boiler failing in winter and the gas boiler being used as a backup for considerable periods. Campsite gas use increased. Officers have no evidence as to why, but weather data suggests some months where it was particularly cold (November, March, April, May) may be the factor. There has been a 10% gas increase across all Authority venues overall so another area to watch. Solar PV electricity export figures at the Farm appear to have an error and is probably not completely accurate. This may be due to billing queries or possibly faulty meter. The Farm Manager is looking into this. Overall officers suspect it might take a couple of years for usage and export figures for the PV cells at the Farm to be understood and become more accurate. It is also complicated by the Ranger base being at the Farm and we are currently unable to understand how much the Rangers are using and this is not identified or cross charged to the Ranger team by the Farm so may also impact on generated and used figures.

SPEND TO SAVE PROGRAMME

- 17 The Spend to Save Programme was developed to look at a range of retro fitting options in response to the energy crisis and increase in energy costs. A large range of options were investigated, and a program of options drawn up. Some were dismissed as not economically advantageous. Some have been completed and some are still being investigated (Appendix G to this report). From the proposed spend to save program the Authority allocated and has over the last two years invested around £1.5m into a range of upgrading projects. The biggest and key projects included lighting and controls at both of the venues on Queen Elizabeth Olympic Park (QEOP). In 2023 the Velodrome saw a £700,000 LED replacement project where the whole arena had halogen lighting replaced with LED fittings. This has reduced the number of fittings by approximately 50% and the wattage of the fittings by a similar amount. In 2024 the Authority invested £700,000 in upgrading the hockey pitch and tennis courts (both indoor and outdoor) lighting and lighting controls with LED fittings,

again this has reduced the number of fittings and the wattage of the fittings so reducing our energy consumption considerably. In addition, the previous controls did not enable the separation of tennis court lighting whereby all three courts needed to be illuminated even if only one court was being used, this has now been addressed. However, the biggest improvement has been the lighting levels to the hockey pitches, where we now have the ability to offer varying lux levels dependent on the pitch usage. These range from 350-2000 lux, the levels were previously 500, 1000 and 2000 which meant that we were providing higher lux levels than required. Lee Valley White Water Centre, Lee Valley Athletics Centre and Lee Valley Riding Centre have all also had LED fitting as part of the program. Overall, the estimated saving on electricity through the LED program is currently around 16% of our overall carbon footprint (this is excluding Lee Valley Ice Centre figures for the last financial year).

- 18 The table in paragraph 19 gives the early percentage savings for the LED fitting at each venue along with our estimated savings as of September 2024. We will have a more accurate idea when we have run a full year with the LED fittings and can compare to previous annual electricity usage. The notes column explains the current position, any factors that will have influenced figures and where we expect changes as we operate for a longer period of time with the LEDs.

19

	ESTIMATED LED SAVINGS (at Sept 2024)	LED TARGET SAVING FROM CONSULTANT REPORTS	NOTES
Velo	24%	35-50%	Based on full year – but gym has since increased overall consumption
Hockey & Tennis Centre	24%	39%	With the autumn/winter and more floodlights used we expect the estimated saving to increase
White Water Centre	??	1%	Estimated saving still unclear. Lighting is a small % of the total electricity demand. We have had big savings this year, which is related to pumps, so we can't really determine a separate figure for LED.
Athletic Centre	17%	33%	This currently only covers a short period of summer use. We hope this will increase as lighting is used more in autumn/winter
Riding Centre	45%	63%	Big early savings during short summer period, but could be higher as lighting is used more in autumn/winter

EV CHARGING POINTS

- 20 We have fitted fourteen wall mounted EV charging points at Dobbs Weir

Campsite as a trial. Ten are attached to holiday lets for customers as free use on hire. There are also four in the main car park for general use with a tariff in line with comparison fees. The model is full ownership with the Authority receiving all revenue. The EV chargers attached to the holiday lets are funded by an increase in the hire to cover free charging. We would look to do Sewardstone and potentially Edmonton Campsites next if this proves a success.

PARTNERSHIPS AND BENCHMARKING

- 21 Officers continue to be part of a range of groups. We are members of APSE Energy and receive some excellent support and benefits in a wide range of things from briefings, webinars, updates and conferences. Officers have also been invited and are sitting on the London Legacy Development Corporation (LLDC) Climate Strategy Group for Queen Elizabeth Olympic Park which is now holding two meetings a year. Officers also sit on the Tower Hamlets Climate Partnership Forum, Hertfordshire Climate Change & Sustainability Partnership (HCCSPC) and an annual solar summit group updating on the latest technology. These are all good benchmarking tools and enable open discussion and updates on what various other organisations are undertaking under the climate agenda.

ENVIRONMENTAL IMPLICATIONS

- 22 Any environmental implications are set out in the body of this report.

FINANCIAL IMPLICATIONS

- 23 There are currently no financial implications arising directly from the recommendations in this report.

HUMAN RESOURCE IMPLICATIONS

- 24 There are no human resource implications arising directly from the recommendations in this report.

LEGAL IMPLICATIONS

- 25 There are no legal implications arising directly from the recommendations in this report.

RISK MANAGEMENT IMPLICATIONS

- 26 There are no risk management implications arising directly from this report.

EQUALITY IMPLICATIONS

- 27 There are no equality implications arising directly from the recommendations in this report.

Author: Paul Roper, 01992 709 845, proper@leevalleypark.org.uk

PREVIOUS COMMITTEE REPORTS

Executive	E/234/11	Environment Strategy	24 November 2011
Authority	A/4137/12	Draft Environment Strategy	26 January 2012
Executive		Contaminated Land Strategy	20 September 2012
Executive		Contaminated Land Strategy	26 March 2015
Authority	A/4208/15	Contamination Land Strategy	30 April 2015
Scrutiny	S/59/21	Scrutiny Scoping Review - Environmental Policy	18 November 2021
Scrutiny	S/61/22	Scrutiny Scoping Review - Environment Policy	23 June 2022
Scrutiny	S/62/23	Scrutiny Scoping Review - Environmental Policy	23 February 2023
Authority	A/4336/23	Environment Policy	27 April 2023
Scrutiny	S/64/23	Scrutiny Scoping Review – Environmental Strategy Action Plan and Baseline Information	22 June 2023
Scrutiny	S/64/23	Newly formed Environment Group, Baseline Carbon Footprint Report and Spend to Save Update	23 November 2023

APPENDICES ATTACHED

Appendix A	Environment Action Plan
Appendix B	LVRPA Environment Group TOR V3
Appendix C	APSE Energy - LVRPA Carbon Footprint Baseline Sep 2023
Appendix D	APSE Energy - LVRPA Carbon Footprint Report 2023-2024
Appendix E	CarbonFootprint_22-23Baseline_Graphic
Appendix F	CarbonFootprint_23-24Baseline_Graphic
Appendix G	Spend to save monitoring sheet

LIST OF ABBREVIATIONS

BMS	Building Management System
APSE	Association of Public Service Excellence
EPC	Energy Performance Certificate
AMPD	Asset Maintenance and Protection Department
AMR	Automated Meter Readers
CO ² e	Tonnes of Carbon Dioxide equivalent.
SMT	Senior Management Team
EV	Electric Vehicle
KPI	Key Performance Indicator
LED	Light-emitting Diode
OFGEM	Office of Gas and Electricity Markets
PV	Photo-voltaic
QEOP	Queen Elizabeth Olympic Park
LLDC	London Legacy Development Corporation
HCCSPC	Hertfordshire Climate Change & Sustainability Partnership

Area of operation	Common Theme	Action	Lead	Planned outcome	Target Date	KPI Measure	Progress
Corporate	Travel	Encourage where practical teleconferencing and webinars, Skype, Teams or Zoom meetings where this is feasible	HR	All staff to consider best method of meeting and use to reduce business travel where not necessary	2030	E5	Head of HR is working on Flexible Working Policy (ongoing piece of work). Travel policy is also under review to incorporate environmental considerations. The business plan notes the need to look at flexible working going forwards.
		Charging up fleet to green vehicles Ensure the travel policy encourages sustainable travel	HR and SMT	All Authority vehicles to be electric or zero emission	2030	E5	Work started by getting some ranges reviewed to electric. Other actions on ongoing. HR now reviewed travel policy which has now been signed off at Authority.
		Investigate a roll out of EV points for staff and public to use	AMPD and SMT	EV points fitted in all car parks and at venues and offices	2030	E5	First trial of chargers for public use going into Dobbe Wear Camp Site. Seven to be fitted to pods as part of price to hire and two stand alone with our own tariff for public use in car park.
		Investigate ways to encourage staff to make their travel to and from their place of work carbon neutral	HR	Salary sacrifice schemes in place to encourage staff to travel to work	2030	E5 and E11	Survey undertaken to establish a baseline and see if there are options for changing how people travel to work as well. Suggestions were received from the travel survey and a salary sacrifice scheme is being explored.
		Investigate ways to understand the travel of contractors, suppliers, consultants and if these can be encouraged to use public transport or travel using EVs	Procurement	All contractors to demonstrate attempts to reduce travel or use public transport	2030	E10	This can be requested in procurements going forwards. It can be linked to sustainability when in procurement. Procurement team will be considering how we progress this overall in all procurements.
		Encouraging visitors to visit facilities by public transport or travel using EVs	Comms	Visitors to Park use more sustainable methods of transport	2030	E11	New web site and brochures will push public transport options first and encourage use of EVs before parking and decisions by car will become the norm. Other thought needed to be put into EV charging infrastructure.
		Educating staff on resource use	Line Managers and HR	Reduce resource usage	2025	E10b	E-learning package developed and being rolled out in March 2024. Need to ensure Eng Group also champion activity here and ensure staff are looking to see where they can reduce resource use.
		Seeking to not over order resources	Line Managers	Reduce resource usage	2024	E3	Linked to above as well. Look at if something can also be put into induction.
		Recycling or reusing any resources not required any further	Line Managers and Environment Team	Reducing waste and resource usage	2024	E3	Part of e-learning and ongoing education of staff to reduce waste and recycle more.
		Review paperless administration, making greater use of electronic documents	Line Managers	Becoming a paperless organisation	2025	E10d	Work with IT to progress this. Also part of education and e-learning to create a new culture.
		Upgrade to A standard appliances	Facility managers AMPD	Improve energy efficiency	2030	E1	Difficult to know where this is. A discussion with each facility manager and Head Office to understand what needs to be completed
		Educating staff in machinery use and replacement	HR and Line managers	Improve energy efficiency	2025	E10b	Ongoing activity through the staff education elements. This subject is also on the HR team meaning to be more sustainable and consider the impacts.
		Seeking to replace all machinery with electric or low energy rating versions	Line managers	Improve energy efficiency	2030	E1	Ongoing and line managers need to review what non electric machinery is still in place and needs replacing
		Retro-fit water saving devices at all facilities Continue to use available systems to monitor water usage	Facility, AMPD and line managers	Reduce water usage	2030	E2	Make any update what have we done here corporately (probably just at Head Office)
Adopting best practice measures to manage water consumption and will retro fit measures to managers	Facility, AMPD and line managers	Reduce water usage	2030	E2	This probably covers Head Office only and may be something to pick up with George		
Monitor if best course of action is to seek supplier and contract as green tariff or best to continue to retro fit and reduce consumption.	Procurement	Reduce reliance on fossil fuel provided energy	2030	E1	A decision has been made that we will purchase the cheapest energy we can but we will continue to drive our energy consumption down as a primary focus. Coupled with work to install different retro fit systems such as solar panels or ground or air source heating to reduce reliance on fossil fuel provided energy		
Promote recycling through the use of recycled materials in resources wherever possible	Procurement	Reduce waste to landfill and improve recycling	2025	E3	As with energy Corporately this is linked to a central contract or seeking to ensure we promote and implement recycling effectively and overtly across the park. Continue to explore if a central contract is a better option.		
Ensuring contractors and operators are monitored and meet their contract requirements with regard to recycling	Project managers and procurement	Reduce waste to landfill and improve recycling	2025	E3	No update. Need to think about how this might tie into all contracts and how we monitor this.		
Seeking a way to measure carbon capture and sequestration for the different types of land use holding.	Environment Group	Developing measures for all land types which shows how much carbon capture each land type	2025	E7	A measure of how much carbon capture is in our land holding has been identified. Actually measuring the capture is more complex and not feasible. This will be marked as complete and a working brief and pressure to see if changes in land use change the figure on an ongoing basis.		
Reviewing the extent of our contaminated land holding.	Property, GIS and Planning	A full mapping of all landholdings showing levels of contamination	2025	n/a	Ongoing - Some work on Flamingo Marsh. Further work required		
Further developing the strategy to inform the Authority's approach to remedial works and land use	Property	A strategy and action plan for the approach to each section of contaminated land	2030	n/a	Priority being undertaken on a site by site basis - Work on St Paul's Field as part of a project is flagging issues. Spilbrook will be the next area that will need looking at. Margold is also being looked at.		
From 1 April 2024, subject to limited exemptions, landlords must not continue to let properties that have an EPC rating of F or G. This will therefore affect all existing lease	Property AMPD	Energy efficient properties	2024	E10c	Complete including the data from which MW will check this is subject to the authority's data		
There are also future proposals that from 1 April 2027 it is likely that, subject to limited exemptions, properties will need to have an EPC rating of C before being let. This is expected to increase to a B rating by 1 April 2030	Property AMPD	The Authority as Landlord is also likely to require more control over alterations carried out by tenants to ensure the tenant will not fit out or carry out alterations out to lower the EPC rating	2027	n/a	Unclear yet of Gov going to enforce. MW will keep a watching brief.		

