

Climate Emergency Advisory Committee report



Report of Head of Development and Corporate Landlord – Andrew Busby

Author: Ben Whaymand

Telephone: 07767657594

E-mail: ben.whaymand@southandvale.gov.uk

Cabinet member responsible: Cllr Debra Dewhurst

Tel: 07796 581652

E-mail: debra.dewhurst@southandvale.gov.uk

To: Climate and Emergency Advisory Committee

DATE: Thursday 7 December 2023

Leisure Property Development - Impact On The Climate Action Plan

Recommendation(s)

- (a) That CEAC note the report which is for information only.

Purpose of Report

1. To provide the Climate and Emergency Advisory Committee (CEAC) with an update on the direction of performance towards a 75 per cent reduction in carbon emissions by 2025 in the council's leisure property portfolio.

Strategic Objectives

2. The report provides direction on the council's Climate Emergency programme, focussed on what the council has control over, working towards our own targets for our own buildings, vehicles, leisure and arts centres.

Background

3. The council declared a Climate Emergency following a motion that was passed at Council in 2019. This was followed by a pledge to become a carbon neutral council by 2030 and a 75 per cent reduction in carbon emissions in the district by 2030 as a first step and become a carbon neutral district by 2045.
-

4. The Climate Action Plan (CAP) was set to outline how the Vale of White Horse District Council (VoWHDC) will be aiming for a 75 per cent reduction in carbon emissions in its own operations by 2025
5. The CAP focuses on the council's own emissions to ensure our operations and service provision are carbon neutral by our target date.
6. To measure our progress in achieving our carbon neutral target, we divided the actions in CAP into strategic, direct and enabling actions. This briefing will be focusing on 'direct' impact of delivery for our leisure property assets since the announcement.

Historical Context – Leisure Properties

7. At the time of the CAP it was clear from the plan that our leisure property portfolio contributed to 51 per cent of our carbon emissions from the baseline year 2019/20. See appendix 1
 8. The CAP was then set with principles and a way of working to action the carbon emissions evident at the time within our leisure centres.
 9. Leisure centres in 2019/20 were consuming 1.30m kWh of electricity and 6.12m kWh of gas over a year. Please note that leisure centres consume energy 24/7 through plant operations to maintain the facility and comfort of its users. Especially where swimming pools are evident in our properties as these need constant heating to maintain temperatures for bathers. See appendix 2 for annual leisure consumption data.
 10. On 21 March 2020, the Prime Minister announced that leisure centres were required to temporarily close as part of the wider Covid-19 lock down measures. The leisure management contractor Greenwich Leisure Limited (GLL) was required to close all leisure centres in the Vale of White Horse as well as those in South Oxfordshire.
 11. Leisure centres remained closed until the government announced their reopening from 26 July 2020. Due to further national lockdown and Tier 4 restrictions, GLL was required to close all centres from 5 November 2020 to 2 December 2020, and 26 December 2020 to 22 March 2021.
 12. During the reporting year 2020/21 and 2021/22 where leisure centres were faced with immediate closure and a period of time of controlled opening through social distancing there was a significant reduction in the utility consumption within the leisure property estate. Naturally this was a reduction for this period of time due to plant machinery being switched off and less users during the controlled reopening of all the sites.
 13. Consumption during the Covid-19 pandemic year 2020/21 was 697,873 kWh for electricity and 2.67m kWh for gas which for reporting will show a significant reduction with comparing year on year due to the unexpected events we were faced with.
 14. Consumption during the year 2021/22 was subject to returning to normality after restrictions were starting to ease in the start of the financial year and customer visits returning. During the year consumption was 1.30m kWh for electricity and 5.24m kWh for gas.
-

15. Appendix 3 shows historic data since 2019/20 where utility consumption levels have improved. 2020/21 and 2021/22 have various reason explained already why in some cases these reporting years are lower than others.
16. Appendix 4 shows a direct assessment of 2019/20 to 2022/23 in comparison to a full reporting year. With user numbers returning back to pre-Covid-19 levels the table shows that emissions have significantly reduced. Various projects and operational control measures administered since the pandemic have seen 2.22m kWh in both electricity and gas being reduced across all leisure centres.
17. Throughout Covid-19 the council entered into a support package and change to the leisure contract by means of a deed of variation. This saw some facilities close earlier specifically over the weekend due to lack of use or limited number of users. The change of operations will have reduced energy use; however, this will have been a relatively low reduction mainly impacting lighting being on or off. The heating and ventilation would have remained in use to ensure the swimming pools remained heated and the building conditions protected for operation.
18. Natural gas consumption within leisure centres can fluctuate dependant on the weather outside and the impact this has on the leisure buildings themselves. This will have had an effect on our energy use when good weather was experienced in 2022/23.

