Huntingdonshire DISTRICT COUNCIL

Cambridge mc² Management Consulting

Buildings Energy Strategy for Huntingdonshire District Council

Second Draft of Strategy | 16th June 2025

Produced by Cambridge Management Consulting

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Document Control

Issue	Date	Description	Prepared by	Sign off
01	1st May 2025	First Draft of Strategy	Franck Crosnier	Richard Broadhead
02	16th June 2025	Second Draft of Strategy	Franck Crosnier	Richard Broadhead

Project Team

Project Office	Project Contact
Cambridge Management Consulting 20 Garrett Street, London, EC1Y 0TW	Richard Broadhead Managing Partner Rbroadhead@cambridgemc.com +44(0)7884 427892
edenseven 20 Garrett Street, London, EC1Y 0TW	Franck Crosnier Senior Partner fcrosnier@edenseven.co.uk +44(0) 7818 528 175

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1 Executive Summary

1.1 Introduction

Huntingdonshire District Council (HDC) has reaffirmed its commitment to achieving net zero carbon emissions by 2040, as outlined in its Climate Strategy adopted in February 2023. This strategy not only addresses the climate crisis but also integrates environmental goals into the council's broader Place Strategy, ensuring that sustainability is a shared ambition across the district.

To support this goal, HDC has partnered with Cambridge Management Consulting (Cambridge MC) and its sustainability-focused consultancy, edenseven, to develop a comprehensive Buildings Energy Strategy. This strategy aims to enhance the energy efficiency of council buildings, reduce emissions, and identify opportunities for renewable energy installations, thereby delivering both environmental and financial benefits.

Cambridge MC brings extensive experience in strategy, procurement, and technology services, particularly in the energy and utilities sector. Their collaboration with edenseven, which specialises in data-driven sustainability solutions, ensures that the Buildings Energy Strategy is both effective and aligned with HDC's net zero objectives

This initiative is part of HDC's broader efforts to lead by example in tackling climate change, demonstrating how local authorities can implement practical solutions to achieve ambitious environmental targets.

1.2 Approach & Methodology

To ensure that HDC's net zero carbon commitment is credible, science-aligned, transparent, and effective, the Buildings Energy Strategy has been developed in accordance with the UK Green Building Council's (UKGBC) *Guidance on* ***Net Zero Carbon – Operational Energy Framework***.

The Strategy focuses on three critical operational energy areas (shown in Figure 1) that must be addressed to achieve net zero carbon across HDC's property portfolio.

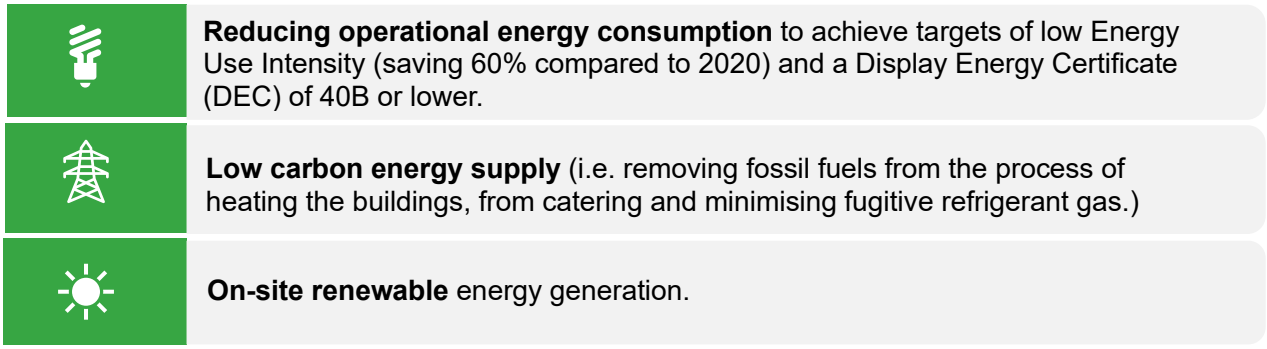
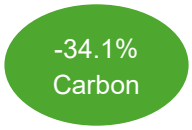


Figure 1: Three Key Operational Energy Areas to Be Addressed to Reach Net Zero Carbon

1.3 HDC's Journey So Far

Carbon emissions

HDC have taken a proactive approach to reducing carbon emissions within their buildings. The data reveals that between 2019/20 and 2024/25, HDC achieved a market-based carbon reduction of 34.1% in building-related emissions. This leaves 1,678 tCO2e still to be eliminated in order to reach net zero carbon.



As of 2025, HDC's buildings account for approximately half of the Council's total carbon emissions.

Notably, just five key sites (filled in blue in the below diagram) are responsible for 87% of total building emissions, making them critical to HDC's net zero strategy.

Analysis of the energy and carbon data indicates that the key challenge at these 5 sites stem from the use of fossil fuels. Transitioning to low-carbon energy sources (e.g. electrification) and maximising on-site renewable energy generation will be critical to HDC reaching their net zero targets.

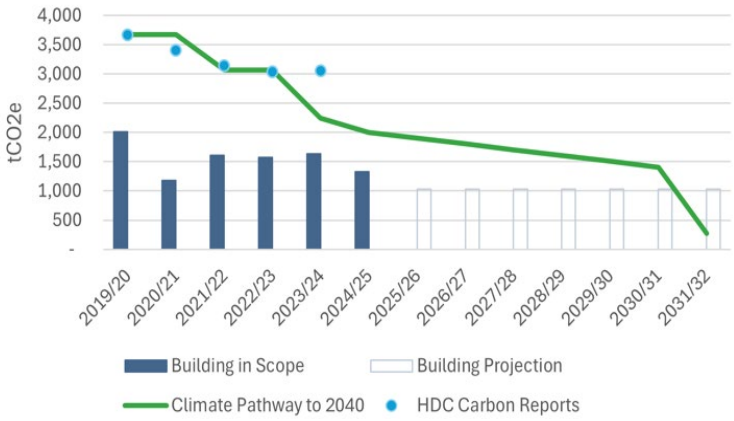


Figure 2: HDC Carbon Pathway and Historic Building Emissions (with Green line from the HDC Climate strategy document and blue dots reflecting total actual CO2 emissions.

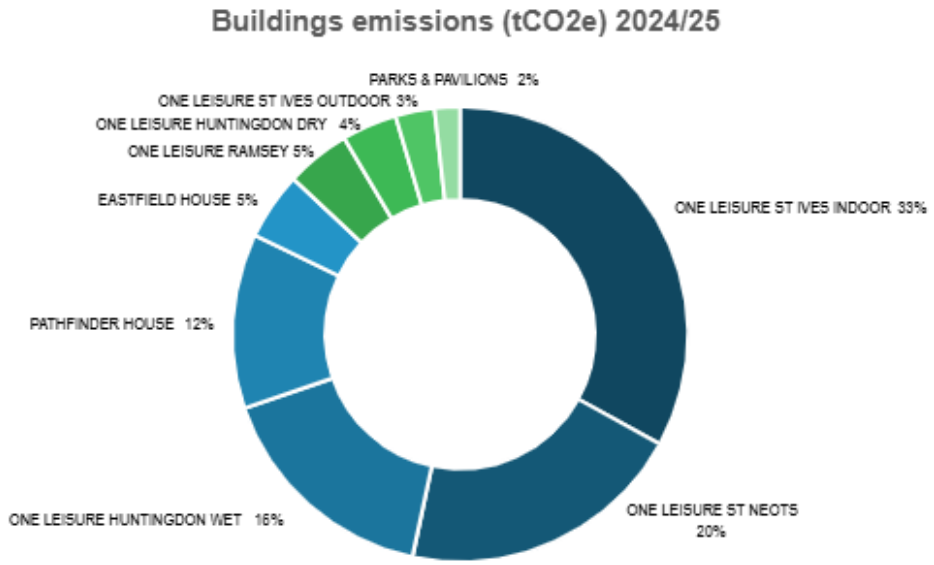


Figure 3 : HDC's Buildings emissions split in 2024/25 (Market Based)

Energy consumption

The Net Zero Pathway also requires meeting increasingly stringent targets in term of energy performance (in kWhe/sqm GIA) and the related Display Energy Certificate (DEC) ratings. To credibly achieve net zero carbon, organisations will need to reduce their energy consumption by approximately 60% on average, compared to typical 2020 levels. HDC's data shows that between 2019/20 and 2024/25, a 9.9% reduction was achieved. While this represents a positive step forward, it highlights the need for accelerated action if future net zero targets are to be met.

-9.9% Energy

Leisure Centres

A detailed analysis of the sites is provided within the report. Unsurprisingly, wet leisure centres, a vital part of the health and wellbeing infrastructure, have been identified as some of the highest energy consumers, presenting the greatest challenge to HDC's decarbonisation efforts. Developing effective, tailored solutions for these facilities will require specialist input from swimming pool and leisure energy experts. In the short term, the Council may wish to review its future plans for these sites and explore opportunities for strategic redevelopment, including the potential replacement of existing centres with newer, significantly more energy-efficient facilities.

This report recommends that due consideration should also be given to **One Leisure St Ives**, which is not only the largest carbon emitter but also a victim of its success, with more visitors, resulting in year-on-year consumptions increases (+12.5% since 2019/20).

Image 1: One Leisure St Ives forms 33% of emissions and continues to see energy consumptions' year on

Minimum Energy Efficiency Standards (MEES)

An unexpected finding of the analysis conducted is **Pathfinder House's** EPC rating D, despite being built in 2007. It is far below the anticipated EPC B requirement by 2030 UK's MEES. To uphold its commitment to lead by example, the Council will need to invest in the short term to bring the site in line with future standards.

Evidence of good practice already delivered

- Since the baseline year of 2019/20, there is clear evidence of proactive energy management, including a strong post-pandemic "reset" and improved control over time schedules. By 2024/25, most buildings had reduced their energy consumption, achieving an average reduction of 9.9% in kWh compared to the baseline.
- Notable success stories include retrofit projects funded through schemes such as the Public Sector Decarbonisation Scheme (PSDS), which have delivered significant improvements (see the One Leisure Ramsey case study, right).
- Equally, it is commendable that HDC kept
- momentum by recently using the Low Carbon Skills scheme to fund feasibility studies and RIBA Level 4 design of heat electrification for 3 critical sites.
- The Council's adoption of a green tariff with Total Energy, effective from October 2024, has also begun to show measurable impact. While location-based emissions have fallen by 16.7%, HDC can now report a 34.1% market-based reduction compared to the 2019/20 baseline.

One Leisure Ramsey Success Story

With a £2.3m investment in air source heat pumps, new glazing, and roof insulation in 2022, the leisure centre has seen a reduction of carbon emissions of 47.6% (from 48.1% energy savings in kWh).

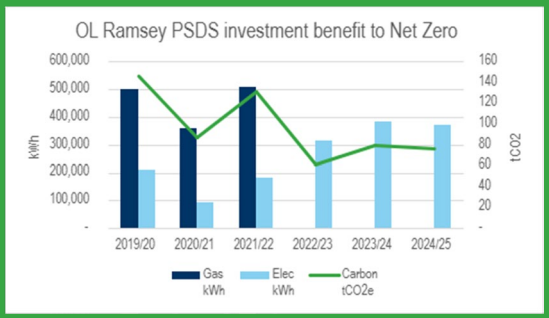


Figure 4: OL Ramsey PSDS Investment Benefit to Net Zero

1.4 HDC Buildings Net Zero Carbon Roadmap

The Energy Buildings Strategy sets out for HDC a multi-step approach which will create the momentum and change needed to successfully decarbonise the estate. A roadmap has been developed, outlining the key steps for HDC to achieve net zero carbon emissions by 2040.

The Buildings Energy Strategy document highlights five priorities:

1. Review HDC's corporate buildings strategy to focus on retained sites
2. Electrification of heat by 2033, in line with the HDC Climate Strategy.
3. Reduce energy consumptions by 60% by 2040
4. Procure electricity from renewable sources
5. Improve the EPC rating of Pathfinder House in advance of imminent MEES regulation evolution

The below diagram (Figure 5) presents the buildings pathway, when focussing on the second priority, which is to remove fossil fuel from site, through heat electrification (note: “market-based emissions” method accounts for the benefit of procuring energy from specific sources such as renewable). Ultimately the UK grid will be 100% decarbonised and all electricity will have zero carbon emission factor. In the meantime, HDC needs to procure green energy when possible.

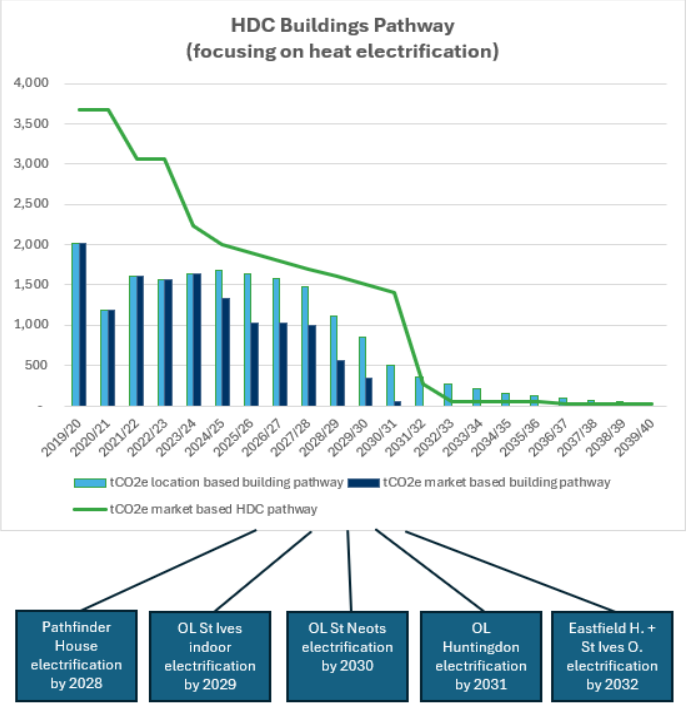


Figure 5: HDC Buildings Emission Pathway when focusing on heat electrification.

Energy Management System (EnMS)

Truthfully, the achievement of HDC’s targets will rely on more robust governance in an EnMS underpinned by clear definitions of roles and responsibilities within HDC’s leadership.

With the benefit of a Buildings Net Zero Carbon Steering Group setting directions, the team managing the EnMS will develop realistic plans supporting an investment decision making process within HDC’s affordability.

Also, the EnMS will support a culture of energy performance improvement that depends upon commitment from all levels of the organisation, especially top management

The below diagram summarises our call for a structured EnMS with governance enabling communication, collaboration and action.