Aims & Objectives

The aim of the Environment Group is to champion the environmental agenda and take forward and raise the profile of the Authority's Environment Policy, Strategy and Action Plan within the Authority,

The objectives of the group are to:

- champion the Environment Policy throughout the Authority
- act as advocates for our environmental work
- review and amend these Terms of Reference as required
- work on and develop further the strategy and action plan (under the guidance of the Scrutiny Committee)
- review the performance and monitoring of any targets and actions of the Authority's Environment Strategy and Action Plan
- promote the climate assessment tool the Authority uses.
- review and gather information on new technologies that have potential to reduce the environmental impact of the Authority's operations
- take feedback from officers and employees and bring back to the group innovative ideas or issues raised connected with our environmental work
- make recommendations to SMT on options for carbon reduction and meeting net zero targets the Authority might set
- support the training programme to bring all staff up to speed on environmental knowledge, carbon reduction, the climate emergency
- support venue, department and operational managers and staff implementation of carbon reducing measures, retrofitting and other initiatives
- communicate the progress on carbon reduction to the rest of the organisation and where appropriate externally

Membership

The group will comprise of the following members:

- a representative from SMT (can be attended on a rotational basis)
- Head of Projects and Funding Delivery (or nominated deputy) – Chairperson
- Head of AMPD
- Head of Property
- Head of Legal
- Senior Sport, Leisure, Procurement and Project Manager
- Conservation Manager
- Research Officer
- Comms Officer
- a venue rep (on a voluntary basis from campsites/marina's/farm etc)
- three front line or other department staff attendees (Voluntary on invite – if more than three officers volunteer the term will be one year and will be offered on a rotational basis)
- Management Support Officer (minute taking and administration)

Quorum

The quorum will consist of The Head of Projects and Funding Delivery, 4 nominated representatives, 2 volunteer representatives and a Management Support Officer.

Agenda Items

Standard agenda items will be:

- 1) Apologies
- 2) Previous Minutes
- 3) Review of Action Plan
- 4) Review of monitoring and performance
- 5) Current carbon reduction actions
- 6) Funding Opportunities
- 7) Training
- 8) AOB

The agenda can also include items put forward by any officer of the Authority and submitted to the Head of Projects and Funding Delivery and the Management Support Officer prior to each meeting.

Staff Representatives

All employees of the Authority can stand as a member of the group if they wish and contribute to our carbon reduction work.

There will be four places available, one from venue managers and three from any other area of the organisation.

In the event of more than four officers volunteering to join the group a term of one year will be allocated on a rotational basis to each officer. At the end of each annual term all officers will again become eligible to put their name forwards and if required a rotational process will commence again. This process will be managed by the Environment Group.

Anyone wishing to become representatives should submit their name to the Head of Projects and Funding Delivery and the Management Support Officer.

Officers must inform their line manager of their intention to stand and ask for their support to do so. Line manager's support is required as workload issues need to be considered, however it should not be withheld unreasonably. The names of those representatives wishing to stand will be made available on an intranet page giving information about the group.

Co-option

The group can co-opt, a representative from services or sections that may be affected significantly by activity or actions arising from the strategy or action plan. This will be subject to the agreement of the Chief Executive. Attendance should be notified in advance to the Head of Projects and Funding Delivery and the Management Support Officer.

Vacancies

Representatives can be appointed as and when vacancies occur.

The Period of Office of Members

Representatives are elected permanently to office accepting that if the voluntary posts are oversubscribed the post will be for a period of one year or until a place becomes available again. If there are no further volunteers for membership an officer can become eligible for re-selection immediately.

October 2024

Frequency of Meetings

- formal meetings of the group will be held at least quarterly, or more frequently if required to consider relevant matters
- working groups may be established to carry out tasks between meetings as required
- efforts will be made to schedule meeting dates in advance to enable representatives to plan accordingly. However, there may be times that meetings may have to be convened at a short notice

Facilities

The Authority will provide necessary meeting rooms for the group meetings.

Reporting Arrangements

Publication of Minutes

- minutes of each meeting will be published on the Intranet
- minutes will also be circulated to SMT and all HOS

Methods of Reporting Back

Representatives have a responsibility to feedback to their areas as well as to champion our carbon reduction and environmental work.

Responsibilities of Members

Representatives will be encouraged to:

- engage with colleagues to gather views, ideas and information on the topics being discussed, the strategy and action plan and any initiatives being implemented
- take an active role in meetings by presenting feedback constructively and fairly
- prepare for meetings and read all associated material in relation to the meeting
- provide feedback on the work of the group to colleagues, either verbally or in writing
- participate in working groups between meetings to further investigate matters and present back findings (as required)

This page is blank



Lee Valley Regional Park Authority

Consultancy support – Scope 1, 2 and 3 Carbon Emissions – 2022/23

Report

Report produced in September 2023



APSE (Association for Public Service Excellence) is a not for profit local government body working with over 300 councils throughout the UK. Promoting excellence in public services, APSE is the foremost specialist in local authority front line services, hosting a network for front line service providers in areas such as waste and refuse collection, parks and environmental services, leisure, school meals, cleaning, housing and building maintenance.

APSE Energy is APSE's local authority energy collaboration. The vision for the collaboration is to form an "effective collaboration of a large number of local authorities to enable and facilitate the local municipalisation of energy services. By this we mean the public and community, as well as private, ownership and managerial control of local energy generation, supply networks and delivery of energy efficiency works. Local authorities working together in this way would have great influence and would be able to deliver economies of scale in green energy to promote economic growth and combat fuel poverty.

Association for Public Service Excellence
3rd floor Trafford House
Chester Road, Old Trafford
Manchester, M32 0RS
Telephone: 0161 772 1810
fax: 0161 772 1811
Email: enquiries@apse.org.uk
Web: www.apse.org.uk

LEE VALLEY REGIONAL PARK AUTHORITY

CONSULTANCY REPORT – CARBON FOOTPRINT FOR SCOPE 1, 2 & 3 EMISSIONS

Contents

1 Introduction.....	4
2 Carbon Footprint.....	5
2.1 Carbon Reporting Boundaries.....	5
2.2 Carbon Emissions	6
3 Notes and Observations	8
3.1 Scope 1 and 2	8
3.2 Scope 3.....	9
4 Recommendations for Gathering Data Going Forward	10
4.1 Scope 1 and 2 Emissions	10
4.2 Scope 3 Emissions.....	10
5 Conclusion and Recommendations	10
6 Glossary.....	11
Appendix B – Data that should be gathered to report on Scope 3 emissions.....	12

1 Introduction

This report provides the results of the carbon footprint for Lee Valley Regional Park Authority which can be used to monitor performance for emitting carbon in the organisation's own operations. The carbon footprint has been undertaken in accordance with best practise guidance by the Greenhouse Gas Protocol and calculated using conversion factors for the carbon dioxide equivalent (CO₂e) published by the Department for Energy Security and Net Zero (DESNZ).

The reporting year is for the financial year of 2022/23.

The carbon footprint is categorised into scopes, which cover:

Scope 1 (direct) emissions are from activities owned or controlled by the organisation. Examples of Scope 1 emissions include emissions from combustion in organisation owned or controlled boilers, furnaces and vehicles.

Scope 2 (indirect) emissions are associated with purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of the organisation's energy use, but occur at sources that the Authority does not own or control. Examples include grid supplied electricity and heat provided through a heat network.

Scope 3 (other indirect) emissions are a consequence of the organisation's actions that occur at sources the Authority does not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions include business travel by means not owned or controlled by the Authority (grey fleet), disposing of its own waste and purchased goods in the supply chain etc.

2 Carbon Footprint

2.1 Carbon Reporting Boundaries

The organisational boundaries determine what emission are the responsibility of the Authority or others. This can be based on who owns, operates, or exerts control over certain assets. The buildings categorised under Scope 1 & 2 within this reporting are those where energy is purchased or acquired and consumed by the Authority. The vehicles categorised under Scope 1 are vehicles that the Authority own, lease and operate purely for its own operations.

Scope 3 emissions are classified under 15 different categories as detailed under Appendix B. As Scope 3 emissions are under the influence of the Authority, but not under its direct control, it can be difficult to obtain the necessary data to calculate the associated carbon emissions from some Scope 3 sources. One of the larger contributors to carbon emissions is purchased goods and services.

Emissions from assets a company owns and leases to another entity, but does not operate, is typically included in Scope 3.

Typical emissions included under Scope 3 for an organisation would include waste, water supply and wastewater, leased buildings and contractor vehicle usage.