Project Milestones Achieved

19. Officers have completed a number of smaller projects throughout 2021-2023 which mainly considered the upgrading of lighting in all leisure centres to LED. This was to ensure all our leisure facility stock removed all strip and halogen lighting across the estate. The current data we have with the LED installations and upgrading works has currently saved 113,152 kWh per year and can be found in Appendix 5.
 20. The leisure team have used a combination of capital expenditure where projects are a smaller cost to utilising s106 and Community Infrastructure Levy (CIL) funding for larger project work. This has enabled the leisure team to ensure that additional capital has not been used from our reserves and maximised the use of developer's funds to improve the carbon levels at all leisure sites.
 21. Negotiations and forecasted projects have also been agreed by ensuring Oxfordshire County Council (OCC) have contributed to the upgrading of lighting throughout the leisure centres and further decarbonisation work under the Joint Use Agreements (JUA) continue. In many cases the leisure property estate is under JUA leases with OCC for both educational and leisure provision. There are specific commitments and proportionate percentage shares that OCC have as part of their operational responsibility to the emissions of the leisure centres.
 22. It is worth noting that the leisure centre project where OCC have contributed to the overall costs, OCC will have a share of the carbon emissions savings through the JUA.
-

The council will not claim the full carbon savings for these projects in our greenhouse gas emissions reporting. A proportionate share will go to OCC in line with the percentages under the JUA.

23. Whilst Appendix 5 shows a number of LED projects completed Officers have also conducted a number of operational assessments using experts in the field of leisure centre operation. A key project was to conduct a flow testing survey on the swimming pool treatment systems at all swimming pool properties to establish the flow rates achieved at varying motor frequencies.

Key aims of the survey was to:

- Provide information on whether the existing flow rate is suitable to achieve the guidance set out in Pool Water Treatment Advisory (PWTAG) Swimming Pool Water: treatment and quality standards for pools and spas.
- Establish whether there is scope to lower the existing circulation pump speed to achieve a reduction in energy consumption whilst remaining compliant with PWATG's Swimming Pool Water: treatment and quality standards for pools and spas.

From the engineers' report findings, it was found that the circulation pumps turning over the swimming pool water could be significantly reduced at two leisure facilities (Faringdon Leisure Centre and White Horse Leisure and Tennis Centre) both during use and outside of operational hours. The annual reduction in consumption was 165,813 kWh per year through managing a close control on the plant operations.

24. Officers are continually researching options to drive down the carbon emissions across the leisure estate outside of larger project delivery. A recent project completed at the White Horse Leisure and Tennis Centre is the installation of destratification fans. A cases study is currently being formulated on the recent success of the units being installed at the leisure centre

About Destratification:

Thermal stratification is a natural phenomenon that affects all buildings. Hot, lighter air rises towards the ceiling. Cool air falls to the floor. The result is a dramatic temperature difference between the floor and ceiling. This happens significantly with swimming pool environments.

The heating, ventilation systems have to work harder to maintain an even temperature, and consequently energy bills are higher as a result.

Swimming pools have high ceilings and more likely to suffer from extreme temperature differences. Wasted heat will inevitably rise to the top of the ceiling and have the opportunity to increase in temperature by up to 14 degrees Celsius. Conversely, heavier cooled air which is more difficult to distribute is wasted by sinking to low points in a building or by becoming trapped in difficult to circulate areas.

Destratification fan systems that will balance the internal temperatures in the swimming pool hall force the heat from the ceiling down, by recirculating existing heat and any additional heat generated from people, processes or solar gain.

The recent case study data with the newly installed system at the White Horse Leisure & Tennis Centre has shown over the last three months the system has been able to reduce consumption by 108,762 kWh. Showing a pay back on the investment over four to five months from installation. See appendix 6.