Buildings NZC Steering Group

Key HDC stakeholders need to agree the **directions and milestones of the Net Zero Carbon Buildings strategy**

This needs to be overlayed with a **Corporate buildings planning strategy view**

Definition of **Responsible & Responsibilities** is crucial to improve accountability and transparency.

Reporting governance will ensure progress and management of risk or dependencies (this will flow from the set up of an Energy Management System).

Energy Management System

Adopting the ISO50001 principles will set an **Energy Management System (EnMS)** with a Plan-Do-Check-Act cycle.

With the benefit of the EnMS framework they will determine the time and resources (internal or external) needed to:
- Improve **monitoring and targeting**
- Improve **engagement** with stakeholders and occupiers
- Identify the **surveys** (condition and feasibilities) and **design** requirement for targeted retrofits projects

This structured approach will help the FM and Energy Management teams **review and present the necessary Detailed Individual Building Energy Strategy**

Investment Plan

Achieving Net Zero Carbon – Operational Energy will require targeted funding with **accurate financial modelling to understand payback, when applicable.**

Seed funding is required for :

- asset condition surveys to identify lifecycle expired or obsolete plants wasting energy.
- retrofit feasibility surveys (such as these already commissioned through the Low Carbon Skills Fund)

A consolidation of the project business cases will support the prioritisation of application for funding, which will be periodically reviewed and sanctioned by the Buildings NZC Steering Group.

2 Climate Strategy

On Wednesday 22nd February 2023, Huntingdonshire District Council (HDC, "the Council"), at a Full Council meeting, formally recognised a Climate Crisis and Ecological emergency in Huntingdonshire and adopted a Climate Strategy setting out the priorities to achieve the commitment of net zero carbon council by 2040. HDC wishes to be a positive example to others by reducing their own emissions and adapting their service to the changed climate.

HDC's Climate Strategy highlights the need to embed a Carbon Net Zero vision in all policies, actions delivered through spending wisely, and systemic change.

The following six themes underpin HDC's Climate Strategy:

- Buildings
- Community
- Energy and Renewables
- Nature
- Travel and Transport
- Waste, Recycling, and Resource Management

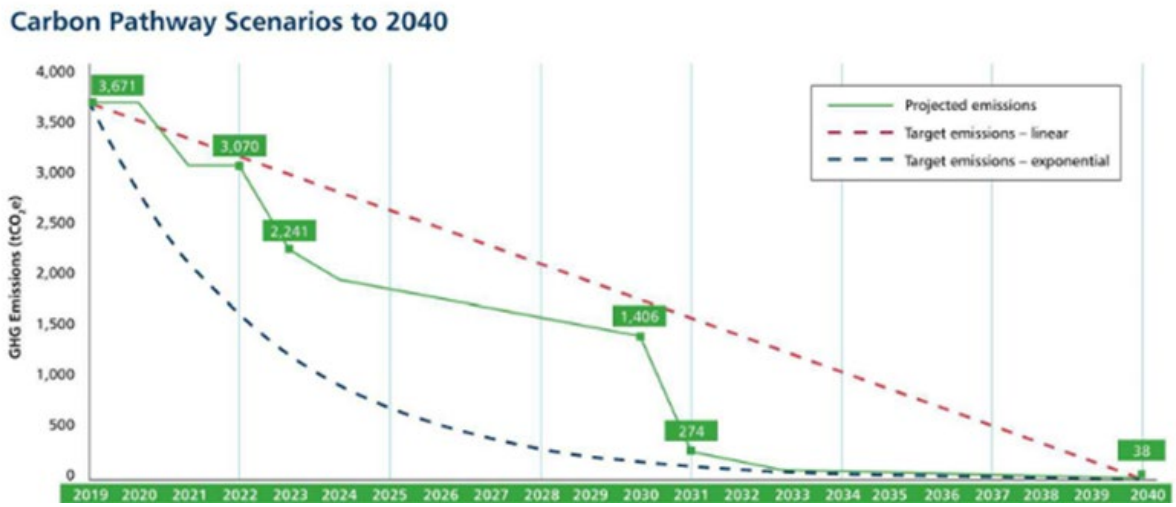
Why is this important?

The 2021 IPCC report stated unequivocally that human activities are responsible for global temperature increases and that, unless immediate, rapid, and large-scale reductions in greenhouse gas emissions are made, limiting warming to 1.5°C or even 2°C will be beyond our reach, resulting in catastrophic climate change impacts.

In response to this Climate Emergency, organisations and developments across the UK are defining their decarbonisation pathways and implementing mitigation measures to achieve net zero carbon.

It is recognised that buildings and utilities are amongst the biggest contributors to the Council's emissions. It is therefore critical to ensure that HDC's building and energy plans become as environmentally sustainable as possible. It is also considered critical that any adaptation of buildings should make the services more resilient to prepare for the impacts of climate change.

The below Carbon Pathway Scenario to 2040, forming part of the Climate Strategy document highlights the criticality of initially identified installation of heat pumps, the implementation of an energy strategy and the completion of heat electrification by 2033.



3 Buildings Energy Strategy Document Scope

This document is designed to review the HDC roadmap in relation to Buildings, Energy, and Renewables. It will reflect on the progress made since 2018/19 (the baseline of the Council's Net Zero Pathway) and propose steps to bridge the gap to Net Zero by 2040.

This Net Roadmap is a bespoke plan for HDC and intended to meet operational net zero, as defined by the UK Green Building Council (UKGBC). It has been developed based on the methodology shown in the figure below.

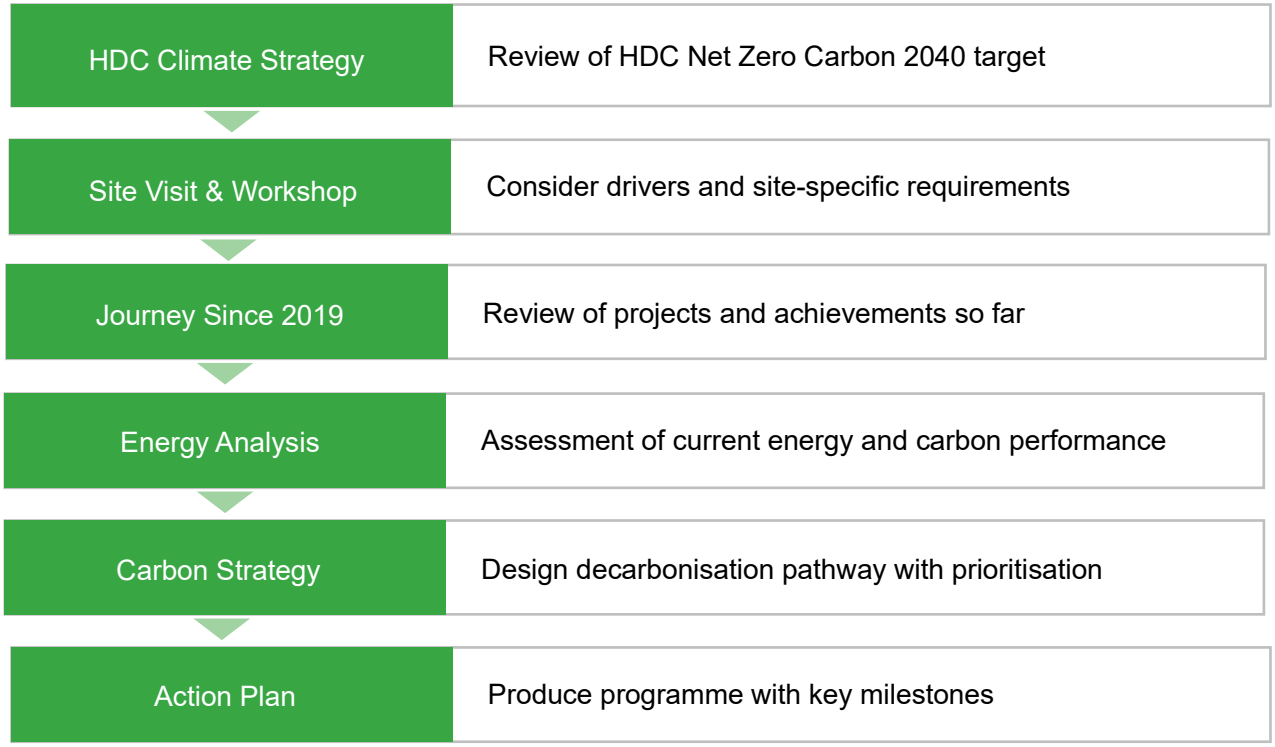


Figure 6: Methodology Used to Develop a Bespoke Plan for HDC

This document meets the key requirements of HDC's brief:

- Makes reference to HDC's climate strategy objectives.
- Builds a high-level assessment of the status of the main real estate assets within HDC's property portfolio (from a sustainability perspective).
- Highlights progress made to date across HDC's main real estate assets within the property portfolio (relating to the journey to net zero).

3.1 Buildings in Scope

Corporate Sites	Leisure Centres	Parks and Pavilions
Pathfinder House	One Leisure St Ives	Hinchingbrooke Country Park
Eastfield House	One Leisure St Ives Outdoor	Paxton Pits
	One Leisure St Neots	Sapley Pavilion
	One Leisure Ramsey	Priory Park
	One Leisure Huntingdon	

Table 1: HDC Buildings in Scope

3.2 Definition of Net Zero

In their initial Climate Strategy document, HDC identified the general direction of their Net Zero Carbon target by 2040, with key enablers including:

- Improve the energy efficiency of Council buildings
- Stop using gas for heating
- Look for opportunities to install renewable energy generation on our land and buildings.

A comprehensive definition of Net Zero Carbon is required to clearly define the Council's commitment. It is widely accepted that UK Green Building Council (UKGBC) offers a framework reflecting current industry best practices.

This definition is aligned with a 'Paris Proof' 1.5°C carbon reduction trajectory and encompasses whole life carbon — comprising both operational emissions (e.g. energy use) and embodied emissions (e.g. those associated with materials used in refurbishment).

At this stage, it is recommended that HDC focuses on operational emissions including renewable energy. HDC should therefore refer to their target as "**Net Zero Carbon – operational energy**".

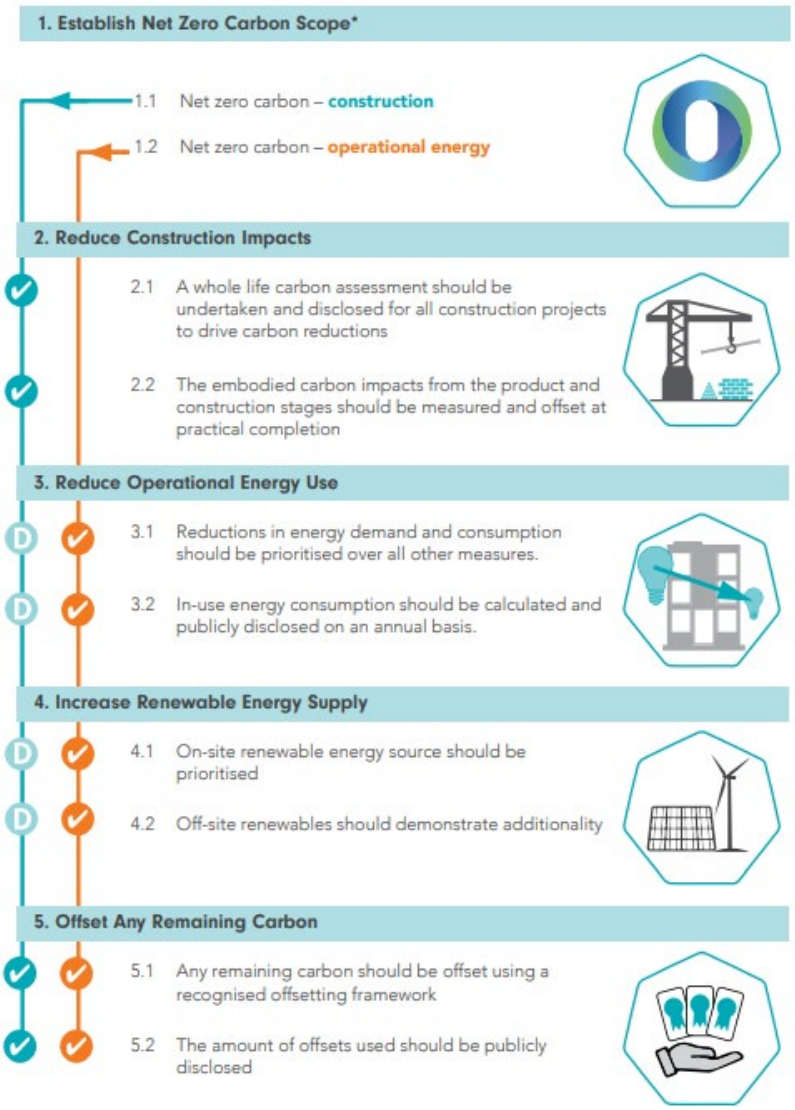


Figure 7: Steps to Achieving a Net Zero Carbon Building published by the UK Green Building Council

Nonetheless, reporting on embodied carbon in construction and retrofit activities will increasingly become part of good governance. Addressing these emissions is critical to developing a complete picture of HDC's whole life carbon footprint and is a prerequisite for achieving a genuine Net Zero Carbon status. This, in turn, will require the integration of circular economy principles and strategic, forward-looking real estate planning.

3.3 Achieving a Net Zero Carbon building – Operational Energy

The main areas to address to achieve Net Zero Carbon are:

- Reducing operational energy consumptions;
- Low carbon energy supply;
- Onsite renewable energy generation.

The UK Green Building Council framework provides a pathway and key metrics to plan your decarbonisation, with recognisable building blocks enabled by Strategy, Engagement, Governance, Energy Management, and Retrofit projects.

Figure 8: The enablers and initiatives HDC can use to reach their net zero carbon targets

Below, we explore the key performance indicators and their relevance to HDC.

3.3.1 Energy Usage Intensity (-60%):

While low carbon energy fuel sourcing strategy and on-site renewable energy generation are intuitively linked to a Net Zero strategy, the significance of reducing operational energy consumption must be understood too.

In a Net Zero Carbon economy, with a switch to electricity as the main fuel source, minimising the demand on the grid is critical. It will be achieved by initially focusing on energy efficiency and demand reduction.

In the UKGBC "Net Zero Carbon Building: A framework definition", **a target of 60% energy reduction is set for commercial offices between 2020 and 2050**. Figure xx provides milestones underpinning the target and likely to inform government strategy in term of Minimum Energy Efficiency Standard.