The largest contributor for Scope 3 is likely to be from purchased goods and services, which is generally very difficult to gather data and calculate emissions. This category includes all upstream (i.e. cradle-to-gate) emissions from the production of products purchased or acquired by the Authority in the reporting year. Products include both goods (tangible products) and services (intangible products).

Cradle-to-gate emissions include all emissions that occur in the life cycle of purchased products, up to the point of receipt by the organisation. Relevant purchases may include capital goods, such as office supplies, office furniture, computers, telephones, travel services, IT support, outsourced administrative functions, consulting services, janitorial, landscaping services, maintenance, repairs and operations.

The Authority should set up procedures to record all emission sources related to its operations for future reporting, and it is likely that the overall emissions will increase as the data quality improves.

Selected Scope 3 data has been included which includes Transmission and Distribution and Well to Tank as explained below. These Scope 3 emissions are directly associated with emissions from electricity, gas and vehicles.

Transmission and Distribution

Transmission and distribution (T&D) factors are used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the premises).

Well to Tank

Fuels have indirect Scope 3 emissions associated with the production, extraction, refining and transport of the fuel before their use known as Well-to-tank (WTT). WTT emissions have been recorded for:

- Electricity
- Gas
- Transmission and Distribution
- Owned Vehicles

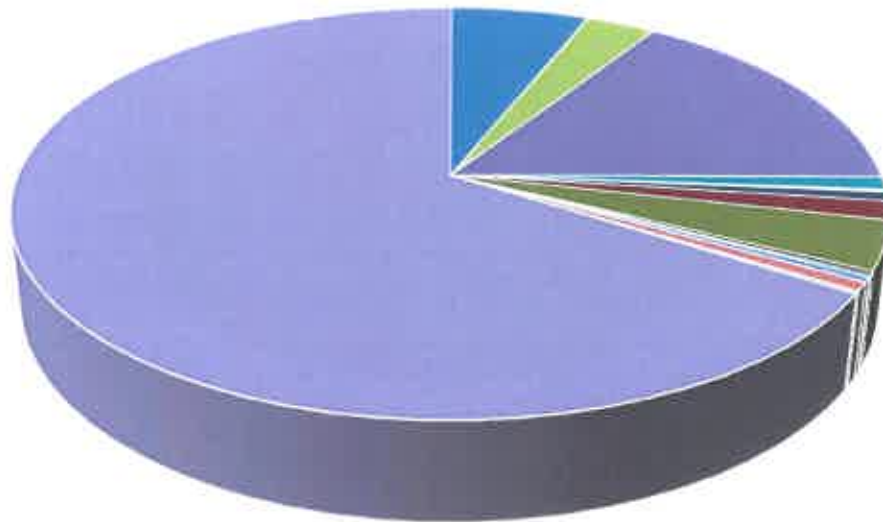
2.2 Carbon Emissions

2.2.1 Scope 1, 2 and 3 Emissions for 2022/23

The set of data below shows a summary of the carbon footprint for the year of 2022/23.

Table 1: Carbon emissions by source for 2022/23

2022/23			
Emissions Source	Scope	% Split	TonnesCO2e
Gas	1	6%	134
Wood Pellet	1	0%	1.0
Fuel	1	3%	67.8
Electricity	2	16%	353
Gas - WTT	3	1%	23
Woodchip WTT	3	0%	4
Fuel - WTT	3	1%	16
Electricity - T&D	3	1%	32
Electricity - WTT	3	4%	84
Business Travel Car	3	0%	6.6
Business Travel - Flight	3	0%	3.4
Business Travel - Public Transport - WTT	3	0%	0.2
Water Supply	3	0%	8.5
Water Treatment	3	1%	14.8
Waste	3	0%	4.9
Leased Assets	3	66%	1,464
Solar PV Export to the Grid	Offset		- 8.3
Total		100%	2,208

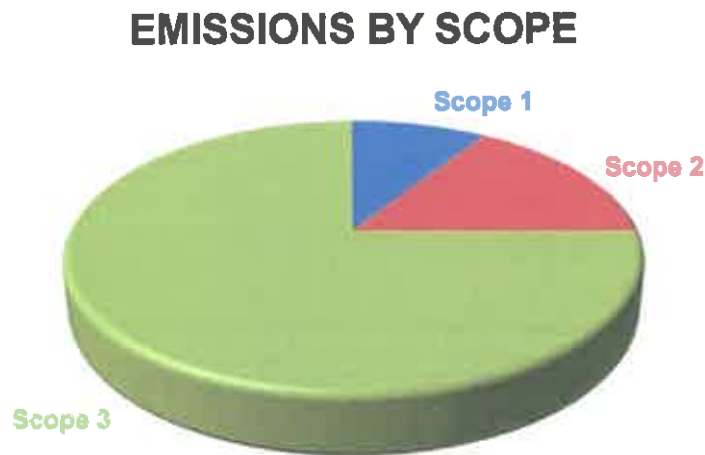
Chart 1: Carbon emissions by source for 2022/23**Emissions By Source**

- Gas
- Fuel
- Gas - WTT
- Fuel - WTT
- Electricity - WTT
- Business Travel - Flight
- Water Supply
- Waste
- Wood Pellet
- Electricity
- Woodchip WTT
- Electricity - T&D
- Business Travel Car
- Business Travel - Public Transport - WTT
- Water Treatment
- Leased Assets

Table 2: Carbon emissions by scope for 2022/23

Emissions Source	% Split	TonnesCO ₂ e
Scope 1	9.1%	202
Scope 2	15.9%	353
Scope 3	75.0%	1,661
Solar PV Export to the Grid		- 8.3
Total	100%	2,208

Chart 2: Carbon emissions by scope for 2022/23



3 Notes and Observations

3.1 Scope 1 and 2

Appendix A is an Excel spreadsheet that shows a breakdown of the emissions by source in the 2022/23 year. This can be used to develop a carbon strategy by identifying and approaching assets with the highest emissions.

Biomass

The CO₂ emissions for woodchip is set as 'net zero' to account for the CO₂ absorbed by fast-growing bioenergy sources during their growth. The CO₂e emissions come from N₂O and CH₄ emissions which are not absorbed during growth.

The Authority stated that 20,300 kg of wood pellets were delivered to Myddelton House.

Authority Owned Vehicles

Data for the litres of fuel consumed at depots and also the amount of fuel consumed by owned vehicles has been provided. As the vehicles fill up at the depots there is a level of double counting, so the emissions have been calculated from the fuel consumed at the depots and the fuel recorded for each vehicle has been discarded.

3.2 Scope 3

Flights

Emissions from aviation have both direct (CO₂, CH₄ and N₂O) and indirect (non-CO₂ emissions e.g. water vapour, contrails, NO_x) climate change effects. Two sets of emission factors are available to report on that includes the indirect effects of non-CO₂ emissions and one that represents direct effects only. The calculations in this reporting include the direct effects only.

Water

Water treatment data was not provided and has been calculated assuming that 95% of the water supply is returned to the sewer. In future, it would be more accurate to use invoiced data for the water treatment.

Waste

The Authority provided data for waste which is collected from its assets. The waste collectors do not record the different type of recycled waste so this has been calculated assuming that this is open loop recycled waste. General refuse has been calculated as going to combustion.

Leased Assets

The leased assets are leisure facilities that are owned by the organisation but operated by a private leisure operator. These six buildings account for 66% of the total emissions and are by far the greatest contributor to the overall emissions.

3.3 PV Generation

Data was provided for the electricity generation from solar PV at Holyfield Hall Farm. This has not been deducted from the total emissions as this is already taken into account from the mains electricity meter data.

The carbon avoided through the solar panels is:

- Grid supplied electricity = 27.8tCO₂e;
- Transmissions and Distribution = 2.5tCO₂e;
- Well-to-Tank = 6.6tCO₂e;
- Total = 36.9tCO₂e.

42,942kWh of electricity, equivalent to 8.3 tCO₂e, is exported to the grid from this PV system. This could be counted as a carbon offset and has been deducted from the gross carbon emissions.

4 Recommendations for Gathering Data Going Forward

4.1 Scope 1 and 2 Emissions

The Authority should develop a procedure for gathering and storing data as it is made available. The benefit of this is that the carbon reporting process is streamlined and progress towards targets can be tracked.

4.2 Scope 3 Emissions

Scope 3 emissions are separated into 15 different categories which includes waste, staff travel and the purchased goods supply chain. Scope 3 emissions can amount to a higher proportion of total emissions than Scope 1 and 2 combined and represent the most significant opportunity to reduce carbon emissions and the impact to climate change. So, understanding these risks through accurate and consistent measurement, evaluation and reporting should improve both resilience and reputation.

ASPE Energy can provide further guidance on how to gather Scope 3 data from third parties and assist in calculating emissions.

5 Conclusion and Recommendations

- Use carbon footprint data and Appendix A to develop a strategy to become net zero carbon. APSE Energy can provide a desktop investigation to provide a trajectory up to the zero-carbon target year and give an indication of what measures could be taken and their potential capital cost and cost/carbon savings;
- Sense check all data to confirm accuracy;
- Develop policies and procedures for improving the capturing of data going forward to report on Scope 1 ,2 and 3 emissions;
- Develop policies to request emissions data from suppliers to gather Scope 3 data.

6 Glossary

Term	Definition
Carbon dioxide equivalent (CO ₂ e)	The carbon dioxide equivalent (CO ₂ e) allows the different greenhouse gases to be compared on a like-for-like basis relative to one unit of CO ₂ and includes the six greenhouse gases with the greatest global warming potential (GWP).
Carbon footprint	A carbon footprint measures the total greenhouse gas emissions caused directly and indirectly by a person, organisation, event or product. A carbon footprint is measured in tonnes of carbon dioxide equivalent (tCO ₂ e).
Authority Vehicles	Vehicles that are owned or controlled by the Authority. This does not include employee-owned vehicles that are used for business purposes.
Degree Day	A heating degree day (HDD) is a measurement designed to quantify the demand for energy needed to heat a building. It is the number of degrees that a day's average temperature is below a baseline temperature, which is the temperature below which buildings need to be heated.
Electricity	Electricity used at sites owned/controlled by the organisation. This is reported as a Scope 2, indirect emission. The conversion factors used are for the electricity supplied by the grid that the organisation purchases - they do not include the emissions associated with the transmission and distribution of electricity.
Employee Vehicles	Travel for business purposes in assets not owned or directly operated by the organisation. This includes mileage for business purposes in cars owned by employees, public transport, hire cars etc.
[Natural] Gas	Primary fuel sources combusted at a site or in an asset owned or controlled by the organisation.
MPAN & MPR	The MPAN (Meter Point Administration Number) and MPRN (Meter Point Reference Number) are unique numbers assigned to the electricity and gas supplies. This information has been provided as a reference and can be used to identify each meter.
Solar PV	Solar Photovoltaic panels to generate renewable electricity from the sun.
Transmission and Distribution	Transmission and distribution (T&D) factors are used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the premises).
Wastewater	Water returned into the sewage system through mains drains.
Water Supply	Water delivered through the mains supply network.