Future Project Delivery

25. Recently Officers have worked closely with the Climate Action Team and the External Funding Lead in the submission of an application to draw down Government grant funding in the decarbonisation of two leisure properties (White Horse Leisure and Tennis Centre and Wantage Leisure Centre) through the Salix Finance Phase 3b Scheme.

Both schemes have been successfully awarded the Phase 3b grant. The value of the grant is £6,005,764 with the remaining contribution being funded via CIL contributions.

Salix Finance is managing applications to the Public Sector Decarbonisation Scheme Phase 3b (PSDS3b) on behalf of the Government. PSDS3b aims to tackle emissions from heating public sector buildings, aid a green recovery and support the UK's 2050 net zero target and clean growth goals.

PSDS3b allows public sector bodies to apply for a grant to finance up to 88% of the costs of capital or at a maximum cost of £325/tCO₂e (£325 per tonne of direct carbon saved), for energy-saving projects that meet the scheme criteria. The essential capital projects to decarbonise the above leisure facilities met these criteria.

Overall annual consumption will be reduced from 3.19m kWh to 584,641 kWh at White Horse Leisure and Tennis Centre and from 1.47m kWh to 654,648 kWh at Wantage Leisure Centre an annual saving of 3.42m kWh.

The PSDS3b grant is underway with consultants employed to assist with the delivery of the projects and the design work required to source a main contractor to complete both projects by the end of March 2025.

26. Recently the government's Swimming Pool Support Fund (SPSF) was launched and provides a total of £60 million to local authorities in England as a support package for public leisure facilities with swimming pools and is split into two phases.

- Phase I - Revenue: £20m is available to support facilities with swimming pools with increased cost pressures, leaving them most vulnerable to closure or significant service reduction.
- Phase II - Capital: £40m is available from the government for capital investment to improve the energy efficiency of public facilities with pools in the medium to long term.

Officers have worked closely with the Climate Action Team and the External Funding Lead in the submission of an application to draw down Government grant.

Phase I saw the successful application SPSF of £156,077 in Vale to support GLL in the increased cost pressures.

Phase II application was live on Tuesday 10 October to support with energy reduction measures however as the grant was not made available for the outdoor pools, and all other leisure facilities are currently being substantially upgraded with Salix Phase 1 and Salix PSDS3b grants Vale was not applicable under the process for support. However, the Salix Government grant funding is far greater than that provided through the Phase II SPSF grant, and Officers have been able to complete a whole building approach to these projects rather than just swimming pool specific areas.

Financial Implications

27. This report is for information only and therefore there are no financial implications as part of the update.

Legal Implications

28. There are no legal implications arising from the recommendation in the report which is for information only.

Climate and ecological impact implications

29. The Climate Action Team have been fully engaged with during each stage of the report and supportive of the projects completed. This report is for information only by way of any update of the work currently completed in our trajectory towards net zero.

Equalities implications

30. This report is for information only and there are no equalities implications.

Risks

31. This report is for information only, and therefore no highlighted risk has been made as part of the information supplied.

Conclusion

32. Evidently it can be seen the leisure facilities property teams focus on CAP and the council's own emissions to ensure our operations and service provision are driving down emissions to achieve 75 percent by 2025, and support achieving carbon neutral by 2030.

33. Officers have focused on both the small and large projects of decarbonisation. It has been important to expose the importance of the impact smaller projects can have whilst we strive to find the relevant funding or capital to deliver on the larger projects. This has enabled each and every project to have a larger effect in their delivery.

34. The Salix PSDS3b projects alone will have an overall impact of potentially reduce consumption by a further 3.42m kWh annually.

35. Overall annual consumption will have reduced to 2.03m kWh per year from 7.41m kWh seen in 2019/20.

36. Over 72 per cent reduction of kWh consumption will have been achieved by 31 March 2025 through the delivery of larger projects once the PSDS3b and Phase 1 Salix grant project have been completed.

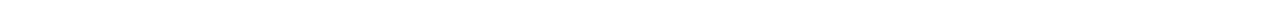
37. The forecast of future reductions in CO2 emissions in this report are based on the best estimates provided by specialist consultants. These are by necessity subject to environmental impacts beyond the Council's control. For example, on the demand side ambient temperature fluctuations will affect the amount of heating required in our leisure centres and on the supply side solar PV electricity generation is largely a function of the number of sunshine hours throughout the year. Officers will continue to monitor actual outcomes against forecasts. Where deemed appropriate officers will consider what other additional technologies could be employed to create reductions in our carbon emissions.