		Interim Targets			Paris Proof Target
Scope	Metric	2020-2025	2025-2030	2030-2035	2035-2050
Whole building energy	kWh_e/m^2 (NLA) / year	160	115	90	70
	kWh_e/m^2 (GIA) / year	130	90	70	55
	DEC rating	D90	C65	B50	B40

Figure 8 : UKGBC "Net Zero Carbon Building" metrics

This should serve as guidance for most buildings including leisure centres.

Offices - For offices, the requirement is an Energy Use Intensity of 55 kWhe/sqm (GIA). To illustrate the challenge of this target, Pathfinder House present a relatively good performance by today's standard, for a commercial office with a sizeable comms room. However, its current EUI is 170.81 kWh/sqm/year, three times more than required to achieve Net Zero.

Leisure centres - The UKGBC has not yet published specific Energy Use Intensity (EUI) targets for leisure centres and warehouses. However, the forthcoming UK Net Zero Carbon Buildings Standard aims to provide EUI benchmarks for approximately 30 building types, potentially including leisure facilities. In the interim, the Greater Cambridge proposed policy CC/NZ: Net zero carbon new buildings suggest an EUI target of 100 kWh/m²/year (GIA) for leisure buildings. The current average of HDC's leisure centres is 383 kWh/m²/year (GIA). It is recognised that wet leisure centres have significantly higher energy demands for water heating and ventilation. As a result, achieving net zero carbon will require a combination of on-site renewable energy generation and off-site renewable energy sources to meet their energy needs.

Warehouses - For light industrial use buildings, the Greater Cambridge proposed policy CC/NZ: Net zero carbon new buildings suggest 110 kWh/m2/year. However, UK warehouse associations currently consider it efficient to target an EUI below 80 kWh/m²/year (GIA). Eastfield House's EUI in 2024/25 is 118 kWh/m²/year (GIA). Using the general guidance of a 60% reduction compared to 2020, Eastfield House should achieve 55 kWh/m²/year (GIA).

Staying informed about upcoming UKGBC guidelines will further aid in aligning with national net zero objectives.

Property	EUI 2019/20	2024/25	Targets EUI 60% of 2020	EUI Recommended	DEC
Pathfinder House	217	171	87	55	40B
Eastfield House	138	118	55	55	40B
One Leisure St Ives Indoor	417	469	167	167	40B
One Leisure St Ives Outdoor	278	219	111	111	40B
One Leisure St Neots	562	459	225	225	40B
One Leisure Ramsey	429	223	172	172	40B
One Leisure Huntingdon Dry	599	543	239	239	40B
One Leisure Huntingdon Wet	incl. in Dry	incl. in Dry			40B
Hinchingbrooke Country Park Café	128	169	51	51	40B
Hinchingbrooke Country Park Visitor Centre	82	156	33	33	40B
Little Paxton Visitor Centre	24	109	10	10	40B

Pavilion Sapley Park			-	-	40B
Pavilion Priory Park (Old)			-	-	40B
Pavilion Priory Park (New)			-	-	40B
Pavilion Hartford Road Huntingdon	14	2	5	5	40B

Table 2: HDC properties target EUI and DEC Scores

3.3.2 Building Efficiency Target (Display Energy Certificated <40B):

UKGBC have determined that all buildings need to improve their efficiency to a Display Energy Certificate (DEC) rating of 40B or below. The current typical level is 100D. The below heatmap presents how the HDC estate in scope is positioned in relation to the 40B rating target.

It should be noted that DEC takes in consideration actual energy consumption. This sometimes results in poor rating for buildings otherwise considered efficient. This is the case of Eastfield House, with a 76D DEC but a B EPC rating.

The UKGBC interim targets are:

- 2025-2030 - 65C
- 2030-2035 – 50B
- 2035-2050 – 40B

Low Challenge (DEC <40B)	Medium Challenge (DEC C)	High Challenge (DEC D+)
One L Huntingdon (40B)	Pathfinder house B, C & D (70C) One L St Ives outdoor (53C) One L St Ives (54C) One L St Neots (63C)	Eastfield House (76D) Pathfinder house E (116E)

Table 3: Current DEC Ratings for HDC Properties (Buildings with surface area <250 sqm are currently exempt of DEC rating, and therefore not included).

3.3.3 Electrification of Heat

To meet the UK's legally binding Net Zero emissions target by 2050, businesses must transition away from the use of fossil fuels and adopt electricity generated from renewable sources.

Switching to clean heating and cooking technologies offers a wide range of co-benefits for businesses. Electrically powered heating systems, such as heat pumps, can achieve efficiencies of over 300%, compared to less than 100% for even the most modern gas boilers. This means that every 1 kWh of electricity used by a heat pump can generate approximately 3 kWh of heat, significantly reducing overall energy consumption and operational emissions.

Cooking and catering with gas also contribute significantly to the UK's greenhouse gas emissions, making continued reliance on gas incompatible with a Net Zero future. Phasing out gas appliances in favour of electric alternatives, such as induction hobs and electric ovens, not only reduces emissions but

also delivers additional advantages, including improved indoor air quality, greater energy efficiency, and enhanced safety in commercial kitchens and catering operations.

As the UK's electricity grid continues to decarbonise with the rapid integration of renewable energy technologies, the emissions associated with electric heating and cooking will continue to decline sharply. In contrast, emissions from gas will remain persistently high, reinforcing the urgent need for businesses to accelerate electrification. A widespread shift to electric heating and catering technologies is therefore essential, not just to meet regulatory climate targets, but to future-proof operations, improve working environments, and demonstrate leadership in the transition to a low-carbon economy.

The following table summarises the current state and will inform the investment plan:

Site	Heating with Natural Gas	Cooking with Natural Gas
Pathfinder House Block B, C & D	✓	✗
Pathfinder House Block E	✗	✗
Eastfield House	✓	✗
One Leisure St Ives	✓	✓
One Leisure St Ives Outdoor	✓	✓
One Leisure St Neots	✓	✗
One Leisure Ramsey	✗	✗
One Leisure Huntingdon	✓	✓
Hinchingbrooke Country Park	✗	✗
Paxton Pits	✗	✗
Sapley Pavilion	✗	✗
Priory Park	✗	✗
Huntingdon (Riverside) Pavilion	✗	✗

Table 4: Use of natural gas in HDC properties (Sites using gas for heating or cooking are indicated with a red tick, sites without gas are indicated with a green cross)

3.4 Minimum Energy Efficiency Standard (MEES) consideration (EPC <B)

To contribute toward a Net Zero economy, the UK government has defined legal standards, MEES, underpinned by the Energy Performance Certificate (EPC).

The Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015 applies to non-domestic buildings.

At present it is not a legal requirement for local authorities. However, MEES can apply when HDC is leasing out space to a third party, and HDC's Climate Strategy adheres to the principle that local authorities are expected to lead by example.

From the 1st April 2023, all non-domestic buildings must have an EPC rating of at least E. The government has proposed tightening MEES in the future, with a target of C by April 2028 and B by April 2030 (subject to consultation and confirmation, likely to delay the timeline by 12-18 months).

Table 5 represents a heatmap where HDC's estate is positioned in relation to the MEES trajectory. This categorisation may be used to prioritise investments in the next years leading to 2030.

	Low Challenge (EPC B)	Medium Challenge (EPC C)	High Challenge (EPC D+)
Low Impact	Hinchingbrooke Country Park		Paxton Pits Sapley Pavilion Priory Park Riverside Pavillion
Medium Impact			One L Ramsey
High Impact	Eastfield House One L St Ives One L St Ives Outddoor One L St Neots	Pathfinder House E One L Huntingdon	Pathfinder House B,C&D

Table 5: HDC Property Heatmap Against Mees Trajectory

3.5 Carbon Emissions Portfolio View

HDC's Climate Strategy includes a Carbon Pathway Scenario to 2040 from 3,671 tCO2e in 2019/20 (the Baseline). The annual reporting indicates that the Council was on track with the Climate Carbon pathway until 2022/23 but fell short of expectations in 2023/24.

From the Baseline to 2023/24, buildings have remained at 51-55% of the Council's actual total carbon emissions (with the exception of the year of pandemic when the ratio dropped to 35%).

Had the Council met its "Climate Pathway Scenario to 2040" target for 2023/24, buildings would have represented 73% of total emissions.

Entering in an agreement with Total Energy to buy green electricity from October 2024 will greatly contribute to reducing the impact of buildings in HDC's Carbon Pathway, in both absolute and relative terms. However, to stay on track, there is a clear requirement to accelerate building decarbonisation through enhanced energy management, retrofits, and renewable energy.

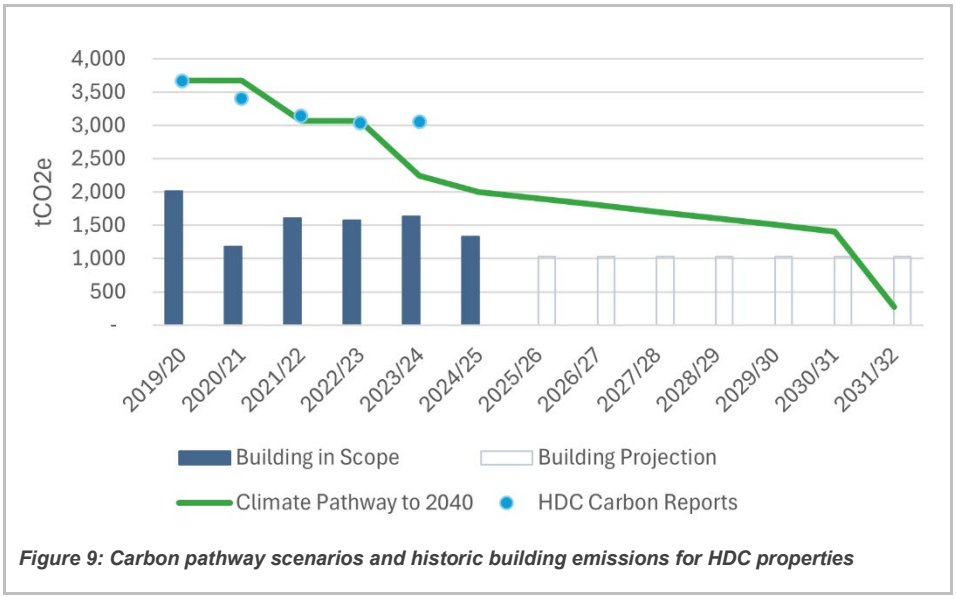


Figure 9: Carbon pathway scenarios and historic building emissions for HDC properties

A review of total energy consumptions (kWh gas and electricity) between the 2019/20 Baseline and 2024/25 shows a saving of 9.9%.

In terms of carbon emissions, this translated ton a reduction of 16.7% (Location-based emissions). When taking into account the Green Electricity tariff taking effect in October 2024, the emission reduction improves to 34.1% (Market-based emissions).

The 34.1% carbon emission reductions are comprised of:

- 5.1% from PSDS projects (£3,783k investment at Pathfinder House and OL Ramsey);
- 3.9% from other changes in demand (electricity and gas);
- 17.4% from Total Energy deal, which came into effect in October 2024, and only impacts for 6 months;
- 7.8% from electricity grid decarbonisation and change in gas emissions factors.

Figure 10: Building Carbon Emission Changes From 2019/20 To 2024/25

Some buildings have performed much better than others. A focus on **the 5 buildings, that generate 87% of HDC's building emissions**, shows a particularly challenging situation at One Leisure St Ives Indoor. This should inform the strategy to focus on the sites having the most impact and underperforming.

	2024/25 vs 2019/20 kWh	2024/25 vs 2019/20 tCO2e
All buildings	-9.9%	-16.7%
Pathfinder House	-21.3%	-29.9%
One Leisure St Neots	-18.2%	-23.9%
Eastfield house	-14.8%	-25.3%
One Leisure Huntingdon (Wet)	-3.4%	-4.8%
One Leisure St Ives indoor	+12.5%	+4.4%

Table 6: kWh and tCO2e (market based) at the 'Big 5' HDC buildings

It should be noted that the 2024 numbers do not benefit yet from a series of RE-Fit, PSDS, and Swim England Funding projects undertaken since 2023 (see project pathway section 4.3).

3.6 Evidence of Energy Management

The reporting period from the Baseline of 2019/20 to 2024/25 shows a 9.9% reduction in energy consumption. This comes from a 13.8% reduction of gas consumptions and 1.7% of electricity consumptions.

Most of the savings can be attributed to a proactive reset post-pandemic. It could also be argued that changes in demand (e.g. new ways of working and using buildings) have contributed. However, it should be noted that, as the estate ages, there is a decline in building performance. To avoid an adverse trend, HDC are actively applying and securing funding for projects (e.g, new AHU, variable speed drives, and solar PV) through schemes such as Salix or Re-fit (see "Project Pipeline").

Year	Combined kWh
2019/20	9,723,967
2020/21	5,842,591
2021/22	8,329,197
2022/23	8,429,498
2023/24	8,506,056
2024/25	8,763,051

Table 7: Combined kWh by Year

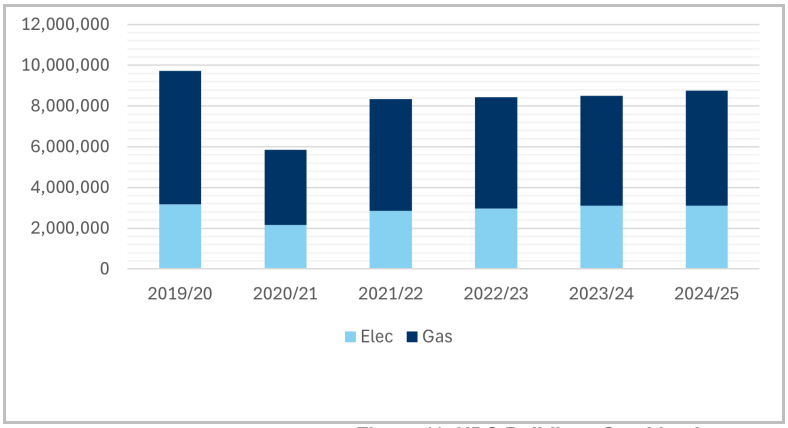


Figure 11: HDC Buildings Combined Electricity and Natural Gas kWh

There is also evidence of proactive energy management, as illustrated in the below daily energy consumption profiles of the "Big 4" buildings forming 80% of HDC's emissions.

Patterns of consumptions across the sites demonstrate some alignment with occupancy levels over the 48 half-hourly periods of the day. However, one of our recommendations will be to increase governance and building control strategies to reduce the baseload consumption.

The initial focus will have to be outside normal working hours and on bank holidays, when significant savings can be achieved. Also, better submetering would help understand the profile of consumptions from large energy consuming assets such as swimming pools.