Appendix B – Data that should be gathered to report on Scope 3 emissions

The reporting of Scope 3 emissions is discretionary. The table below provides further guidance on the information required to calculate emissions from Scope 3.

Item	Category	Details Required
1	Purchased goods and services	<p>This category includes all upstream (i.e. cradle-to-gate) emissions from the production of products purchased or acquired by the Authority in the reporting year. Products include both goods (tangible products) and services (intangible products).</p> <p>This category includes emissions from all purchased goods and services not otherwise included in the other categories of upstream scope 3 emissions (i.e. category 2 through category 8 below).</p> <p>Cradle-to-gate emissions include all emissions that occur in the life cycle of purchased products, up to the point of receipt by the Authority. Cradle-to-gate emissions may include:</p> <ul style="list-style-type: none"> ● Extraction of raw materials ● Agricultural activities ● Manufacturing, production, and processing ● Generation of electricity consumed by upstream activities ● Disposal/treatment of waste generated by upstream activities ● Land use and land-use change ● Transportation of materials and products between suppliers ● Any other activities prior to acquisition by the reporting company <p>Relevant purchases to the Authority may include capital goods, such as office supplies, office furniture, computers, telephones, travel services, IT support, outsourced administrative functions, consulting services, janitorial, landscaping services, maintenance, repairs and operations.</p> <p>For accurate carbon reporting emissions, the Authority should request cradle-to-gate emission factors for materials used by suppliers to produce purchased goods such as Environmental Product Declarations (EPDs). It is likely that many suppliers will not be able to provide all the emission data.</p> <p>If an EPD cannot be provided, supplementary information required includes the volume of product (kg) and the carbon emission factor (kg CO₂e).</p>

		A policy should be developed so that suppliers in the supply chain are required to provide this data as part of the contract, where the volume of goods is noteworthy.
2	Capital goods	<p>Capital goods are final products that have an extended life and are used by the Authority to manufacture a product, provide a service, or sell, store, and deliver merchandise. Capital goods are treated as fixed assets or as plant, property, and equipment (PP&E). Examples of capital goods include equipment, machinery, buildings, facilities, and vehicles.</p> <p>The required information is the same as Category 1 above.</p> <p>A policy should be developed so that suppliers in the supply chain are required to provide this data as part of the contract.</p>
3	Fuel- and energy related activities (not included in Scope 1 or Scope 2)	Transmission and distribution (T&D) losses have been included and calculated from the data provided in Scope 2.
4	Upstream transportation and distribution	<p>Category 4 includes emissions from:</p> <ul style="list-style-type: none"> • Transportation and distribution of products purchased in the reporting year, between suppliers and its own operations in vehicles not owned or operated by the Authority. • • Third-party transportation and distribution services purchased by the Authority in the reporting year (either directly or through an intermediary), including inbound logistics, outbound logistics (e.g. of sold products), and third-party transportation and distribution between the Authority's own facilities. <p>The Authority requires data on:</p> <ul style="list-style-type: none"> • Quantities of fuel (e.g., diesel, petrol, jet fuel, biofuels) consumed • Amount spent on fuels • Distance travelled • Vehicle type <p>This may include managed assets - Vehicles that are used by the Authority but are not owned by the organisation and generally do not appear on the organisation's balance sheet, for example, maintenance</p>

		<p>contractor vehicles, outsourced refuse and recycling trucks, road sweepers, grounds maintenance mowers etc.</p> <p>A policy should be developed so that suppliers using their own vehicles are required to provide this data as part of the contract.</p>
5	Waste generated in operations	<p>This includes emissions from third-party disposal and treatment of waste generated in the Authority's owned or controlled operations in the reporting year. This category includes emissions from disposal of both solid waste and wastewater.</p> <p>The Authority should request volume and emissions data from the waste treatment company applicable to its own waste stream. If this cannot be provided, the emissions can be calculated by requesting the volume of waste, type and disposal method:</p> <p>Example of data required:</p> <p>Total weight (kg) of waste type and disposal method e.g.</p> <ul style="list-style-type: none"> • 5,000kg municipal waste to landfill • 500kg organic garden waste to composting • 1,000kg metal recycled • 1,000kg plastic recycled • 1,000kg paper recycled <p>Data is required for the volume of supply and wastewater in cubic metres (m³) from water bills.</p> <p>Local authorities have an important role in waste prevention and sustainable waste management through awareness-raising campaigns, providing separate collection for recycling and food waste, and implementing waste-to-energy schemes. It is therefore voluntary on whether the Authority choose to include the emissions from waste associated with the whole borough, or just the Authority's own operation.</p>
6	Business travel	<p>Travel for assets not owned or directly operated by the Authority. This includes mileage for business purposes in cars owned by employees, public transport, hire cars etc.</p> <p>Require details for:</p>

		<p><u>Vehicle</u></p> <p>Fuel type, size of vehicle and distance for:</p> <ul style="list-style-type: none"> • Car • Motorbike • Taxis • Bus • Rail <p><u>Flights</u></p> <ul style="list-style-type: none"> • Airport travelled to/from • Number of passengers • Class type • Distance <p><u>Ferry</u></p> <ul style="list-style-type: none"> • Foot or car passenger • Distance
7	Employee commuting	<p>This category includes emissions from the transportation of employees between their homes and their worksites.</p> <p>Emissions from employee commuting may arise from:</p> <ul style="list-style-type: none"> • Car • Bus • Rail • Other modes of transportation <p>Staff would be required to provide method of transport and distance travelled. It may be difficult and time consuming to collect accurate data.</p>
8	Upstream leased assets	<p>This category is applicable from the operation of assets that are leased by the Authority.</p> <p>If the Authority procures the energy then this should be considered as Scope 1 and 2.</p> <p>If the landlord is responsible for the Scope 1 and 2 emissions, the Authority should include the reporting under Scope 3. An example may</p>

		<p>include an office that the Authority lease from a private landlord. All energy bills may be included as part of the lease and the energy contract is under the name of the landlord. The Authority should therefore request the energy data from the landlord and include this under Scope 3.</p> <p>Data required include the Scope 1 and 2 data from the leased asset.</p>
9	Downstream transportation and distribution	<p>This category includes emissions that occur in the reporting year from transportation and distribution of sold products in vehicles and facilities not owned or controlled by the Authority in the reporting year.</p> <p>It is assumed that this category is not applicable to the Authority as it does not manufacture and sell products.</p>
10	Processing of sold products	<p>It is assumed that this category is not applicable to the Authority as it does not manufacture and sell products.</p>
11	Use of sold products	<p>It is assumed that this category is not applicable to the Authority as it does not manufacture and sell products.</p>
12	End-of-life treatment of sold products	<p>It is assumed that this category is not applicable to the Authority as it does not manufacture and sell products.</p>
13	Downstream leased assets	<p>This category is applicable where the Authority is the landlord to a lessee.</p> <p>If the Authority procures the energy on behalf of a lessee then this should be considered as Scope 1 and 2. An example of this is where the Authority may lease a premises to a lessee and include all energy costs as part of the lease. The energy contract is under the name of the Authority and is therefore reported under Scope 1 and 2.</p> <p>If the lessee is responsible for the Scope 1 and 2 emissions, the Authority should include the reporting under Scope 3. An example of this is a shop that the Authority own and the occupant pays for the energy bills and the contract is under their name. The Authority should request the energy data from the shop occupier and report this under Scope 3.</p>

		Data required include the Scope 1 and 2 data from the leased asset.
14	Franchises	It is assumed that this category is not applicable to the Authority as it does not operate any franchises.
15	Investments	<p>This category includes scope 3 emissions associated with the Authority's investments in the reporting year, not already included in scope 1 or scope 2. This category is applicable to investors (i.e. organisations that make an investment with the objective of making a profit) and organisations that provide financial services. This category also applies to investors that are not profit driven (e.g. multilateral development banks). Investments are categorised as a downstream scope 3 category because providing capital or financing is a service provided by the organisation.</p> <p>Category 15 is designed primarily for private financial institutions (e.g., commercial banks), but is also relevant to public financial institutions (e.g., multilateral development banks, export credit agencies) and other entities with investments not included in scope 1 and scope 2.</p> <p>The Authority's scope 3 emissions from investments are the scope 1 and scope 2 emissions of investees.</p> <p>For purposes of greenhouse gas accounting, this standard divides financial investments into four types:</p> <ul style="list-style-type: none"> • Equity investments • Debt investments • Project finance • Managed investments and client services <p>An example of the information required is the Scope 1 and 2 emissions from the bank where an investment is in place. This is based on the Authority's proportional share of investment in the investee. If the Authority has £1million invested in the bank and the banks total investments amount to £100million, the Authority should report on 1% of the banks Scope 1 and 2 emissions.</p> <p>It is assumed that this information will be difficult to collate from third parties and that the total emissions will be proportionally small compared to other emission sources and these emissions could be excluded from the reporting.</p>

NEW MUNICIPALISM

Delivering for local people and local economies



Lee Valley Regional Park Authority

Scope 1, 2 and 3 Carbon Emissions – 2023/24

Report. V3.

Report produced in June 2024



APSE (Association for Public Service Excellence) is a not for profit local government body working with over 300 councils throughout the UK. Promoting excellence in public services, APSE is the foremost specialist in local authority front line services, hosting a network for front line service providers in areas such as waste and refuse collection, parks and environmental services, leisure, school meals, cleaning, housing and building maintenance.

APSE Energy is APSE's local authority energy collaboration. The vision for the collaboration is to form an "effective collaboration of a large number of local authorities to enable and facilitate the local municipalisation of energy services. By this we mean the public and community, as well as private, ownership and managerial control of local energy generation, supply networks and delivery of energy efficiency works. Local authorities working together in this way would have great influence and would be able to deliver economies of scale in green energy to promote economic growth and combat fuel poverty.

Association for Public Service Excellence
3rd floor Trafford House
Chester Road, Old Trafford
Manchester, M32 0RS
Telephone: 0161 772 1810
fax: 0161 772 1811
Email: enquiries@apse.org.uk
Web: www.apse.org.uk



Table of Contents

1	Introduction.....	3
2	Carbon Footprint.....	4
2.1	Carbon Reporting Boundaries.....	4
2.2	Carbon Emissions.....	5
2.2.1	Carbon Emissions for 2023/2024.....	6
2.2.2	Carbon Emissions Performance.....	9
3	Notes and Observations.....	14
3.1	Scope 1 and 2.....	14
3.2	Scope 3.....	15
3.3	Solar Photovoltaic (PV) Generation.....	15
4	Recommendations for Gathering Data Going Forward.....	16
4.1	Scope 1 and 2 Emissions.....	16
4.2	Scope 3 Emissions.....	16
5	Conclusions and Recommendations.....	16
6	Glossary.....	17

1 Introduction

This report provides the results of the carbon footprint for Lee Valley Regional Park Authority which can be used to monitor carbon emissions attributed to the Authority's operations. The carbon footprint has been undertaken following best practice guidance provided by the Greenhouse Gas Protocol and calculated using conversion factors for the carbon dioxide equivalent (CO₂e) published by the Department for Energy Security and Net Zero (DESNZ).