38. There will be a focus on the new leisure contract for September 2026 and work with the Climate Action Team to ensure that the new tenders and incumbent leisure contractor has a direct focus on reducing consumption levels and managed through performance to seek to hit carbon neutrality by 2045. This will be through ensuring Key Performance Target expectations are made at the point of tender, and contractors providing method statements during the tender stages to show how this would be achieved through their quality submission.

39. Continue to support and work with the External Funding Lead to ensure that the process of preparation with any future grant funding opportunities is robust to stand the best chance of success.

Background Papers

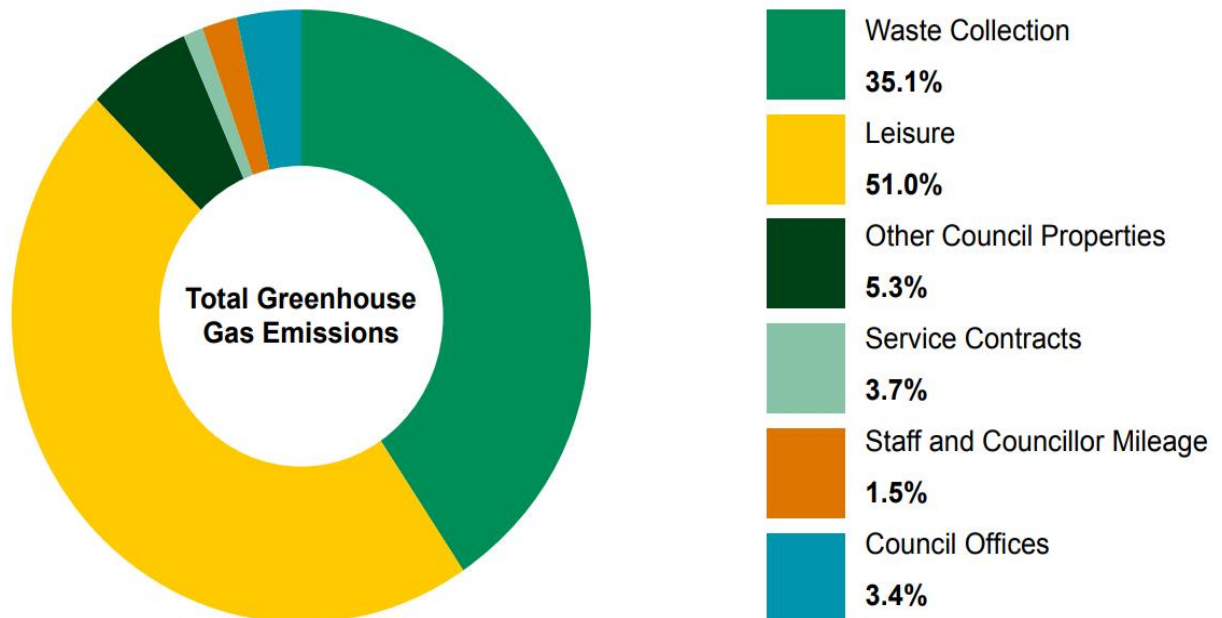
40. There are no background papers as part of this information update