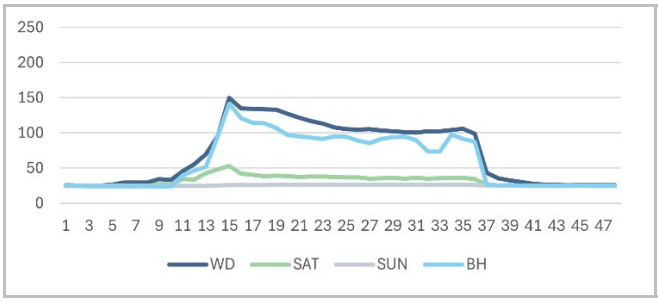


Figure 12: Pathfinder House 2024/25 Combined kWh Daily Profile

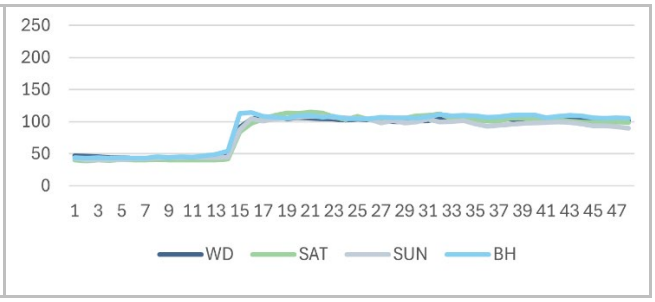


Figure 13: OL Huntingdon(wet)2024/25 Combined kWh Daily Profile

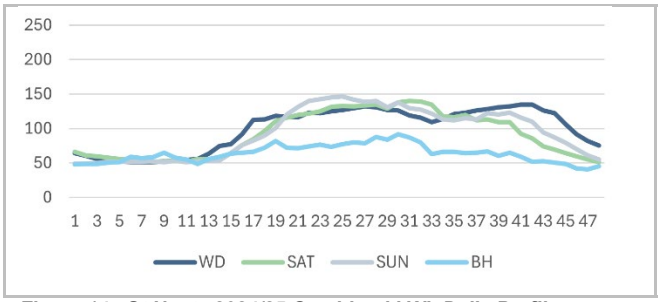


Figure 14: St Neots 2024/25 Combined kWh Daily Profile

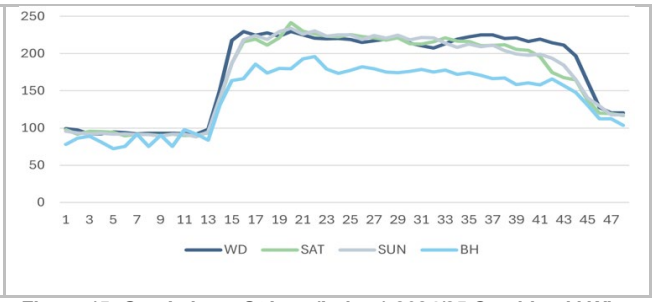


Figure 15: One Leisure St Ives (Indoor) 2024/25 Combined kWh Daily Profile

3.7 Projects Undertaken to Date

Over the years, HDC has proven particularly proactive and successful in securing funding from schemes available to local authorities. The below table provides a summary of such projects ranging from adopting current technology such as variable speed drives to major retrofit (e.g. partial electrification of heat at Pathfinder house) and renewable energy solutions.

Value	Details	Sites	Completion (date or period)
Salix	The Salix scheme is a government support scheme that provides capital investment which is matched by the public Sector organisation. This scheme was a15-year scheme which closes on 31st March 2025		
£ 676,556	Variable Speed Drives	Leisure centres	April 2010
	PIR	Leisure centres	April 2010
	Pool covers	Leisure centres	April 2011 & April 2012
	AHU upgrades	Leisure centres	2012 & 2014
	AHU Motor replacement	Eastfield House	September 2021
	LED upgrade	All	Various dates
	Booster pump upgrades	Pathfinder House	May 2024
	Booster pump upgrades	Eastfield House	December 2020

Public Sector Decarboni-sation Scheme	This scheme provides Public Sector bodies funding for heat decarbonisation and energy efficiency measures		
£ 2,269,193	Air source heat pump x 2, new BMS, Fan coil units replacement, new glazing, cavity wall insulation, roof insulation	One Leisure Ramsey	2021
£ 1,513,770	Electrification of heat, New energy management system, 4x AHUs, 2 x ASHP, New ICT Chillers, BMS	Pathfinder House	2021
RE-Fit Project	Phase 2, to support sites with energy saving measures across the country. This scheme was £60 million		
£ 650,000	Roof mounted solar PV	Leisure centres	2016
	LED Lighting	Leisure centres	2016
	CHP	One Leisure St Neots	2016
	Building Energy Management System	Leisure centres	2016
	HVAC insulation	Leisure centres	2016
	Pool Pump controls	Leisure centres	2016
	Mechanical works on boilers	Leisure centres	2016
£ 650,000	Carport solar canopies	One Leisure St Ives	31/03/2025
£ 50,000	Triple glazing windows	One Leisure St Ives	31/03/2025

Table 8: HDC Projects Completed between 2010 and 2025

Examples of proactive initiatives:

- Enhancement funded through savings made in annual funding cycles such as compartmentation of space between offices and atrium, with the effect of improving control of heating and air conditioning distribution in the Civic Centre.
- Negotiation of a 100% electricity tariff with Total Energy in September 2024 for two years, resulting in zero scope two market emissions

It is also very commendable to note the proactive funding of feasibility surveys and detailed design toward future retrofit. The business cases from the below RIBA stage 4 design for heat electrification will be inserted in the project pipeline, reducing time to procurement when the decision to progress is made.

Value	Scheme/Study	Site
Low Carbon Skills Fund	A government grant that enables public sector organisations the ability to access skills and expertise to unlock heat decarbonisation plans. Through this scheme we have been able to gain RIBA stage 4 designs for heat electrification	
	Decarbonisation Feasibility Studies s.	Conducted for Pathfinder House, Eastfield House and our Leisure Centre
	RIBA stage 4 level designs for heat electrification	Pathfinder House
	RIBA stage 4 level designs for heat electrification	Eastfield House
	RIBA stage 4 level designs for heat electrification	One Leisure Huntingdon Dry side

Table 9: Low Carbon Skills Fund projects

4 Proposed Way Forward

A review of net zero best practice has informed the overall HDC net zero definition and the required EUI reduction targets and DEC score for each building. A site visit and desktop energy analysis were carried out to identify suitable potential energy and carbon reduction strategies. These were then collated into fact sheets and suggested priorities for the development of bespoke decarbonisation plans.

4.1 High Level Summary

To better assess the key risks and emissions profile of each site, including GHG emissions, energy consumption, reduction project effectiveness, and overall impact, each location was assigned a score out of 11 across three criteria: **GHG Emissions Reduction (2019-2024), Energy Usage Reduction (2019-2024), and Relative Carbon Impact (tCO_2).** Each site's scores across these three categories were summed to generate a final ranking, providing a data-driven view of performance and risk.

The weighted criteria was calculated as detailed in the table below.

Criteria	GHG Emissions Reduction (2019/20-2024/25)	Energy Usage Reduction (2019/20-2024/25)	Relative Carbon Impact (tCO_2)
Overview	*Scored out of 3.* This metric measured the percentage reduction in emissions relative to baseline levels.	*Scored out of 3.* This assessed the percentage decrease in energy usage from baseline levels.	*Scored out of 5.* This evaluated each site's contribution to HDC's total carbon footprint, helping to prioritise high-impact sites.
Scoring	Less than 29% reduction: 1 (Low) 30% - 45% reduction: 2 (Medium) More than 46% reduction: 3 (High)	Less than 19% reduction: 1 (Poor) 20% - 30% reduction: 2 (Moderate) More than 31% reduction: 3 (Good)	Over 200 tCO_2: 1 (Very High) 91 - 200 tCO_2: 2 (High) 41 - 90 tCO_2: 3 (Medium) 11 - 40 tCO_2: 4 (Low) 10 tCO_2 or less: 5 (Minimal)

Table 10: Weighted Score Criteria Used to Assess Key Risks and Emissions Profile at Each HDC Site

The table below shows the scoring attributed to each site.

Site	Share of Total GHG Carbon Emissions	GHG Change (2019/20-2024/25) *Market Based*	Score GHG Reduction (2019/20-2024/25) *Market Based*	Energy Change (2019/20-2024/25)	Energy Use Reduction (2019/20-2024/25)	Gas C Cooking H Heating	Relative Carbon Impact (tCO2e)	Score (Out of 11)	Carbon Emissions (2024/25) (tCO2E) *Location Based*
Pavilion Hartford Road Huntingdon	0.0%	-94%	Good	-82%	Good	N	Minimal	11	0.1
Pavilion Sapley Park	0.0%	-86%	Good	-43%	Moderate	N	Minimal	10	0.5
Hinchingbrooke Country Park Café	0.2%	-69%	Good	32%	Poor	N	Minimal	9	4.0
Pavilion Priory Park (New)	0.3%	-56%	Good	3%	Poor	N	Minimal	9	5.9
One Leisure Ramsey	4.6%	-76%	Good	-48%	Good	N	Med	9	76.8
One Leisure St Ives Outdoor	2.8%	-56%	Good	-21%	Moderate	Yes - H & C	Med	8	46.6
One Leisure Huntingdon Dry	3.9%	-52%	Good	-28%	Moderate	Yes - H & C	Med	8	65.6
Pavilion Priory Park (Old)	0.2%	71%	Poor	246%	Poor	N	Minimal	7	2.8
Little Paxton Visitor Centre	0.3%	59%	Poor	355%	Poor	N	Minimal	7	4.3
Eastfield House	4.8%	-57%	Good	-15%	Poor	Yes - H	Med	7	80.4
Hinchingbrooke Country Park Visitor Centre	0.7%	-25%	Poor	91%	Poor	N	Low	6	12.5
Pathfinder House	12.4%	-62%	Good	-21%	Moderate	Yes - H	Very High	6	208.1
One Leisure St Neots	20.4%	-37%	Moderate	-18%	Poor	Yes - H	Very High	4	341.5
One Leisure Huntingdon Wet	16.4%	-8%	Poor	-3%	Poor	Yes - H & C	Very High	3	275.1
One Leisure St Ives Indoor	33.0%	-7%	Poor	12%	Poor	Yes - H & C	Very High	3	553.8

Table 11: Scoring For Each HDC Site Showing Sites Posing Lowest to Greatest Risk

Based on these findings, One Leisure St Ives Indoor is the poorest performer, with a score of 3 out of 11 and the highest carbon emissions among all HDC sites. This highlights the need to prioritise intervention at this location, particularly as it is also showing an upward trend in energy consumption.

4.2 Proposed Roadmap

We presented, in section 4.1, how HDC's carbon pathway appears to be on track until 2022/23 but fell behind last year. The HDC published "Carbon Pathway Scenario to 2040", presenting some significant milestones such as the move to Electrical Vehicle or HVO fuel.

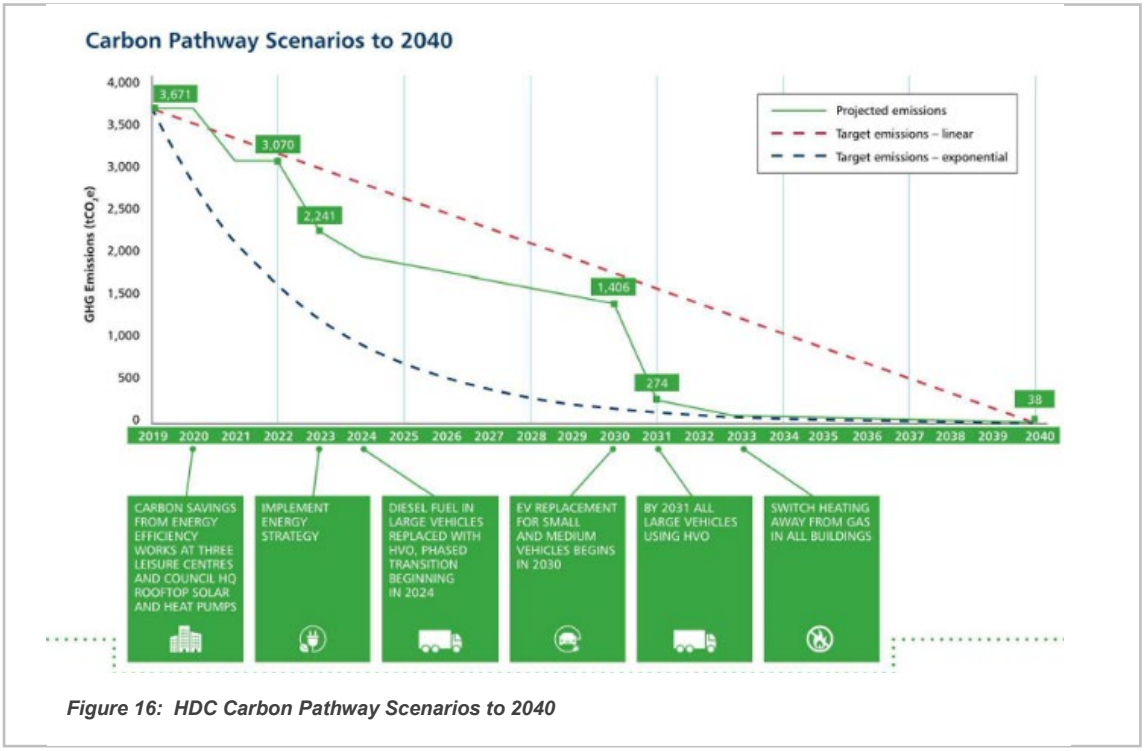


Figure 16: HDC Carbon Pathway Scenarios to 2040

In relation to buildings, the action **"implementation of an energy strategy"** fails to reflect the series of interventions and investments required every year to stay on track with the pathway, including a total electrification of heat by 2033.

Our review of the estate performance shows the positive effect of the existing energy management governance and the impact of projects funded through schemes. For instance, the Public Sector Decarbonisation Scheme (PSDS) greatly contributed to Pathfinder House and One Leisure Ramsey.

It is critical to appreciate that Net Zero Carbon means reducing energy use intensity in addition to removing fossil fuels. The new agreement with Total Energy will significantly reduce emissions from scope 2 electricity. However, whichever standard HDC ultimately adopts (e.g. UKGBC, SBTi), achieving Net Zero Carbon requires a reduction of Energy Use Intensity by up to 60% compared to 2020.