The reporting year is for the financial year of 2023/24.

The carbon footprint is categorised into scopes, which cover:

Scope 1 (direct) emissions are from activities owned or controlled by the Authority. Examples of Scope 1 emissions include emissions from combustion in Authority owned or controlled boilers, furnaces and vehicles.

Scope 2 (indirect) emissions are associated with purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of the Authority's energy use but occur at sources that the Authority do not own or control. Examples include grid-supplied electricity and heat provided through a heat network.

Scope 3 (other indirect) emissions are a consequence of the Authority's actions that occur at sources the Authority do not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions include business travel by means not owned or controlled by the Authority (grey fleet), disposing of the Authority's own waste and purchased goods in the supply chain etc.



2 Carbon Footprint

2.1 Carbon Reporting Boundaries

The organisational boundaries determine what emissions are the responsibility of the Authority or others. This can be based on who owns, operates or exerts control over certain assets. The buildings categorised under Scope 1 & 2 within this reporting are those where energy is purchased or acquired and consumed by the Authority. The vehicles categorised under Scope 1 are vehicles that the Authority own, lease and operate purely for the Authority's own operations.

Scope 3 emissions are classified under 15 different categories as detailed under Appendix B. As Scope 3 emissions are under the influence of the Authority, but not under its direct control, it can be difficult to obtain the necessary data to calculate the associated carbon emissions from some Scope 3 sources. One of the larger contributors to carbon emissions is purchased goods and services.

Emissions from assets a company owns and leases to another entity, but does not operate, is typically included in Scope 3.

Typical emissions included under Scope 3 for an Authority would include waste, water supply and wastewater, leased buildings and contractor vehicle usage.

The largest contributor for Scope 3 is likely to be from purchased goods and services, which is generally very difficult to gather data and calculate emissions on. This category includes all upstream (i.e. cradle-to-gate) emissions from the production of products purchased or acquired by the Authority in the reporting year. Products include both goods (tangible products) and services (intangible products).

Cradle-to-gate emissions include all emissions that occur in the life cycle of purchased products, up to the point of receipt by the Authority. Relevant purchases to the Authority may include capital goods, such as office supplies, office furniture, computers, telephones, travel services, IT support, outsourced administrative functions, consulting services, janitorial, landscaping services, maintenance, repairs and operations.

The Authority should set up procedures to record all emission sources related to its operations for future reporting, and it is likely that the overall emissions will increase as the data quality improves.

Selected Scope 3 data has been included which includes "Transmission and Distribution" and "Well to Tank" as explained below. These Scope 3 emissions are directly associated with emissions from electricity, gas and vehicles.

Transmission and Distribution

Transmission and distribution (T&D) factors are used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the premises).

Well to Tank

Fuels have indirect Scope 3 emissions associated with the production, extraction, refining and transport of the fuel before their use known as Well-to-tank (WTT).

WTT emissions have been recorded for:

- Electricity;
- Gas;
- Transmission and Distribution;
- Fuels.

2.2 Carbon Emissions

Emissions are calculated as carbon dioxide equivalent (CO₂e), which is a term used to combine the seven most threatening gases that have the highest Global Warming Potential. This includes carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and nitrogen trifluoride.

The carbon footprint has been calculated using the best data that was available to the Authority during the reporting year and it is the Authority's responsibility to confirm the accuracy.

Appendix A details the breakdown of the emissions by source based on data provided by the Authority for the 2023/2024 reporting year.



2.2.1 Carbon Emissions for 2023/2024

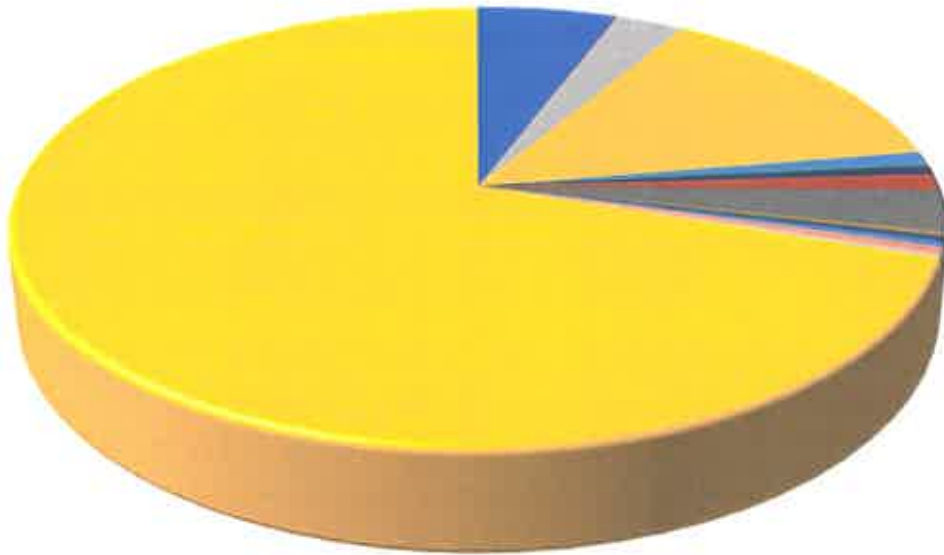
The table below details the carbon footprint for the 2023/2024 reporting period.

Table 1 Carbon Emissions by Source for 2023/24

2023/24			
Emissions Source	Scope	% Split	Tonnes CO ₂ e
Natural Gas	1	5.8%	139
Wood Pellets	1	0.0%	1.0
Fuel	1	2.8%	67
Electricity	2	13.9%	332
Natural Gas – WTT	3	1.0%	23
Wood Pellets - WTT	3	0.1%	3.4
Fuel - WTT	3	0.7%	16
Electricity – Transmission & Distribution	3	1.2%	29
Electricity – Well to Tank (Generation)	3	3.1%	74
Electricity – Well to Tank (T&D)	3	0.3%	6.4
Business Travel - Car	3	0.3%	7.4
Business Travel - Public Transport	3	0.1%	1.4
Water Supply	3	0.4%	10
Water Treatment	3	0.5%	11
Waste	3	0.3%	7.0
Leased Assets	3	70.0%	1,672
Solar PV Export to the Grid	Offset		-10.2
Total		100%	2,389

Chart 1 Carbon Emissions by Source for 2023/24

EMISSIONS BY SOURCE



- Natural Gas
- Electricity
- Fuel - WTT
- Electricity – Well to Tank (T&D)
- Water Supply
- Leased Assets
- Wood Pellets
- Natural Gas – WTT
- Electricity – Transmission & Distribution
- Business Travel - Car
- Water Treatment
- Fuel
- Wood Pellets - WTT
- Electricity – Well to Tank (Generation)
- Business Travel - Public Transport
- Waste

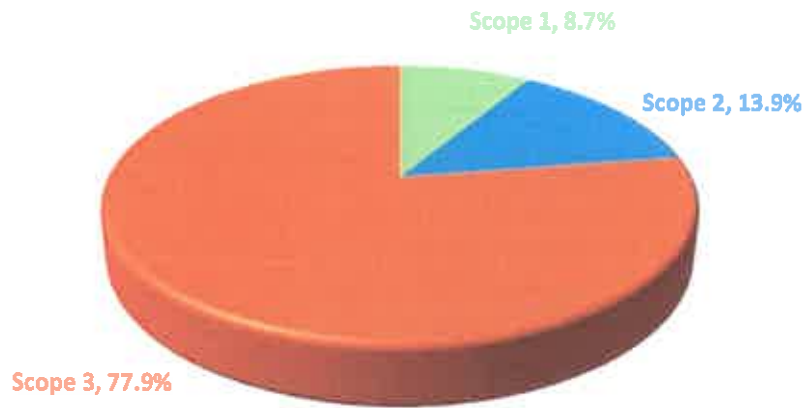
Table 2 Carbon Emissions by Scope for 2023/24

2023/24		
Emissions Source	% Split	Tonnes CO₂e
Scope 1	8.7%	207
Scope 2	13.9%	332
Scope 3	77.9%	1,860
Solar PV Export to the Grid		-10.2
Total	100%	2,389



Chart 2 Carbon Emissions by Scope for 2023/24

EMISSIONS BY SCOPE



2.2.2 Carbon Emissions Performance

APSE Energy has assisted the Authority in estimating its carbon emissions in the previous financial year (2022/2023). Consequently, Appendix A also contains a summary sheet which shows the breakdown of emissions by source for all reporting periods to enable the Authority to understand its environmental impact through the years. This comprehensive overview allows the Authority to identify trends, prioritise mitigation efforts and make informed decisions regarding emissions reduction strategies. By analysing the data across different sources, the Authority can develop targeted policies and initiatives to address specific areas of concern.

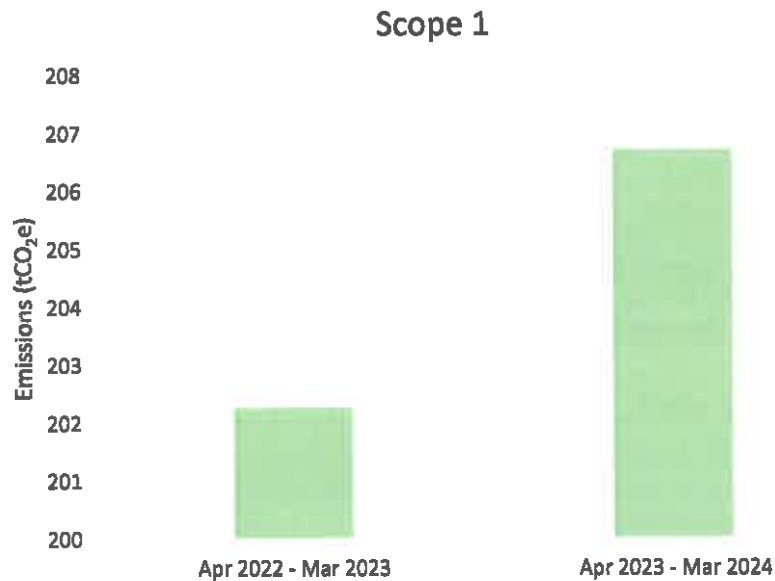
Table 3 Carbon Emissions Tracking

Emissions	Tonnes CO ₂ e	
	Reporting Year	
	Apr 2022 – Mar 2023	Apr 2023 – Mar 2024
Scope 1 - Direct Emissions	202	207
Natural Gas	134	139
Biomass (Wood Pellets)	1.0	1.0
Fuels	68	67
Scope 2 – Electricity Emissions	353	332
Total Scope 1 & 2 Emissions	555	539
Scope 3 – Indirect Emissions	1,669	1,860
Natural Gas - WTT	23	23
Biomass (Wood Pellets) - WTT	3.6	3.4
Fuels - WTT	16	16
Electricity (Transmission & Distribution)	32	29
Electricity (WTT: Generation)	84	74
Electricity (WTT: T&D)	7.7	6.4
Water Supply	9	10
Water Treatment	15	11
Waste	4.9	7.0
Business Travel - Car	6.6	7.4
Business Travel - Public Transport	3.4	1.4
Leased Assets	1,464	1,672
Total Gross Emissions	2,224	2,400
Carbon offset		
Solar PV exported to grid	-8.3	-10