Appendix

Appendix 1

Vale of White Horse District Council Greenhouse Gas Emissions 2019/20

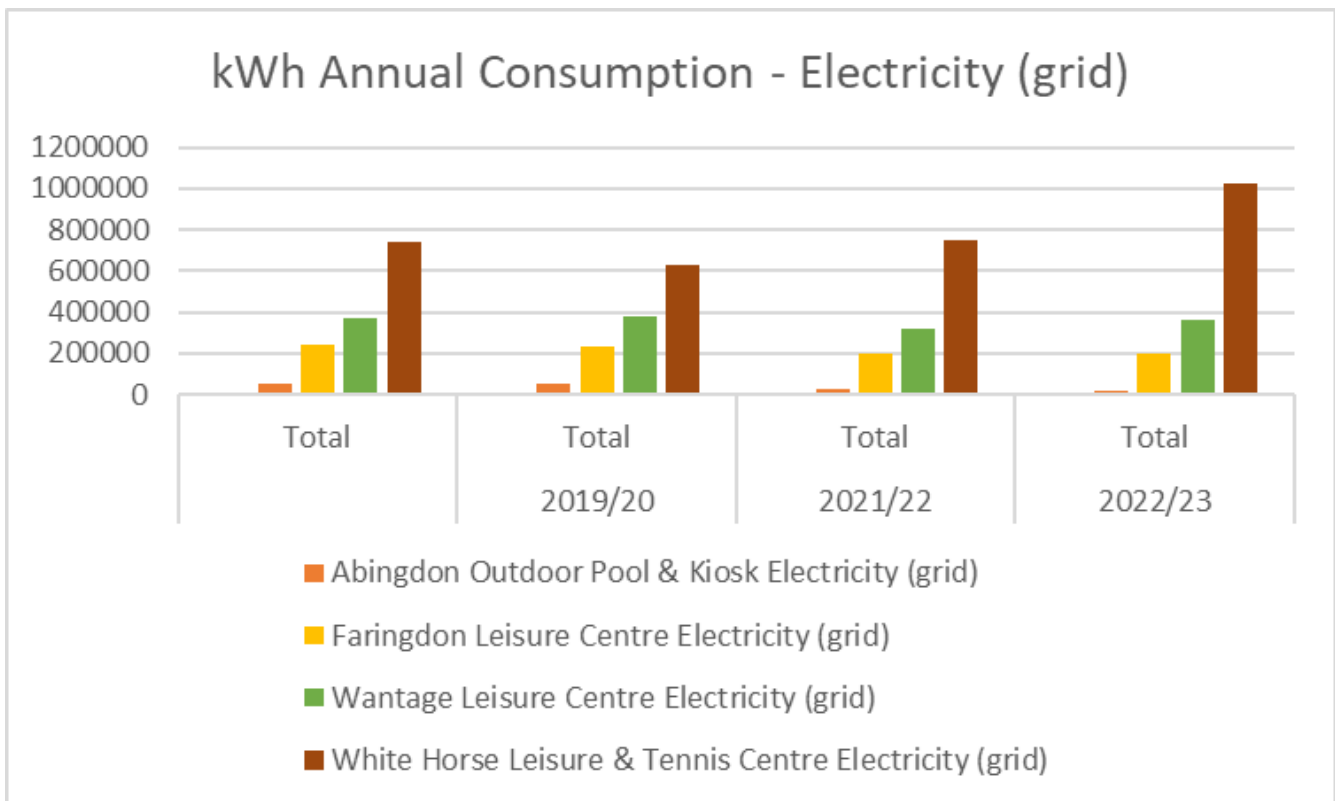
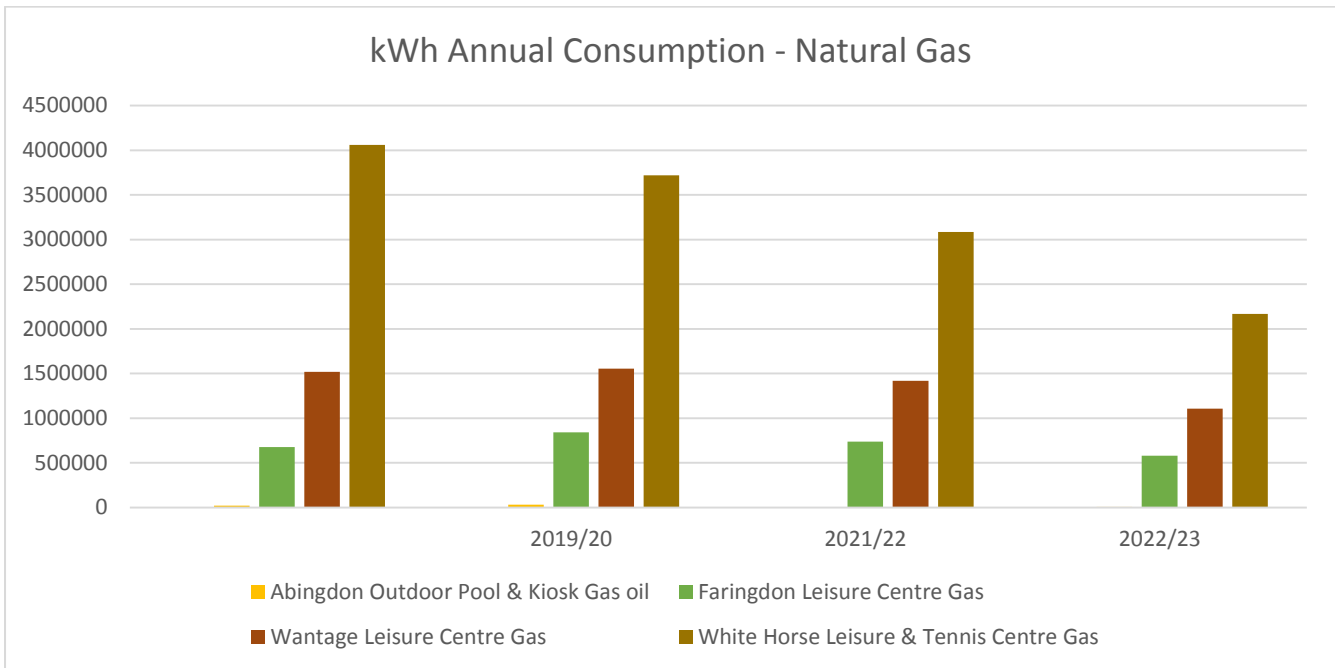