We have identified 5 sites representing 87% of HDC's building emissions. Unsurprisingly, the highest impact will come from improving the performance of swimming pools, with a specific focus on One Leisure St Ives indoor, which is experiencing an adverse trend.

All buildings need a strategy to leverage existing surveys available and to better understand the asset lifecycle opportunities. An investment programme will focus on retrofits affecting building services (i.e. mechanical, electrical, and public heath plants) as well as the fabric (e.g. windows, roof).

There is an element of urgency to start planning and deep diving. The capital planning will rely on an investment-grade report with detailed RIBA Level 4 design when applicable. A timely instruction of

surveys and the creation of steering committees for key buildings will determine synergies and interlock between opportunities to deliver programmes in the most cost-effective way.

As part of HDC's mission "to become a positive example", an immediate priority should be to improve Pathfinder House block B, C & D Energy Performance Certificate (EPC) from a D to a B. Indeed, the Minimum Energy Efficiency Standard (MEES), currently requiring an E, is likely to require a B by 2030.

HDC will continue to explore renewable energy solutions. Solar PV is the most obvious consideration, but thermal solar water heating or wind solutions can be explored.

All of the above needs to be underpinned by enhanced energy management governance including better remote monitoring with more submetering and useful dashboards. Comfort policies and other policies limiting consumptions from small power equipment need to be written. This will improve the engagement with building users and standardised best practices which will become embedded.

The below diagram presents a high-level roadmap, which should form the basis of strategic workshop to develop a programme in full awareness of HDC's estate plans for individual buildings.

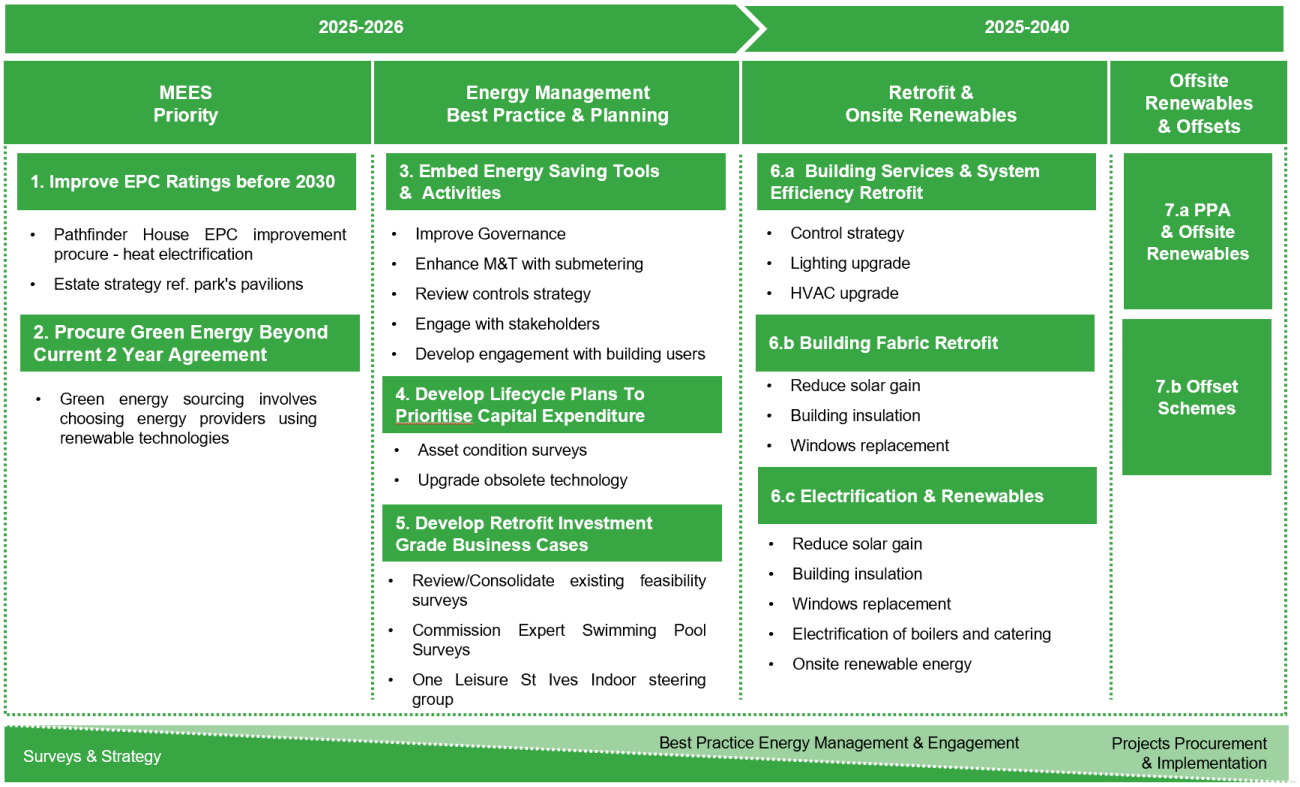


Figure 17: Draft Roadmap to Inform Strategic Workshop

1. Improve EPC Ratings Before 2030

Due to the MEES legislation, improving Pathfinder House EPC from D to B by 2030 should be a priority. All Park Pavilions have EPC D or above. They may not be considered a priority because they form a very small element of the Council's carbon footprint. However, they are very visible to the public and should have a strategy to minimise waste or perhaps include renewable energy solutions.

2. Procure Green Energy Beyond the Current 2 Year Agreement

Green energy sourcing involves choosing energy providers using renewable technologies. In October 2024, HDC entered a 2 year agreement with Total Energy. To maintain the benefit offered to Scope 2 emissions, HDC will need to seek a similar deal in 2026.

3. Embed Energy Saving Tools & Activities

Enhancing Energy Management practice will reduce operational energy consumptions at low or no cost (examples provided opposite).

4. Develop Lifecycle Plans To Prioritise Capital Expenditure

An asset verification with a condition survey will establish building performance, including assets already beyond their useful life and 30-year-old technology that has become obsolete (e.g, belt driven fans and pumps)

5. Develop Retrofit Investment Grade Business Cases

HDC proactively instructed Feasibility surveys and RIBA stage 4 design (with Low Carbon Skills Funding). These surveys need to be consolidated in a Strategy document and enhanced with the addition of expert swimming pool surveys to tackle these largest emitters. Considering the predominance of One Leisure St Ives indoor building and the adverse trend since 2019/20, a steering group will design a strategy based on risk, opportunities, assumptions, and dependencies.

6. Retrofit & Onsite Renewables

Execution of an investment plan based on feasibility studies and investment-grade business place forming part of a site-by-site strategy. This can take the form of pure System Efficiency measures or Building Fabric and Passive Design (examples provided opposite).

7. Offsite Renewables & Offsets

To reach Net Zero Carbon – Operational Energy, after all feasible emissions reductions have been achieved within HDC's building portfolio, the next steps are to fund offsite renewable energy projects or to offset (see more detail in the conclusion of this report).

Example Energy Management Activities:

- Improve Governance structure combining progress reviews of programmes, together with impact assessment in terms of energy and carbon (using a carbon monitoring platform). Develop RACI.
- Improve Monitoring and Targeting (Spark Energy Management Platform using Automatic Meter Reading may be used more proactively with enhanced submetering).
- Review time schedules (align operating hours and HVAC running hours, with specific focus on weekend and bank holidays).
- Engagement (develop policies and behaviour change campaigns with occupiers to reduce use of small power equipment, adopt agreed indoor comfort policy).

Example System Efficiency Activities:

- Review building controls strategy (including flow rates, delta of temperature, frost coil set point to 5 degree C).
- Review set points and deadband (adopt a policy to a minimum of 3 degree C deadband).
- Lighting upgrade (LED).
- Lighting levels (Reduce use of artificial lighting, when possible, reduce lux level to 300lux, from 500lux typically, in office areas.
- Upgrade HVAC equipment (leveraging lifecycle replacement).

Example Building Fabric & Passive Design Activities:

- Reduce solar gain (consider windows reflective coating and façade shading measures).
- Comprehensive pipework insulation (e.g. lagging and valve jackets).
- Windows upgrade.
- Lifecycle replacement.

5 Conclusion

5.1 Summary of findings and recommendations

We are recommending the UKGBC for reference because they offer a clear pathway and are in the process of editing 30 categories which will help refine the targets for each type of building. We highlight that the terminology to be used should be **Net Zero Carbon – Operational Energy**.. At this stage, we will focus on **Reducing Operational Use, moving away from fossil fuels and increasing On-site Renewable.**

A Net Zero Carbon – Operational Energy requires upfront investment of time and capital but can lead to significantly lower operating costs while reducing exposure to future energy price inflation or climate related taxation. Moreover, enhancing environmental performance will strengthen HDC's pledge to be a "positive example", an "enabler", and an "encourager"

While current Energy Management efforts have shown some benefits, they are not sufficient to accelerate building emissions reductions at the pace needed to align with HDC's Carbon Pathway to 2040. The table below outlines the **key short-term considerations** for action.

Continue	Do More	Change
Energy Management • There is evidence of building performance from a good maintenance management and a proactive reset of controls strategies post pandemic (leading to lower energy consumptions). • An Energy Management Software platform has been implemented and can be utilised for monitoring (with more submetering where possible) • Government Scheme funding applications have been successful for retrofit and also to commission feasibility surveys or solution design.	**Engagement** • The roles and responsibilities need to be defined more clearly for better collaboration and accountability between the central team and the occupiers. • The current informal engagement of the FM and Energy Management team requires enhanced governance including monthly dashboard and exception reports • Bimonthly meetings with occupiers would support review of performance, setting targets and review progress of initiatives	**Strategic planning and funding for Buildings** • The Energy Management Strategy should align with HDC's Property Strategy. This will enable focus on retained buildings and minimize the risk of regretted spent. • The Council Net Zero Carbon Pathway 2040 needs to be translated in a clear scenario for Buildings, with milestones and year on year carbon targets. • The Net Zero Pathway can no longer rely mostly on government funded schemes or on surplus left in the annual budget. Specific funding is required to improve building performance, for electrification and renewable energy
Procure Green Energy • The agreement with Total Energy is a large contributor toward market-based carbon reporting. Extending or replacing this arrangement in October 2026 will help.	**Asset Management and Solution Design** • An asset verification should inform a fully developed lifecycle plan. • EPC and TM44 reports' recommendations need to be qualified or costed • Expert Swimming Pool Surveys are required to tackle these significant energy users, with transfer of best practice between sites.	**Establish policies** • Clearer policies need to be defined and communicated. This includes comfort policies for each building and general principles in the use of small power equipment.

Robust Energy Management best practice and detailed investment plans to decarbonise each building are required. Priority should be given to **reducing energy consumptions through building services retrofits, fabric improvement, and onsite renewable**. The resulting lower energy demand will be beneficial to right size new heating systems and therefore reduce the cost of heat electrification projects.

Continuing to procure green electricity will be beneficial to accelerate HDC's Carbon pathway. HDC can rely on the UK grid decarbonisation to reduce the emissions from the electricity consumed. By 2040, the UK electricity grid emissions factor is projected to be almost zero — around 0.01 $kgCO_2e/kWh$ or lower.

Net Zero Carbon is differentiated from Carbon Neutral in the way that renewable generation should be maximised before considering offsetting. To reach Net Zero Carbon – Operational Energy, after all feasible emissions reductions have been achieved within HDC's building portfolio, the final steps are:

- Procurement of Offsite Renewable Energy: Remaining energy demand should be met through credible procurement of renewable energy generated offsite, such as via Power Purchase Agreements (PPAs) that are certified and additional.

- Offsetting Residual Emissions: For any unavoidable residual emissions — after deep reductions and renewable procurement — credible, high-quality carbon offsetting should be employed. Offsets must be verified, permanent, and aligned with best practice standards.

We can only emphasise that offsetting is a final step, not a substitute for real emissions reductions. The Appendix 1 to this document presents a site-by-site review of key findings and recommendations.

Strategically, the recommendation is to set up a Steering Group reflecting the importance of achieving the Buildings Net Zero Carbon – Operational Energy by 2040. The Steering Group will oversee the **development of a comprehensive Energy Management System (EnMS)** responsible for developing plans and embedding an Energy Management culture required to drive improvement.

This Buildings Energy Strategy document and the development of an Energy Management System will inform the roadmap and will lead the production of investment grade retrofit business cases.

The below table provides directions on the priorities to be considered by the Steering Group. Appendix 3 offers the detail of the proposed methodology of an Energy Management System to underpin a new continuous improvement approach following the principles of ISO50001.

- **Improve EPC ratings** in line with anticipated Minimum Energy Efficiency Standards (MEES)

- **Extend the period of green electricity procurement** which is set to expire in September 2026. As the agreement with Total Energy is delivering a significant contribution to the Net Zero Carbon pathway it is a necessary and low-cost action to renew the agreement while the UK grid continues its journey toward Net Zero.

- **Invest in HDC's Energy Management Software** to expand submetering capabilities and **enhance monitoring & targeting**. The low-cost activity will inform further building performance improvement measures and support the necessary engagement with occupiers.

- **Inform the Corporate sites strategy with the findings from the Buildings Energy Strategy** including a prioritisation of site redevelopment where a decarbonisation of the existing facilities is the most challenging.

- **Prioritise capital investment to meet the Council's deadline of heat electrification by 2033 while improving building performance and adding onsite renewable energy**. Re-ordering capital spend will reduce the energy baseload and thus lower the overall investment needed for electrification.

- **Consider offsetting as a final step**, not a substitute for real emissions reductions. Offsetting should be transparently reported and should support projects that deliver wider environmental and social co-benefits wherever possible.

In our experience, achieving a Net Zero pathway can be perceived as inherently complex, involving numerous variables and long-term planning. However, with this Buildings Energy Strategy, HDC has the crucial advantage of understanding their current emissions baseline, providing a solid foundation from which to move forward.

With this starting point, they can confidently engage internal teams and external consultants to help shape and refine their Net Zero Carbon strategy. While some of the investments required may not deliver a direct financial return, the shift toward Net Zero will consistently lead to reduced operational costs through lower energy consumption.