Total Net Emissions	2,215	2,389
Further Information		
Out of Scope		
Biomass (outside of scopes)	34	32
Renewable CO₂ avoided		
PV generated & consumed	319	355
Degree Days at 15.5 °C (an indicator of heat demand)	2,031	1,971
Summary of energy usage		
Total Electricity (kWh)	1,824,599	1,605,463
Total Gas (kWh)	731,355	758,376
Total Biomass (Wood Pellets) (Tonnes)	20	19
Total Fuels (litres)	25,009	25,652
Conversion Factors used above		
Natural Gas (kg CO ₂ e/kWh)	0.1825	0.1829
Wood Pellets (kg CO ₂ e/tonnes)	50.555	51.562
Electricity (kg CO ₂ e/kWh)	0.1934	0.2071
Natural Gas - WTT (kg CO ₂ e/kWh)	0.0311	0.0302
Biomass (Wood Pellets) - WTT (kg CO ₂ e/tonnes)	177	177
Electricity (Transmission & Distribution) (kg CO ₂ e/kWh)	0.0177	0.0179
Electricity (WTT: Generation) (kg CO ₂ e/kWh)	0.0463	0.0459
Electricity (WTT: T&D) (kg CO ₂ e/kWh)	0.0042	0.0040
Water Supply (kg CO ₂ e/cubic metres)	0.1490	0.1767
Water Treatment (kg CO ₂ e/cubic metres)	0.2720	0.2013
Waste to Recycling (kg CO ₂ e/tonnes)	21.2802	21.2808
Waste to Combustion (kg CO ₂ e/tonnes)	21.2802	21.2808

Chart 3 Scope 1 Carbon Emissions between 2022/23 to 2023/24

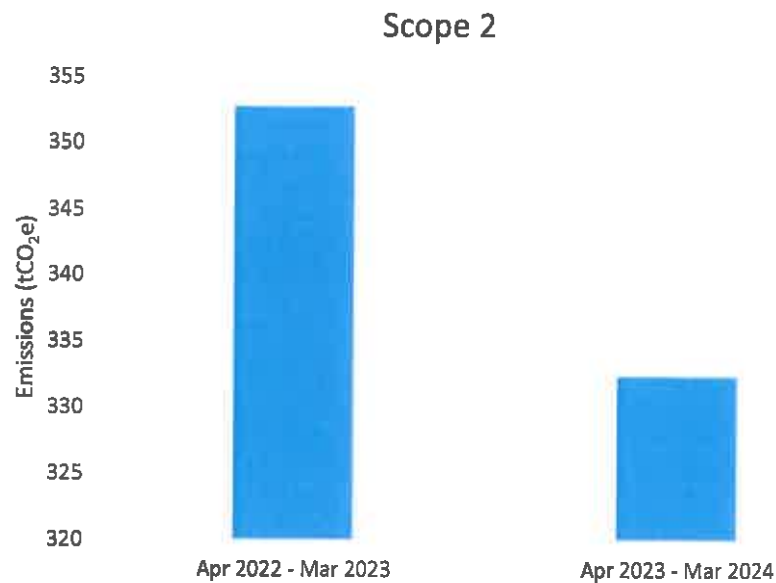


The Scope 1 emissions for the Authority increased by 2% in 2023/24 from 2022/23 values; these emissions are attributable to natural gas, wood pellet and fuel usage in the Authority owned assets. Although the degree day data indicates that the 2022/23 period was on average 3% colder than 2023/24, the natural gas usage increased by 4% in 2023/24 compared to 2022/23. Meanwhile, fuel usage increased by 3% in 2023/24 while Biomass (Wood Pellet) usage decreased by 6% compared to 2022/23 values. However, it should be noted that the overall increase is as a result of the relationship between consumption of the various energy sources and the associated carbon emission factors in the reporting periods.

The Authority is advised to investigate the increase in gas consumption at its assets in 2023/24 given that the previous reporting period was colder but the gas usage in 2022/23 was lower. It is worth remembering that natural gas is used for other purposes than space heating in the majority of the facilities such as catering.

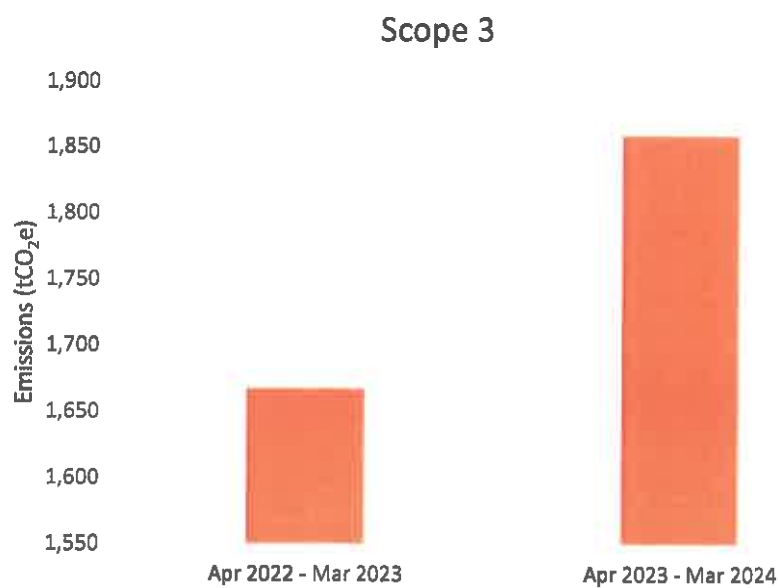


Chart 4 Scope 2 Carbon Emissions between 2022/23 to 2023/24



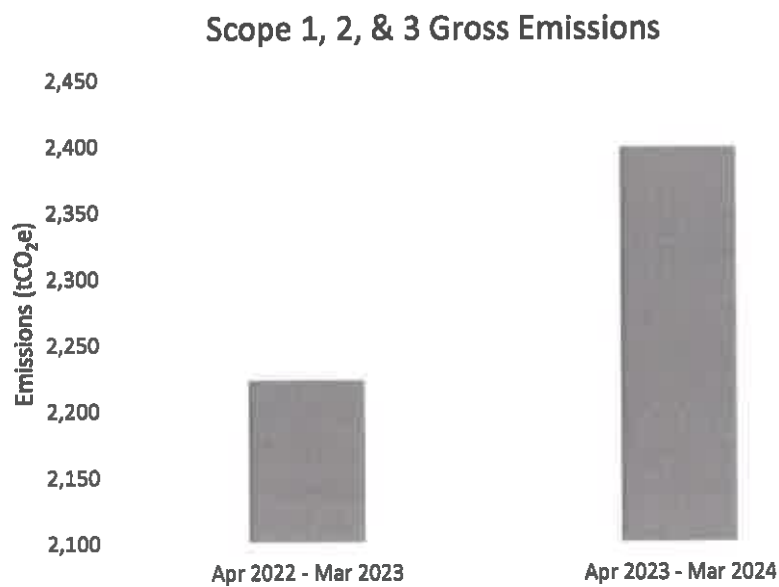
Scope 2 emissions are attributed to electricity usage at the Authority owned assets. Despite the carbon emission factor of grid-supplied electricity being 7% higher in 2023/24, there was a 3% reduction in Scope 2 emissions in the 2023/24 reporting period compared to the 2022/23 period, primarily as a result of reduced electricity consumption at the Authority 's assets.

Chart 5 Scope 3 Carbon Emissions between 2022/23 to 2023/24



The Scope 3 emissions increased by 11% in 2023/24 compared to the 2022/23 reporting period. It should be noted that overall, there was a relative decrease in carbon emission factors for Scope 3 sources listed in **Table 3** implying that the increase could either be as a result of better data gathering or a change in operations of the Authority .

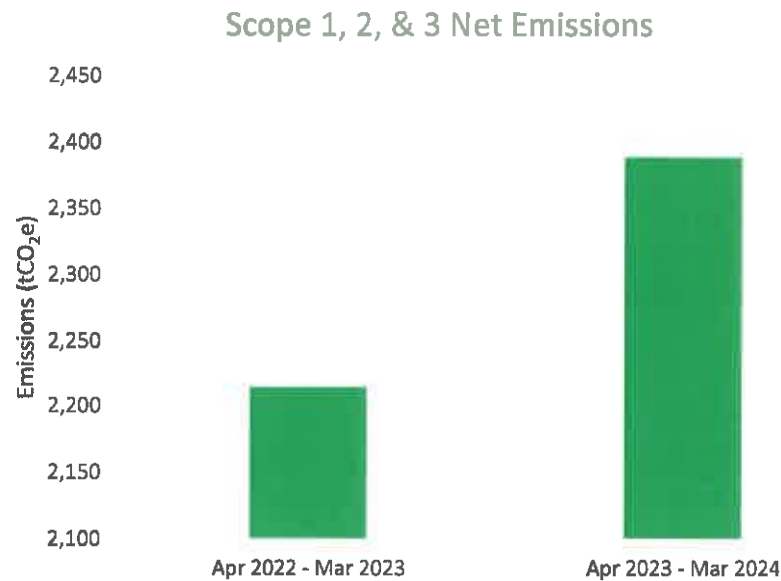
Chart 6 Gross Carbon Emissions between 2022/23 to 2023/24



The 2023/24 reporting year saw an 8% increase in gross carbon emissions compared to the 2022/23 period.



Chart 7 Net Carbon Emissions between 2022/23 to 2023/24



The chart above shows the net carbon emissions which constitute the gross emissions less carbon offsetting measures.

3 Notes and Observations

3.1 Scope 1 and 2

Appendix A is an Excel spreadsheet that shows a breakdown of the emissions by source in the 2023/24 year. This can be used to develop a carbon strategy by identifying and approaching assets with the highest emissions.

Biomass

The CO₂ emissions for wooden pellets is set as net 'zero' to account for the CO₂ absorbed by fast-growing bioenergy sources during their growth. The CO₂e emissions come from N₂O and CH₄ emissions which are not absorbed during growth.

Fuels

The Authority have not provided the make, model, and size of engine for the vehicles. Therefore, the emissions have been calculated using the amount and type of fuel in litres that these vehicles have consumed which has been provided.

The litre consumption provided for "Oil" usage is 3 litres, therefore it has been assumed to be lubricant used in vehicles.

3.2 Scope 3

Flights

Emissions from aviation have both direct (CO₂, CH₄ and N₂O) and indirect (non-CO₂ emissions e.g. water vapour, contrails, NO_x) climate change effects. Two sets of emission factors are available to report: one includes the indirect effects of non-CO₂ emissions and one that represents direct effects only. The calculations in this reporting include the indirect effects so as to capture the full climate impact of air travel.

Additionally, the flight class of the flights have not been provided, so the calculations have been based on emission factors for the "Average Passenger" flight class.