Source: Vale of White Horse District Council Greenhouse Gas emissions report 2019/2020

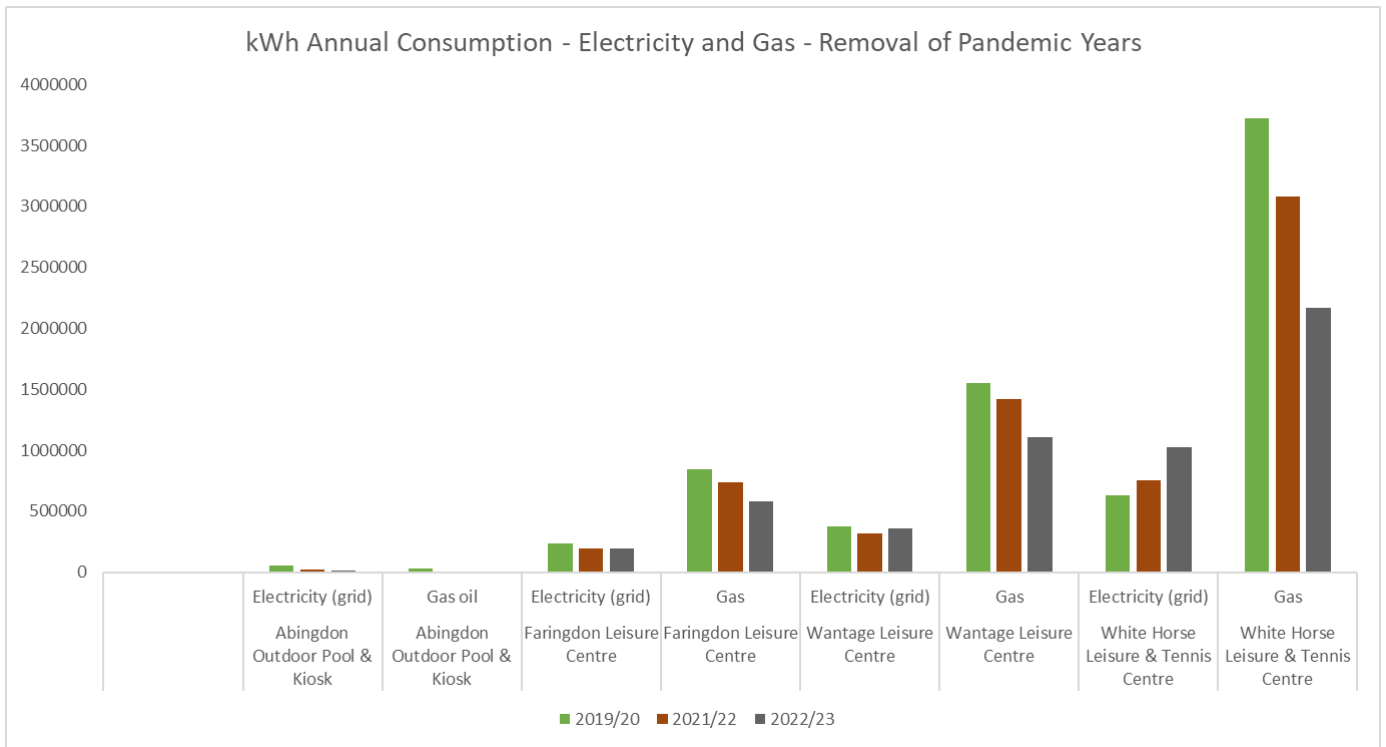
Appendix 2

		2018/19	2019/20	2021/22	2022/23	2023/24 Qtr 2
		Total	Total	Total	Total	Total
Abingdon Outdoor Pool & Kiosk	Electricity (grid)	50,128	54,375	26,465	14,694	5,770
Abingdon Outdoor Pool & Kiosk	Gas oil	20,000	30,000	0	6,303	0
Faringdon Leisure Centre	Electricity (grid)	242,952	234,649	198,704	195,580	42,425
Faringdon Leisure Centre	Gas	677,113	841,022	737,124	577,628	214,882
Wantage Leisure Centre	Electricity (grid)	371,697	376,080	319,859	361,314	162,301
Wantage Leisure Centre	Gas	1,517,121	1,555,746	1,419,143	1,106,209	457,960
White Horse Leisure & Tennis Centre	Electricity (grid)	737,270	632,816	751,405	1,027,810	487,416
White Horse Leisure & Tennis Centre	Gas	4,060,696	3,719,242	3,083,946	2,165,415	751,078
	Electricity (grid)	1,402,047	1,297,920	1,296,433	1,599,398	697,912
	Gas	6,274,930	6,146,010	5,240,213	3,855,555	1,423,920

Appendix 3



Appendix 4



Appendix 5

Vale	2020-24					2023
Centre	Description	Project Cost	Est. Savings Mnthly	Completed	KWh Saving	Current Savings
ABM	Install variable speed drives to pool pumps	£3,673.00		Jul-21		
	Install pool cover	£30,711.00	£1,166.67	Jul-23	7527	£2,333.34
	Flow rate reduction	£383.00	£107.31	Nov-22	10731	£214.62