Appendix 1 presents key metrics and comments for each site

Appendix 2 highlights typical interventions to consider in an energy management plan

Appendix 3 provides an overview of the Energy Management System recommended

Appendix 4 offers links to two reference documents

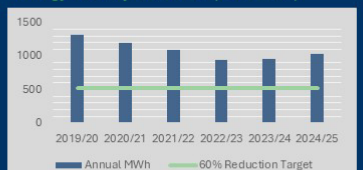
Appendix 5 is an illustration of a roles and responsibilities matrix to be developed

Appendix 1:
Building Fact Sheets & Recommendations

Pathfinder House

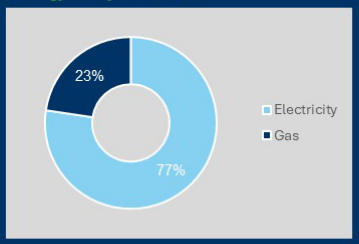
BUILDING KEY METRICS FACTSHEET
PATHFINDER HOUSE

Energy Pathway Total MWh (Gas + Elec)

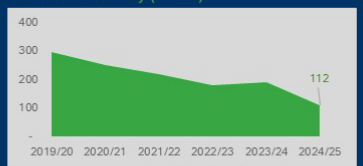


2019/20	1,311	MWh
2024/25	1,032	MWh
Consumption Change	-21%	

Energy Mix by MWh 2024/25



Emissions History (tCO2e)



	MB	LB	
2019/20	297	297	tCO2e
2024/25	112	208	tCO2e
Consumption Change	-62%	-30%	

EUI Pathway

Site Area	6044sqm
Site Use	COMMERCIAL
Realised EUI (kWh/sqm)	
2019/20	217
2020/21	197
2021/22	180
2022/23	155
2023/24	158
2024/25	171
EUI NZ Target	55

Project Work Pipeline

Project	Value	Date
Booster pump upgrades	?	May 2024
Electrification of heat, new energy management system, new AHU	£1.5M	2021
RIBA Stage 4 Level Designs for heat electrification	?	N/A

High-level Building Positioning

GHG Reduction (2019-2024)	Energy Reduction (2019-2024)	EPC Rating
Good	Moderate	D+
Gas Utilisation	Relative Carbon Impact	Share of Total Emissions
Heat	Very High	12.4%

Site Image

Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions. MB = Market Based. LB = Location Based.

Key Comments & Items for Consideration

- Successful partial electrification of heat with a PSDS funded project in 2021.
- Priority needs to be given to EPC improving measures (including further heat electrification) to improve current EPC rating and meet the anticipated Minimum Energy Efficiency Standards of a B by 2030 (currently a D).
- Pathfinder House represents 12.4% of total emissions. Reducing consumptions will have a large impact on the Net Zero Plan. To improve Energy Utilisation Intensity (EUI), Pathfinder house is particularly dependent on improving controls and enabling a strategy to reflect occupancy levels.
- Heat electrification will remove 43 tCO2e, which is 3% of HDC's current buildings related emissions

Eastfield House

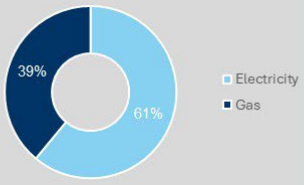
BUILDING KEY METRICS FACTSHEET
EASTFIELD HOUSE

Huntingdonshire DISTRICT COUNCIL | Cambridge mc² Management Consulting

Energy Pathway Total MWh (Gas + Elec)

2019/20	477	MWh
2024/25	407	MWh
Consumption Change	-15%	

Energy Mix by MWh 2024/25



Emissions History (tCO2e)

	MB	LB	
2019/20	108	108	tCO2e
2024/25	47	80	tCO2e
Consumption Change	-57%	-25%	

EUI Pathway

Site Area	3447sqm
Site Use	WAREHOUSE
Realised EUI (kWh/sqm)	
2019/20	138
2020/21	126
2021/22	116
2022/23	100
2023/24	101
2024/25	118
EUI NZ Target	55

Project Work Pipeline

Project	Value	Date
Booster pump upgrades	?	Dec 2020
AHU motor replacement	?	Sep 2021
RIBA Stage 4 Level Designs for heat electrification	?	N/A

High-level Building Positioning

GHG Reduction (2019-2024)	Energy Reduction (2019-2024)	EPC Rating
Good	Poor	B
Gas Utilisation	**Relative Carbon Impact**	**Share of Total Emissions**
Heat	Medium	4.8%

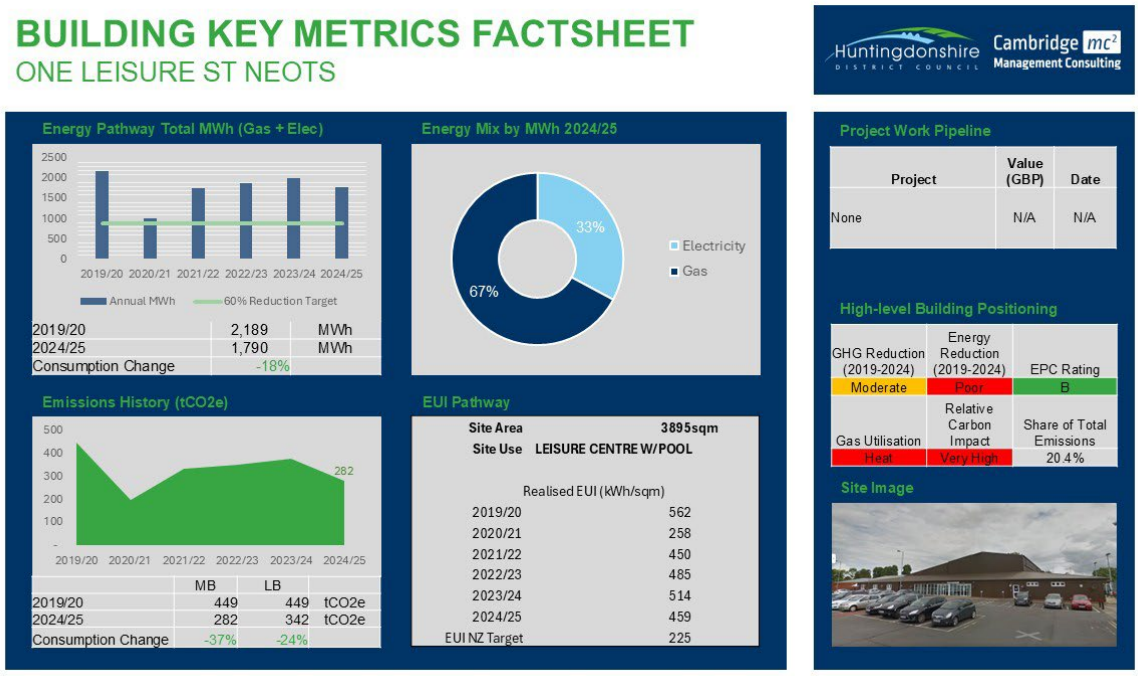
Site Image

Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions. MB = Market Based. LB = Location Based.

Key Comments & Items for Consideration

- Eastfield House has benefitted from some investment including air handling unit upgrades.
- Historic data shows an improvement of the site with a reduction of consumption by 15%. However, last year's increase, compared to the previous year, demonstrates a dependency on controls and users demand level, which need to be investigated.
- The other specific challenge of the site is its reliance on radiant heating tubes, controlled locally and using natural gas for fuel. HDC has a RIBA stage 4 design of heat electrification.
- Heat electrification will remove 29 tCO2e, which is 2% of HDC's current buildings related emissions
- Beyond an investment plan, this site would specifically benefit from an engagement with the occupiers, with the potential to limit adverse consumption trends.

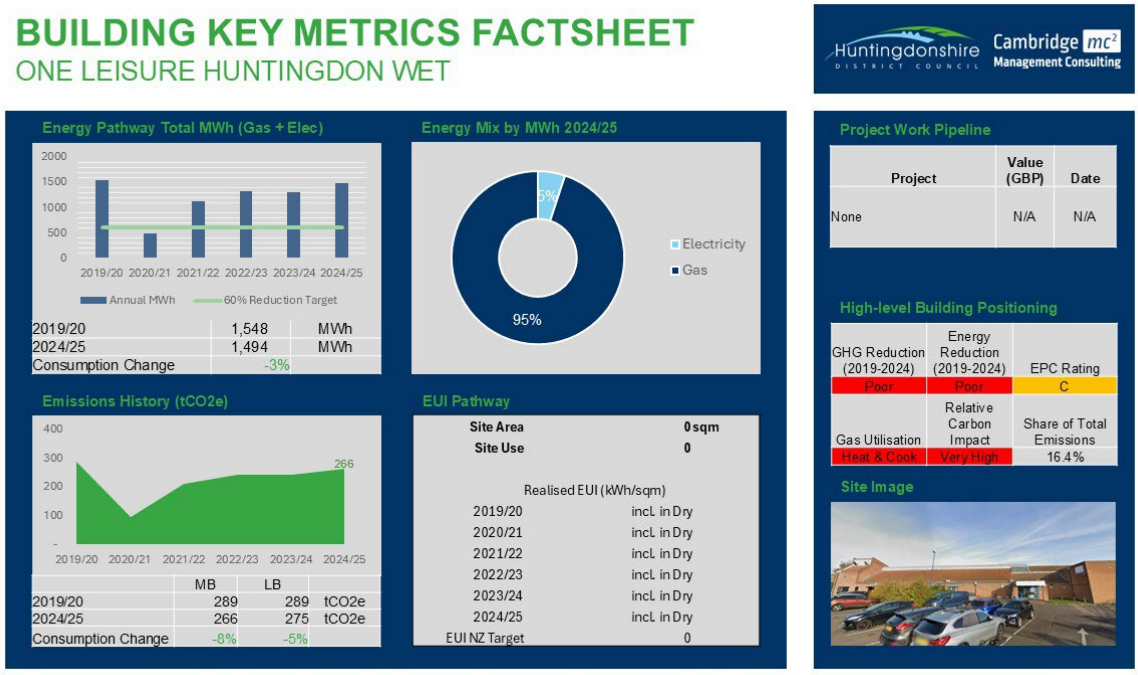
One Leisure St Neots



Key Comments & Items for Consideration

- Despite limited investments, St Neots appears to make some progress over time. However, it represents 20.4% of HDC's building emissions, with 67% of energy fuelled with Natural Gas.
- It is therefore critical to invest in heat electrification design (HDC's stated goal is to "switch heating away from all buildings by 2033") and to involve swimming pool experts to review the feasibility of plants upgrades.
- Heat electrification will remove 220 tCO2e, which is 17% of HDC's current buildings related emissions

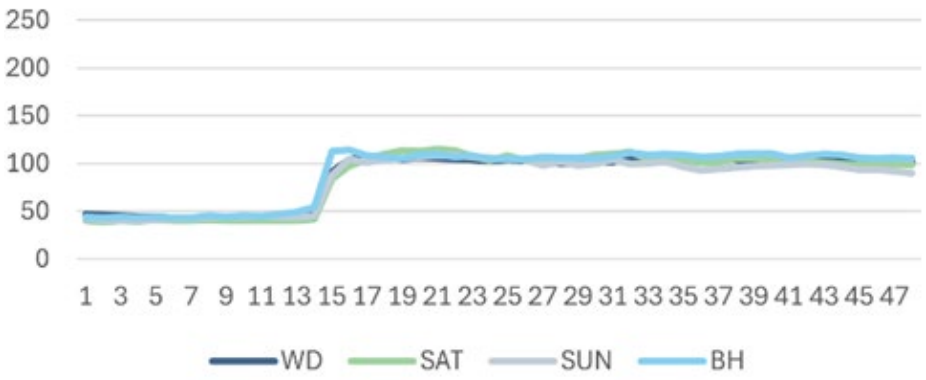
One Leisure Huntingdon (Wet)



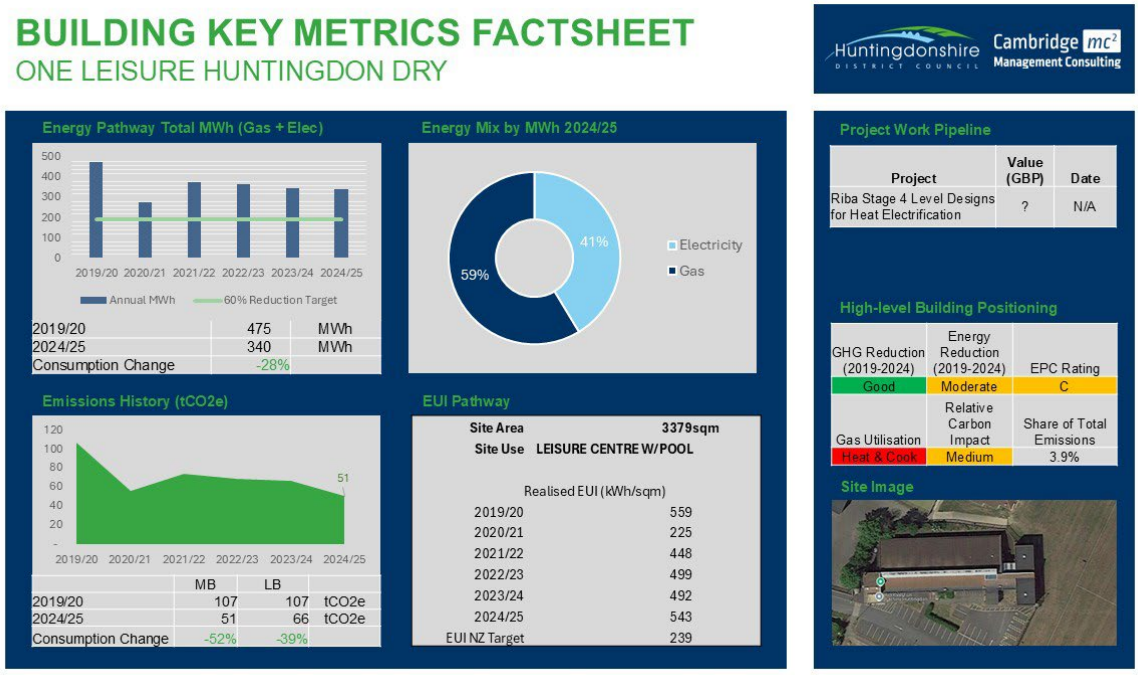
Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions. MB = Market Based. LB = Location Based.

Key Comments & Items for Consideration

- This site is one of the most critical for HDC's NZ pathway. Representing 16.4% of the buildings' emissions, it has only seen a small reduction of energy and emission in the past five years.
- Considering a 95% dependency on natural gas. Heat electrification will remove 259 tCO2e, which is 20% of HDC's current buildings related emissions
- A potential plan to build a new pool next to One Leisure Huntingdon dry facility would address a large challenge.
- Nonetheless, the below diagram of half-hourly consumptions indicate that the site energy use should be managed and better understood, possibly with the addition of submeters for the significant energy use.