Water

Water treatment data was only provided for 4 sites. For the remaining sites, it has been calculated assuming that 95% of the water supply is returned to the sewer. In future, it would be more accurate to use full invoiced data for the water treatment.

Waste

The waste collectors do not record the method for processing recycled waste, so this has been calculated assuming that this is open-loop recycling. General refuse has been calculated as going to combustion (energy from waste).

Leased Assets

The leased assets are leisure facilities that are owned by the Authority but operated by a private leisure operator. These six buildings account for 70% of the total emissions and is by far the greatest contributor to the overall emissions.

3.3 Solar Photovoltaic (PV) Generation

Data was provided for the electricity generation from solar PV at Holyfield Hall Farm. This has not been deducted from the total emissions as this is already taken into account from the mains electricity meter data.

The carbon avoided through the solar panels is:

- Grid supplied electricity = 5.30 tCO₂e
- Transmissions and Distribution = 0.46 tCO₂e
- Well-to-Tank = 1.28 tCO₂e
- Total = 7.04 tCO₂e

49,303 kWh of electricity, equivalent to 10.2 tCO₂e, is exported to the grid from this PV system. This could be counted as a carbon offset and has been deducted from the gross carbon emissions.

The data provided by the Authority appeared inaccurate, with the amount of electricity exported being equal to the amount of electricity generated by the PV array. As this is likely an error, we have adjusted the 2023/24 exported value to be the same proportion of electricity exported compared to generated in 2022/23.



In addition, the data appeared to be labelled incorrectly, for example the section 'Generated Heat (kWh)' was assumed to mean PV generated electricity (kWh).

Also, the section labelled 'Electricity consumed on site' was assumed to mean 'Total Electricity consumed on site', i.e. PV consumed plus imported consumed. To more clearly breakdown the different data, more sections were added. These resulted in the following sections as breakdown of the PV and Electrical Data.

Electricity Imported from the Grid (kWh)	PV Generated Electricity (kWh)	PV Generated Electricity Consumed on Site (kWh)	Electricity Exported to the Grid (kWh)	Electricity Consumed on Site (kWh)	Tonnes of CO ₂ e Offset	Tonnes of CO ₂ e avoided from consumption	Tonnes of CO ₂ e avoided from Transmissions and Distribution	Tonnes of CO ₂ e avoided from WTT
47,190	74,910	25,607	49,303	72,797	10.21	5.30	0.46	1.28

4 Recommendations for Gathering Data Going Forward

4.1 Scope 1 and 2 Emissions

The Authority should continue to improve the quality of gathering and storing data. The benefit of this is that the carbon reporting process is streamlined and progress towards targets can be tracked.

4.2 Scope 3 Emissions

Scope 3 emissions are separated into 15 different categories which includes waste, staff travel and the purchased goods supply chain. Scope 3 emissions can amount to a higher proportion of total emissions than Scope 1 and 2 combined and represent the most significant opportunity to reduce carbon emissions and the impact to climate change. So, understanding these risks through accurate and consistent measurement, evaluation and reporting should improve both resilience and reputation.

ASPE Energy can provide further guidance on how to gather Scope 3 data from third parties and assist in calculating emissions.

5 Conclusions and Recommendations

Use carbon footprint data and Appendix A to develop a strategy to become net zero carbon. APSE Energy can provide a desktop investigation to provide a trajectory up to the zero-carbon target year and give an indication of what measures could be taken and their potential capital cost and cost/carbon savings.

Sense check all data to confirm accuracy.

Develop policies and procedures for improving the capturing of data going forward to report on Scope 1, 2 and 3 emissions.

Develop policies to request emissions data from suppliers to gather Scope 3 data.

Record information on class of flight tickets for business travel.

6 Glossary

Term	Definition
Carbon dioxide equivalent (CO ₂ e)	The carbon dioxide equivalent (CO ₂ e) allows the different greenhouse gases to be compared on a like-for-like basis relative to one unit of CO ₂ and includes the six greenhouse gases with the greatest global warming potential (GWP).
Carbon footprint	A carbon footprint measures the total greenhouse gas emissions caused directly and indirectly by a person, organisation, event or product. A carbon footprint is measured in tonnes of carbon dioxide equivalent (tCO ₂ e).
Authority Vehicles	Vehicles that are owned or controlled by the Authority . This does not include employee-owned vehicles that are used for business purposes.
Degree Day	A heating degree day (HDD) is a measurement designed to quantify the demand for energy needed to heat a building. It is the number of degrees that a day's average temperature is below a baseline temperature, which is the temperature below which buildings need to be heated.
Electricity	Electricity used at sites owned/controlled by the Authority . This is reported as a Scope 2, indirect emission. The conversion factors used are for the electricity supplied by the grid that the Authority purchase - they do not include the emissions associated with the transmission and distribution of electricity.
Employee Vehicles	Travel for business purposes in assets not owned or directly operated by the Authority . This includes mileage for business purposes in cars owned by employees, public transport, hire cars etc.
[Natural] Gas	Primary fuel sources combusted at a site or in an asset owned or controlled by the Authority .
MPAN & MPR	The MPAN (Meter Point Administration Number) and MPRN (Meter Point Reference Number) are unique numbers assigned to the electricity and gas supplies. This information has been provided as a reference and can be used to identify each meter.
Solar PV	Solar Photovoltaic panels to generate renewable electricity from the sun.
Transmission and Distribution	Transmission and distribution (T&D) factors are used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the premises).
Wastewater	Water returned into the sewage system through mains drains.



Appendix B – Data that should be gathered to report on Scope 3 emissions

The reporting of Scope 3 emissions is discretionary. The table below provides further guidance on the information required to calculate emissions from Scope 3.

Item	Category	Details Required
1	Purchased goods and services	<p>This category includes all upstream (i.e. cradle-to-gate) emissions from the production of products purchased or acquired by the Authority in the reporting year. Products include both goods (tangible products) and services (intangible products).</p> <p>This category includes emissions from all purchased goods and services not otherwise included in the other categories of upstream scope 3 emissions (i.e. category 2 through category 8 below). Cradle-to-gate emissions include all emissions that occur in the life cycle of purchased products, up to the point of receipt by the Authority . Cradle-to-gate emissions may include:</p> <ul style="list-style-type: none"> • Extraction of raw materials • Agricultural activities • Manufacturing, production, and processing • Generation of electricity consumed by upstream activities • Disposal/treatment of waste generated by upstream activities • Land use and land-use change • Transportation of materials and products between suppliers • Any other activities prior to acquisition by the reporting company <p>Relevant purchases to the Authority may include capital goods, such as office supplies, office furniture, computers, telephones, travel services, IT support, outsourced administrative functions, consulting services, janitorial, landscaping services, maintenance, repairs and operations.</p> <p>For accurate carbon reporting emissions, the Authority should request cradle-to-gate emission factors for materials used by suppliers to produce purchased goods such as Environmental Product Declarations (EPDs). It is likely that many suppliers will not be able to provide all the emission data.</p> <p>If an EPD cannot be provided, supplementary information required includes the volume of product (kg) and the carbon emission factor (kg CO₂e).</p> <p>A policy should be developed so that suppliers in the supply chain are required to provide this data as part of the contract, where the volume of goods is noteworthy.</p>

2	Capital goods	<p>Capital goods are final products that have an extended life and are used by the Authority to manufacture a product, provide a service, or sell, store, and deliver merchandise. Capital goods are treated as fixed assets or as plant, property, and equipment (PP&E). Examples of capital goods include equipment, machinery, buildings, facilities, and vehicles.</p> <p>The required information is the same as Category 1 above.</p> <p>A policy should be developed so that suppliers in the supply chain are required to provide this data as part of the contract.</p>
3	Fuel- and energy related activities (not included in Scope 1 or Scope 2)	<p>Transmission and distribution (T&D) losses have been included and calculated from the data provided in Scope 2.</p>
4	Upstream transportation and distribution	<p>Category 4 includes emissions from:</p> <ul style="list-style-type: none"> • Transportation and distribution of products purchased in the reporting year, between suppliers and its own operations in vehicles not owned or operated by the Authority . • Third-party transportation and distribution services purchased by the Authority in the reporting year (either directly or through an intermediary), including inbound logistics, outbound logistics (e.g. of sold products), and third-party transportation and distribution between the Authority 's own facilities. <p>The Authority requires data on:</p> <ul style="list-style-type: none"> • Quantities of fuel (e.g., diesel, petrol, jet fuel, biofuels) consumed • Amount spent on fuels • Distance travelled • Vehicle type <p>This may include managed assets - Vehicles that are used by the Authority but are not owned by the organisation and generally do not appear on the organisation's balance sheet, for example, maintenance contractor vehicles, outsourced refuse and recycling trucks, road sweepers, grounds maintenance mowers etc.</p> <p>A policy should be developed so that suppliers using their own vehicles are required to provide this data as part of the contract.</p>



5	Waste generated in operations	<p>This includes emissions from third-party disposal and treatment of waste generated in the Authority s owned or controlled operations in the reporting year. This category includes emissions from disposal of both solid waste and wastewater.</p> <p>The Authority should request volume and emissions data from the waste treatment company applicable to its own waste stream. If this cannot be provided, the emissions can be calculated by requesting the volume of waste, type and disposal method:</p> <p>Example of data required:</p> <p>Total weight (kg) of waste type and disposal method e.g.</p> <ul style="list-style-type: none"> • 5,000kg municipal waste to landfill • 500kg organic garden waste to composting • 1,000kg metal recycled • 1,000kg plastic recycled • 1,000kg paper recycled <p>Data is required for the volume of supply and wastewater in cubic metres (m³) from water bills.</p> <p>Local authorities have an important role in waste prevention and sustainable waste management through awareness-raising campaigns, providing separate collection for recycling and food waste, and implementing waste-to-energy schemes. It is therefore voluntary on whether the Authority choose to include the emissions from waste associated with the whole borough, or just the Authority 's own operation.</p>
6	Business travel	<p>Travel for assets not owned or directly operated by the Authority . This includes mileage for business purposes in cars owned by employees, public transport, hire cars etc.</p> <p>Require details for:</p> <p><u>Vehicle</u> Fuel type, size of vehicle and distance for:</p> <ul style="list-style-type: none"> • Car • Motorbike • Taxis • Bus • Rail <p><u>Flights</u></p>

		<ul style="list-style-type: none"> • Airport travelled to/from • Number of passengers • Class type • Distance <p><u>Ferry</u></p> <ul style="list-style-type: none"> • Foot or car passenger • Distance
7	Employee commuting	<p>This category includes emissions from the transportation of employees between their homes and their worksites.</p> <p>Emissions from employee commuting may arise from:</p> <ul style="list-style-type: none"> • Car • Bus • Rail • Other modes of transportation <p>Staff would be required to provide method of transport and distance travelled. It may be difficult and time consuming to collect accurate data.</p>
8	Upstream leased assets	<p>This category is applicable from the operation of assets that are leased by the Authority .</p> <p>If the Authority procures the energy then this should be considered as Scope 1 and 2.</p> <p>If the landlord is responsible for the Scope 1 and 2 emissions, the Authority should include the reporting under Scope 3. An example may include an office that the Authority lease from a private landlord. All energy bills may be included as part of the lease and the energy contract is under the name of the landlord. The Authority should therefore request the energy data from the landlord and include this under Scope 3.</p> <p>Data required include the Scope 1 and 2 data from the leased asset.</p>
9	Downstream transportation and distribution	<p>This category includes emissions that occur in the reporting year from transportation and distribution of sold products in vehicles and facilities not owned or controlled by the Authority in the reporting year.</p>