FLC	Lighting upgrade to dryside changing, reception, corridor, multi-function rm & squash corridor	£5,600.15	£125.00	Oct-22	4838	£1,500.00
	Installation of ASHP and solar PV	£706,000.00	£4,340.83	TBC		
	Flow rate reduction	£383.00	£595.13	Nov-22	59513	£6,546.43
	Upgrade x2 squash courts to LED	£6,556.00	£639.25	May-23		£3,196.25
WLC	Upgrade gym lighting	£4,864.91	£264.39	May-21	12,008	£7,667.31
	Poolhall lighting upgrade	£8,090.41	£501.27	Jul-22	19404	£7,017.78
	Upgrade dance studio lights	£3,763.47	£281.91	Jan-23	9142	£2,537.19
	Lighting upgrade - first floor - LED	£7,496.00	£0.00	Sep-23	0	£0.00
WHLTC	Upgrade car park lighting (main)	£8,545.60	£666.67	Oct-22	12699	£8,000.04
	Upgrade car park lighting (walkway x 8)	£5,801.73	£416.67	Dec-22	6420	£4,166.70
	Pool hall lighting	£57,871.45	£445.88	Sep-22	48641	£5,796.44
	Flow rate reduction	£383.00	£1,063.00	Nov-22	106300	£11,693.00
	Destratification works	£14,135.70	£1,666.67	Jun-23	112000	£6,666.68
	TOTAL	£864,258.42	£12,280.65		409223	£67,335.78

Appendix 6

<u>White Horse Leisure & Tennis Centre - Destratification System</u>												
	May-22		May-23		Jun-22		Jun-23		Jul-22		Jul-23	
	H		H		H		H		H		H	
Predicted allowing for degree days at 10% per degree C												
	211,607		135,861		113,398		91,430		130,820		119,772	
		kWh		%		kWh		%		kWh		%
		-75,746		-0.36		-21,968		-0.19		-11,048		-0.08