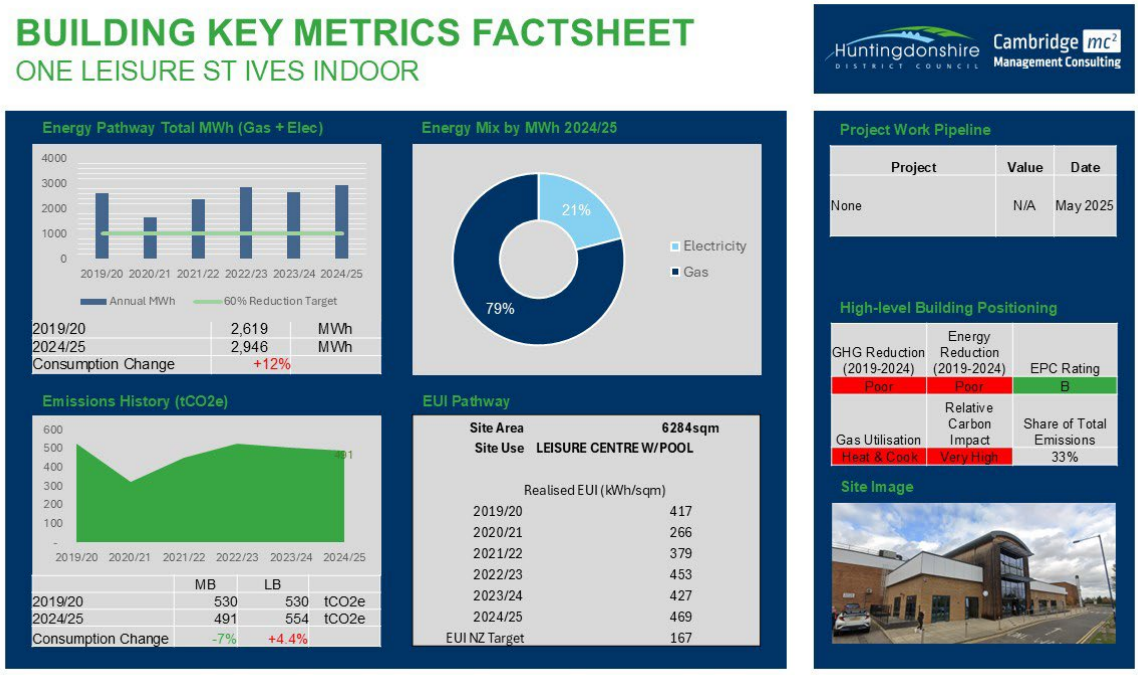
One Leisure Huntingdon (Dry)



Key Comments & Items for Consideration

- This site is showing signs of good management with post-pandemic levels of consumptions and emissions maintained at 28% below the baseline of 2019/20. However, there are limited signs of energy reduction year on year.
- With 59% energy coming from natural gas, the site will rely heavily on heat electrification. Heat electrification will remove 36 tCO2e, which is 3% of HDC's current buildings related emissions.
- HDC is in possession of a RIBA stage 4 design which needs to be included in an investment plan for the site (HDC's stated goal is to "switch heating away from all buildings by 2033").

One Leisure St Ives (Indoor)

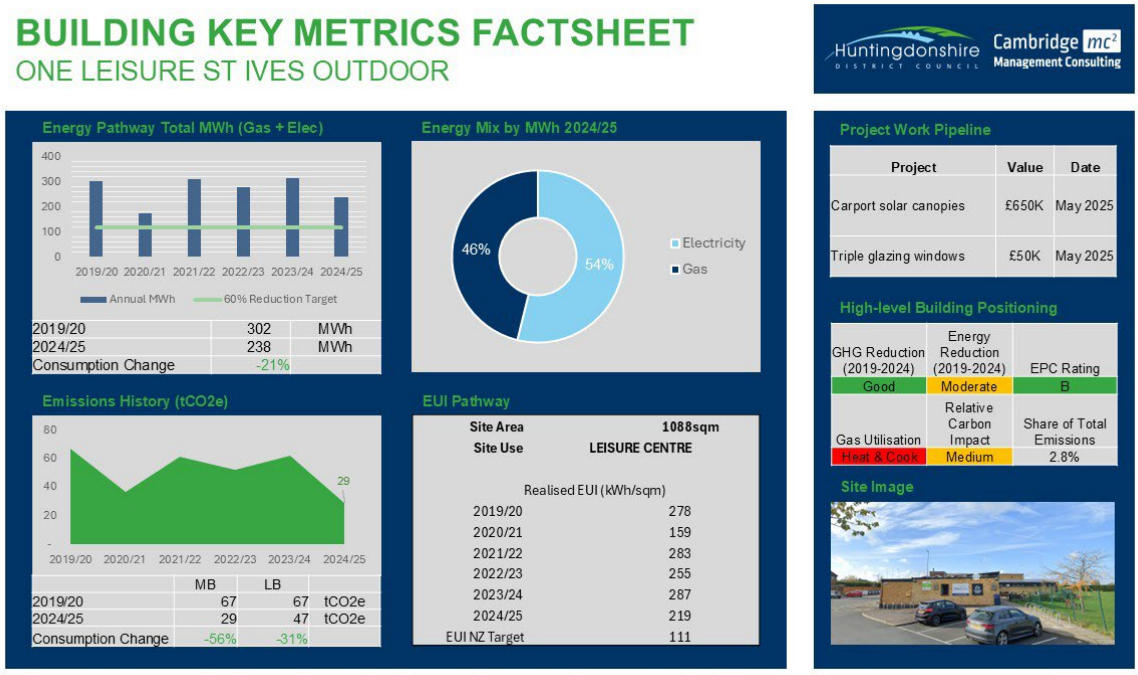


Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions. MB = Market Based. LB = Location Based.

Key Comments & Items for Consideration

- With an EPC rating B, the site appears to be efficient by design. A DEC 54C, that takes into account energy consumptions (contrary to EPC), also indicates a relatively acceptable performance.
- However, representing 33% of HDC's emissions and having increased its consumptions by 12% between 2019 and 2024, this site is the most critical to tackle.
- It is recommended to understand the estate strategy for this site and have a full review with a dedicated working group including the FM team, occupiers, and appointed swimming pool experts.
- With 79% of its energy fuelled with Natural Gas, alternative solutions are required (HDC's stated goal is to "switch heating away from all buildings by 2033").
- Heat electrification will remove 426 tCO2e, which is 32% of HDC's current buildings related emissions.

One Leisure St Ives (Outdoor)



Key Comments & Items for Consideration

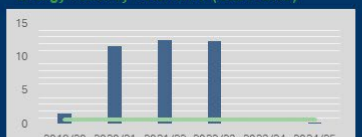
- Representing 2.8% of HDC's emissions and having 46% of its energy in the form of natural gas, this site presents opportunities to help the Net Zero Carbon pathway.
- The current investments funded through the ReFIT scheme will help reduce the consumptions baseload.
- In turn, this will support an electrification of heat with a better payback (contributing to the HDC objective to move away from natural gas by 2033).
- Heat electrification will remove 47 tCO2e, which is 2% of HDC's current buildings related emissions.
-

Pavilion Hartford Road Huntingdon

BUILDING KEY METRICS FACTSHEET
PAVILION HARTFORD ROAD HUNTINGDON

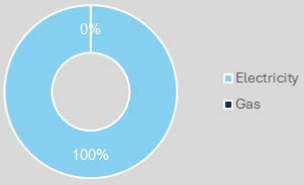
Huntingdonshire DISTRICT COUNCIL | Cambridge mc² Management Consulting

Energy Pathway Total MWh (Gas + Elec)



2019/20	2	MWh
2024/25	0	MWh
Consumption Change	-82%	

Energy Mix by MWh 2024/25



Emissions History (tCO2e)

	MB	LB	
2019/20	0.4	0.4	tCO2e
2024/25	0.0	0.1	tCO2e
Consumption Change	-95%	-86%	

EUI Pathway

Site Area	**121sqm**
Site Use	**0**
Realised EUI (kWh/sqm)	
2019/20	14
2020/21	96
2021/22	104
2022/23	103
2023/24	0
2024/25	2
EUI NZ Target	5

Project Work Pipeline

Project	Value (GBP)	Date
None	N/A	N/A

High-level Building Positioning

GHG Reduction (2019-2024)	Energy Reduction (2019-2024)	EPC Rating
Good	Good	Not Available
Gas Utilisation	**Relative Carbon Impact**	**Share of Total Emissions**
No	Minimal	0%

Site Image

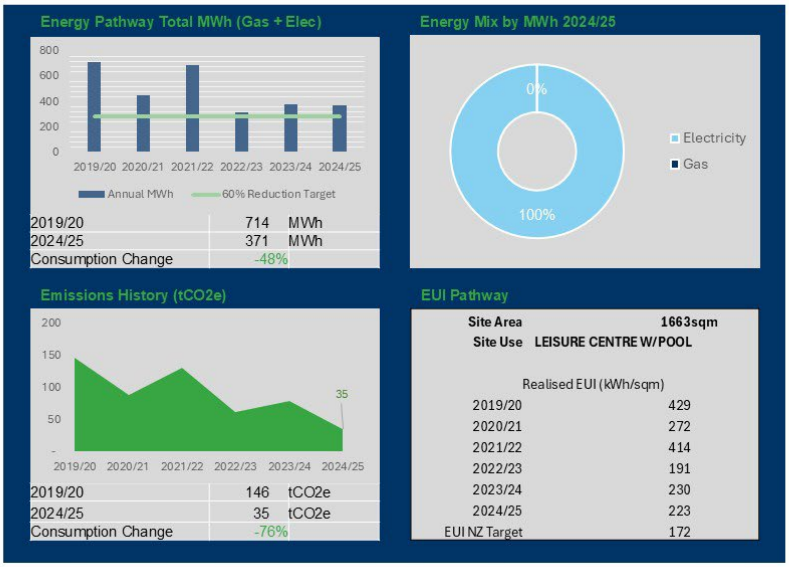
Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions. MB = Market Based. LB = Location Based.

Key Comments & Items for Consideration

- The site energy consumptions are relatively low (in the 3 years when the record could be found).
- It is an all-electric site.

One Leisure Ramsey

BUILDING KEY METRICS FACTSHEET
ONE LEISURE RAMSEY

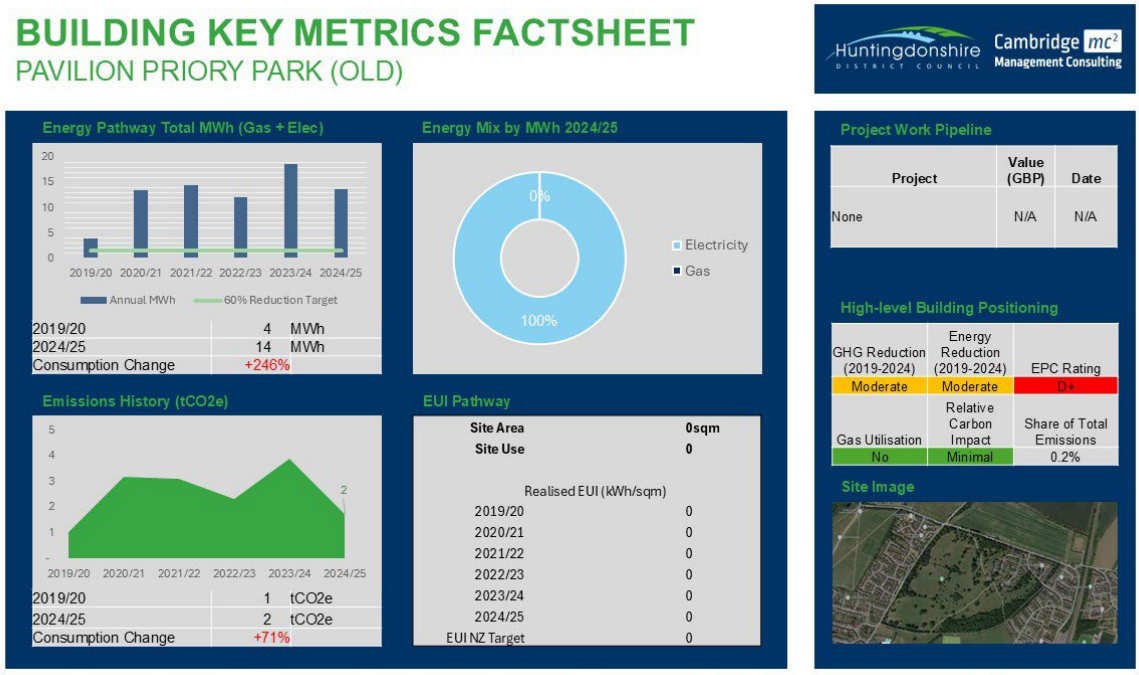


Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions.

Key Comments & Items for Consideration

- This site is a case study for HDC's Net Zero pathway activities. A £2.3m investment in air source heat pump and fabric insulation have reduced kWh consumptions by 48% and emissions by 76%.
- The EPC D is a concern, but it may be because the rating predates the retrofit. A new rating is to be considered.
- Further plant upgrades will be required to reduce energy consumptions, with the possible transfer of best practice learned from swimming pool experts initially commissioned for the other leisure centres.

Pavilion Priory Park (Old)

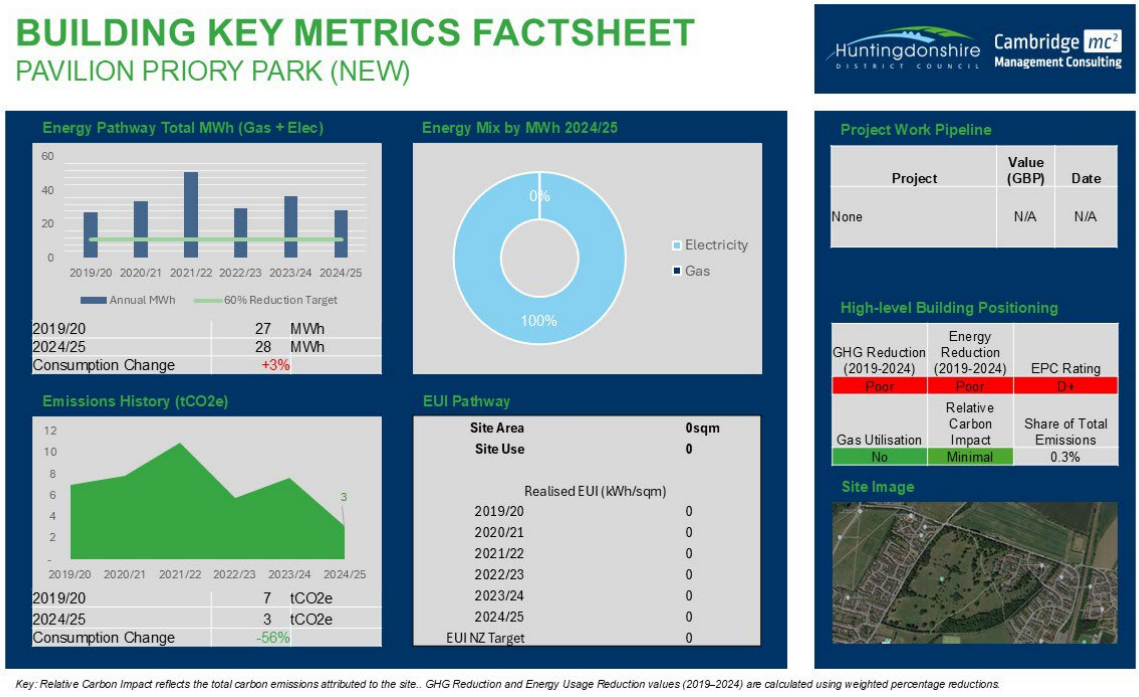


Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions.