		It is assumed that this category is not applicable to the Authority as it does not manufacture and sell products.
10	Processing of sold products	It is assumed that this category is not applicable to the Authority as it does not manufacture and sell products.
11	Use of sold products	It is assumed that this category is not applicable to the Authority as it does not manufacture and sell products.
12	End-of-life treatment of sold products	It is assumed that this category is not applicable to the Authority as it does not manufacture and sell products.
13	Downstream leased assets	<p>This category is applicable where the Authority is the landlord to a lessee.</p> <p>If the Authority procures the energy on behalf of a lessee then this should be considered as Scope 1 and 2. An example of this is where the Authority may lease a premises to a lessee and include all energy costs as part of the lease. The energy contract is under the name of the Authority and is therefore reported under Scope 1 and 2.</p> <p>If the lessee is responsible for the Scope 1 and 2 emissions, the Authority should include the reporting under Scope 3. An example of this is a shop that the Authority own and the occupant pays for the energy bills and the contract is under their name. The Authority should request the energy data from the shop occupier and report this under Scope 3.</p> <p>Data required include the Scope 1 and 2 data from the leased asset.</p>
14	Franchises	It is assumed that this category is not applicable to the Authority as it does not operate any franchises.
15	Investments	<p>This category includes scope 3 emissions associated with the Authority's investments in the reporting year, not already included in scope 1 or scope 2. This category is applicable to investors (i.e. organisations that make an investment with the objective of making a profit) and organisations that provide financial services. This category also applies to investors that are not profit driven (e.g. multilateral development banks). Investments are categorised as a downstream scope 3 category because providing capital or financing is a service provided by the organisation.</p> <p>Category 15 is designed primarily for private financial institutions (e.g., commercial banks), but is also relevant to public financial institutions</p>

(e.g., multilateral development banks, export credit agencies) and other entities with investments not included in scope 1 and scope 2.

The Authority's scope 3 emissions from investments are the scope 1 and scope 2 emissions of investees.

For purposes of greenhouse gas accounting, this standard divides financial investments into four types:

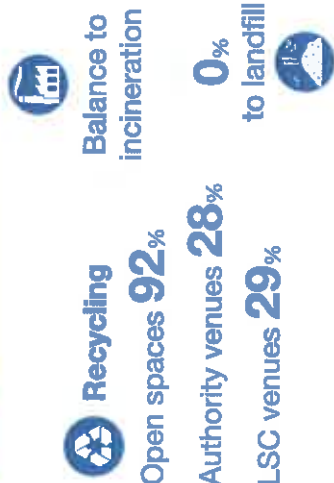
- Equity investments
- Debt investments
- Project finance
- Managed investments and client services

An example of the information required is the Scope 1 and 2 emissions from the bank where an investment is in place. This is based on the Authority's proportional share of investment in the investee. If the Authority has £1million invested in the bank and the bank's total investments amount to £100million, the Authority should report on 1% of the bank's Scope 1 and 2 emissions.

It is assumed that this information will be difficult to collate from third parties and that the total emissions will be proportionally small compared to other emission sources and these emissions could be excluded from the reporting.

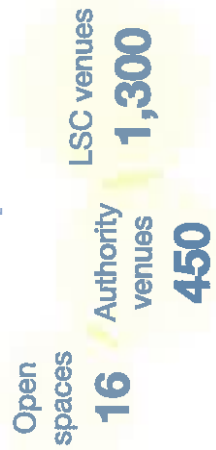


Waste



Electricity

tonnes of CO₂ consumed



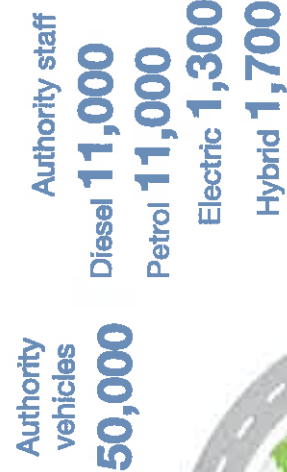
Gas

tonnes of CO₂ consumed



Business travel

miles



Water

cubic litres consumed



Power generation

Holyfield Hall Farm (kWh)



Training



This page is blank



Waste



Electricity

tonnes of CO₂ consumed



Business travel

miles



Water

cubic litres consumed



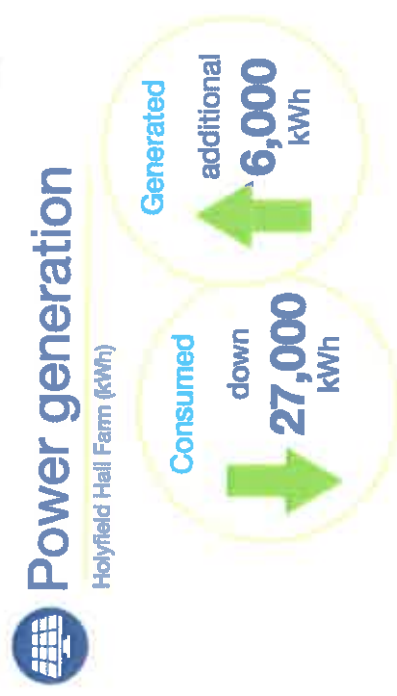
Gas

tonnes of CO₂ consumed



Power generation

Holyfield Hall Farm (kWh)



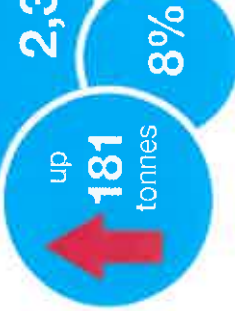
Training



2023 - 2024

Carbon Footprint Baseline

Total carbon footprint **2,389** tonnes of CO₂e



This page is blank

Complete - All completed projects as part of the spend and save programme
VeloPark
Installation of LED lighting
Install movement sensors and LED lighting to back of house areas and corridors
Hockey & Tennis Centre
Install LED lighting to back of house and public areas with movement sensors
White Water Centre
Investigate chiller system to gain an understanding of its efficiency and possible improvements.
Complete a full assessment for Carbon Reduciton Measures with APSE
Undertake Full BMS Audit to seek further effcences and savings.
Upgrade lighting to LED technology.
Athletics Centre
Replace tungsten GLS lamps with CFLs.
Upgrade lighting including automatic controls, daylight & occupancy sensing and LEDs.
Daylight harvesting and LED lights
Riding Centre
Replace the halogen spotlights in the shop area with LED lamps.
Springfield Marina
Adjust existing, and installing new, automatic external door closers, or consider adopting revolving door
Instal automatic closers to loading bay goods doors or shutters.
Instal flexible air curtains across loading bay doors.
Construct lobby in Reception to avoid cold draughts.
Lighting redesigned and LED's introduced
Stanstead Marina
Adjust existing, and installing new, automatic external door closers, or consider adopting revolving door
Instal automatic closers to loading bay goods doors or shutters.
Instal flexible air curtains across loading bay doors.
Construct draught lobbies to reduce unwanted air infiltration.
Lighting to be redesigned and LED,s introduced.
Improve sealing to large doors for winter operation.
Dobbs Weir Campsite
Reduce number of immersions being used in winter season (5 down to 2)
Instal timers for night time lighting and or PIR sensors
Myddelton House
Introduce and improving loft insulation.

Ongoing - Further projects that are being investigated identified from work on the programme
VeloPark
Chiller system be investigated to gain an understanding of its efficiency and possible improvement options
Hockey & Tennis Centre
Add time control to heating system.
It is recommended that the heat generator system be investigated to gain an understanding of its
Add local temperature control to the heating system.
White Water Centre
Consider installing building mounted solar water heating.
Enable power save settings and power down management on computers and associated equipment.
Consider installing a ground source heat pump.
Consider installing building mounted photovoltaic electricity generating panels.
Athletics Centre
Add time control to heating system.
Enable power save settings and power down management on computers and associated equipment.
Review the air conditioning energy performance report and seek to implement any outstanding

Consider fitting existing air curtains with energy saving controls such as door interlocks and occupancy
Consider a Combined Heating and Power (CHP) system as an alternative to conventional boilers.
Consider installing a ground source heat pump.
Consider installing building mounted photovoltaic electricity generating panels.
Fit insulation jackets to valves and flanges within the boiler room to reduce heat losses.
Consider updating the hot water time schedules to save energy over night.
Riding Centre
Add time control to heating system.
Some walls have uninsulated cavities - introduce cavity wall insulation.
Some windows have high U-values - consider installing secondary glazing.
Some solid walls are poorly insulated - introduce or improve internal wall insulation.
Consider replacing heating boiler plant with a condensing type.
Consider implementing a programme of planned lighting systems maintenance to maintain effectiveness
Replace/improve glazing and/or frames.
Fit insulation jackets to valves and flanges within the boiler room to reduce heat losses.
Install occupancy sensing control and zoning to the lighting.
Springfield Marina
Consider installing weather compensator controls on heating and cooling systems.
Consider installing timer controls to energy consuming plant and equipment and adjust to suit current
Consider fitting secondary glazing and/or under glaze sky lights where appropriate.
No bms control of heating in the corridors and so temperatures not always ideal. Provide local control.
Consider replacing 3 port valves with two port and variable speed pump controls.
No pipe insulation to heating or hot water services
Consideration of solar energy collection (either solar thermal and/or photovoltaic) on roof is
Stanstead Marina
Consider installing weather compensator controls on heating and cooling systems.
Consider installing timer controls to energy consuming plant and equipment and adjust to suit current
Consider upgrading major time controls to include optimum start/stop.
Consider installing building mounted solar water heating.
Consider replacing or improving glazing.
Consideration of solar energy collection (either solar thermal and/or photovoltaic) on roof is
Some glazing is poorly insulated. Replace/improve glazing and/or frames.
Consider installing an air source heat pump or a ground source heat pump.
Dobbs Weir Campsite
Trial EV charging Points
Edmonton Campsite
Investigate LED lighting.
Consider installing an air source heat pump.
Roof is poorly insulated. Install or improve insulation of roof.
Consider installing PV.
Myddelton House
Engage experts to assess the air conditioning systems in accordance with CIBSE TM 44.
Consider upgrading major time controls to include optimum start/stop.
Consider a metering survey in accordance with CIBSE TM:39 to understand and update the current
Consider reducing heating/cooling set points and setting tighter dead bands between heating/cooling.
Consider adding timer controls to electric point of use hot water units.
Consider changing conservatory heating system from gas and connecting to wood chip boiler.
Consider increasing the server room setpoints to 24C+ This is still within the safe tolerance of server