Key Comments & Items for Consideration

- The site is all electric and makes a relatively low impact on the Net Zero Carbon pathway.
- However, it appears to experience fluctuations worth exploring to limit waste.
- The EPC D is a concern, but this would have to be reviewed in the context of HDC's Property strategy and long-term plan for the site.

Pavilion Priory Park (New)



Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions.

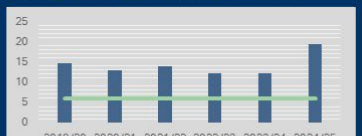
Key Comments & Items for Consideration

- Priory Park is all electric with a relatively low emission.
- The EPC D is a concern, but this would have to be reviewed in the context of HDC's Property strategy and long-term plan for the site.

Hinchingbrooke Country Park Cafe

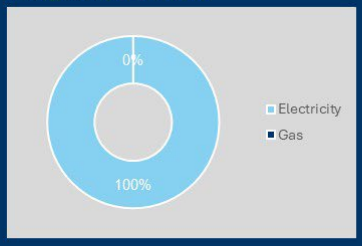
BUILDING KEY METRICS FACTSHEET
HINCHINGBROOKE COUNTRY PARK CAFE

Energy Pathway Total MWh (Gas + Elec)



2019/20	15	MWh
2024/25	19	MWh
Consumption Change	+32%	

Energy Mix by MWh 2024/25



Emissions History (tCO2e)

2019/20	4	tCO2e
2024/25	1	tCO2e
Consumption Change	-69%	

EUI Pathway

Site Area	**115sqm**
Site Use	**0**
Realised EUI (kWh/sqm)	
2019/20	128
2020/21	113
2021/22	122
2022/23	105
2023/24	107
2024/25	169
EUI NZ Target	51

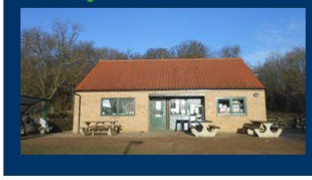
Project Work Pipeline

Project	Value (GBP)	Date
None	N/A	N/A

High-level Building Positioning

GHG Reduction (2019-2024)	Energy Reduction (2019-2024)	EPC Rating
Poor	Poor	B
Gas Utilisation	**Relative Carbon Impact**	**Share of Total Emissions**
No	Minimal	0.2%

Site Image



Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions.

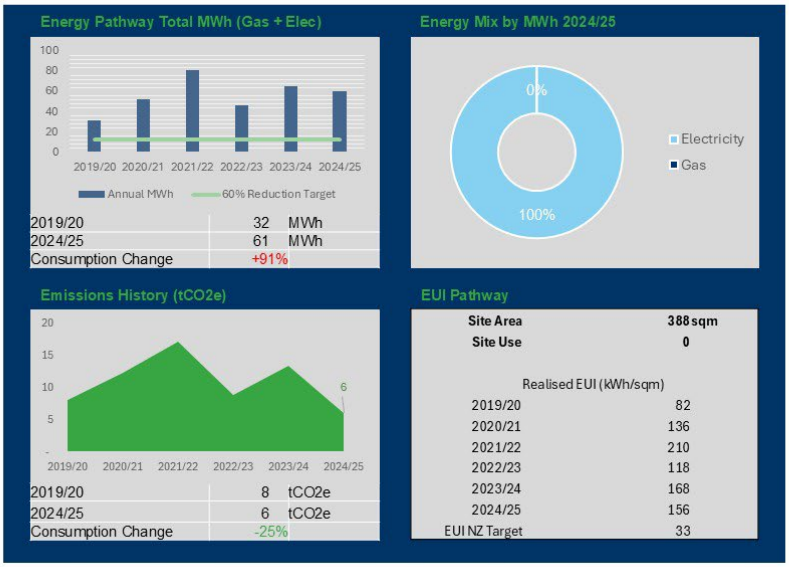
Key Comments & Items for Consideration

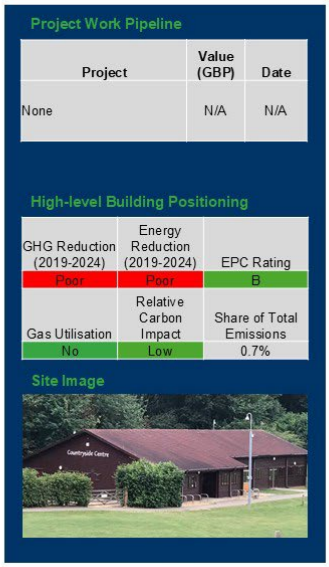
- The café has very low consumptions and is due to be relocated in the visitor centre (subject to planning permission). Therefore, it is not a priority to invest time and effort on this site.

Hinchingbrooke Country Park Visitor Centre

BUILDING KEY METRICS FACTSHEET

HINCHINGBROOKE COUNTRY PARK VISITOR CENTRE



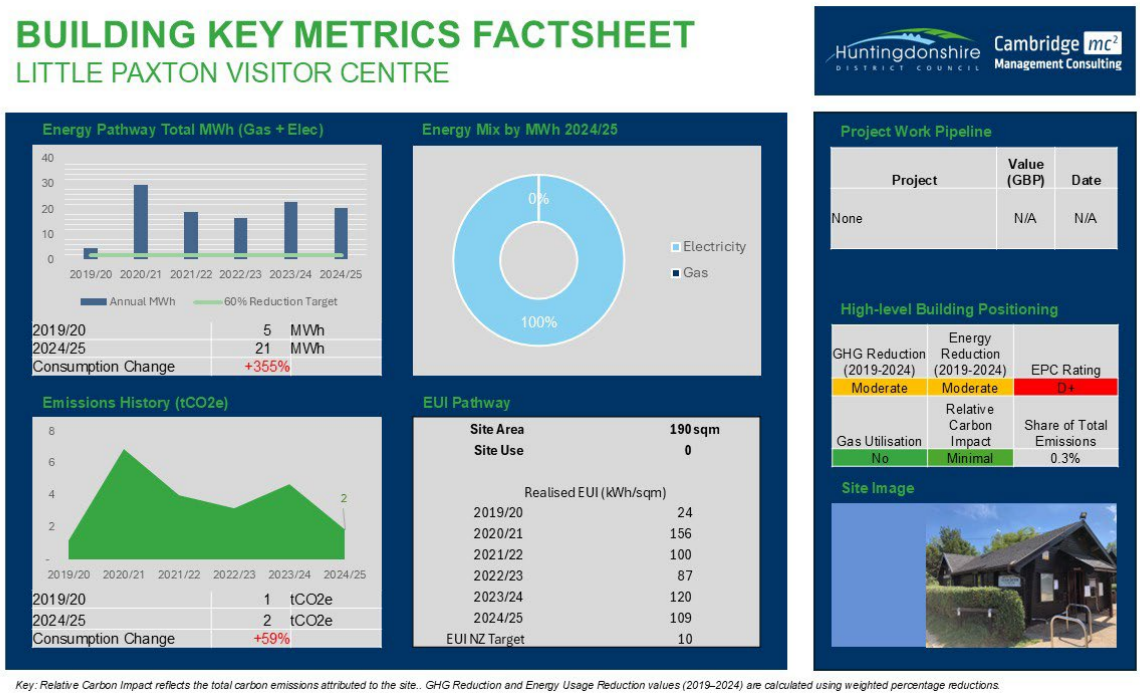


Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions.

Key Comments & Items for Consideration

- While relatively small in the scale of HDC's emissions (0.7%), the site shows great variability of consumptions year-on-year.
- A review of governance and policies may minimise waste.
- Economies are expected if the café was moved in the Visitor centre.

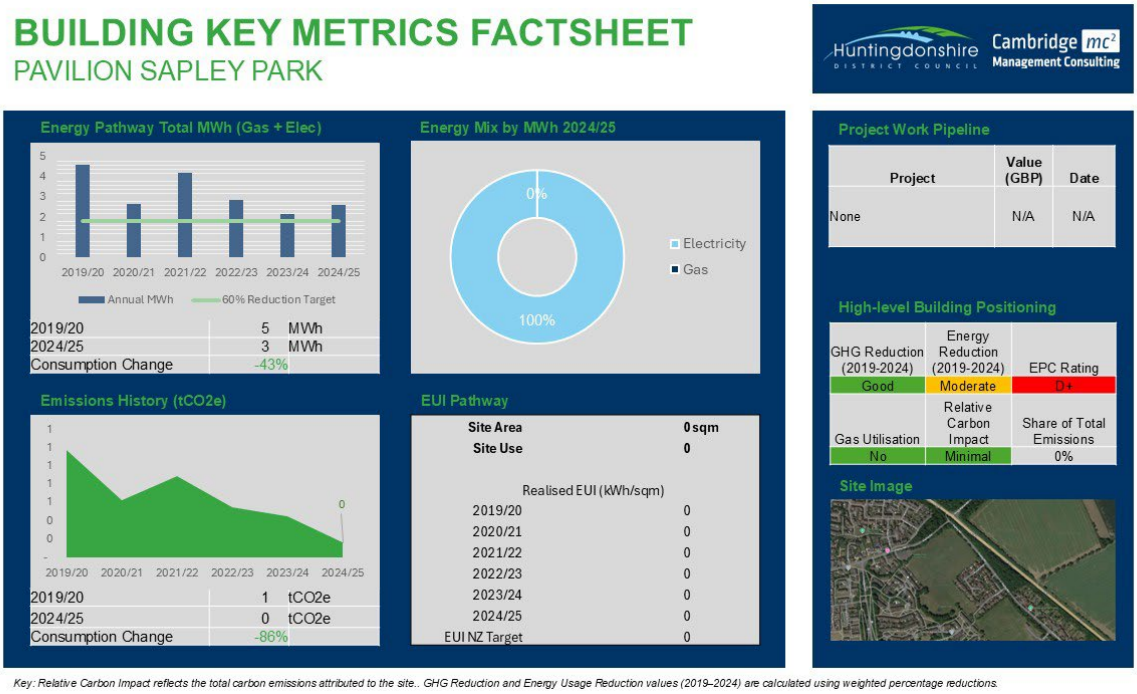
Little Paxton Visitor Centre



Key Comments & Items for Consideration

- The EPC D is a concern, but this would have to be reviewed in the context of HDC's Property strategy and long-term plan for the site

Pavilion Sapley Park



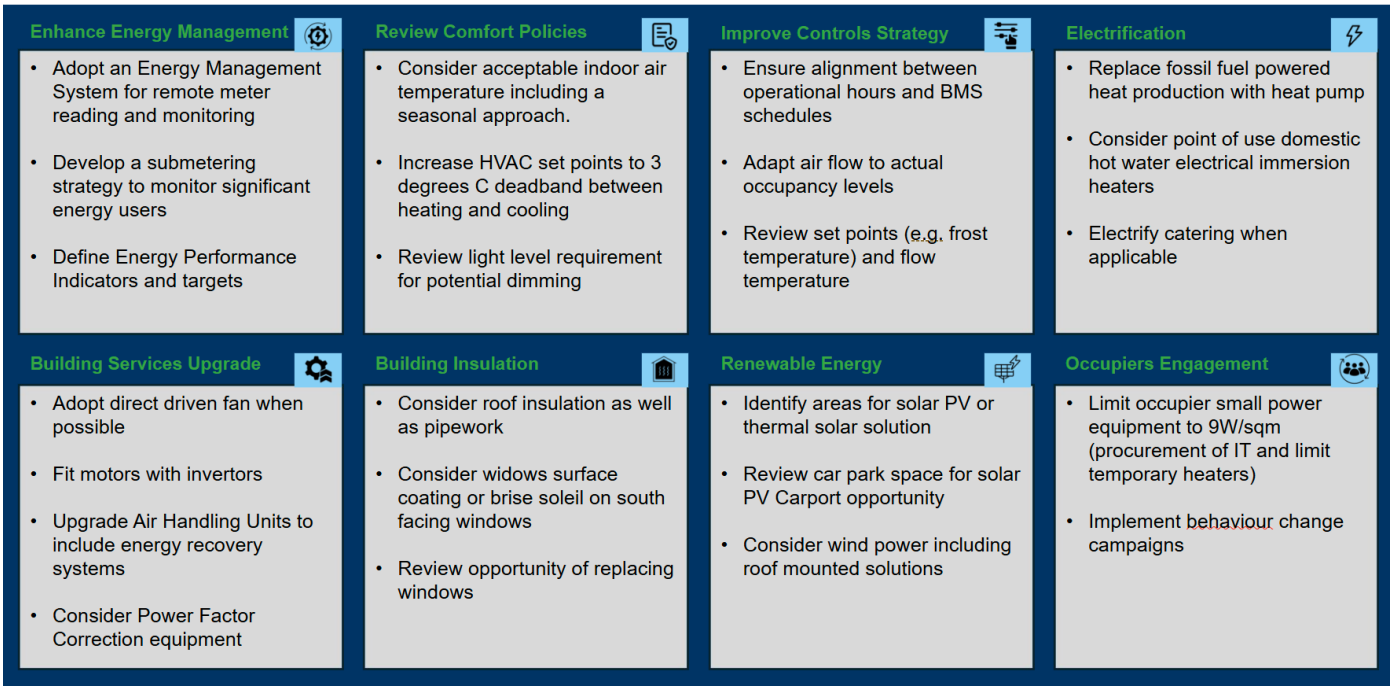
Key: Relative Carbon Impact reflects the total carbon emissions attributed to the site.. GHG Reduction and Energy Usage Reduction values (2019–2024) are calculated using weighted percentage reductions.

Key Comments & Items for Consideration

- The EPC D is a concern, but this would have to be reviewed in the context of HDC's Property strategy and long-term plan for the site

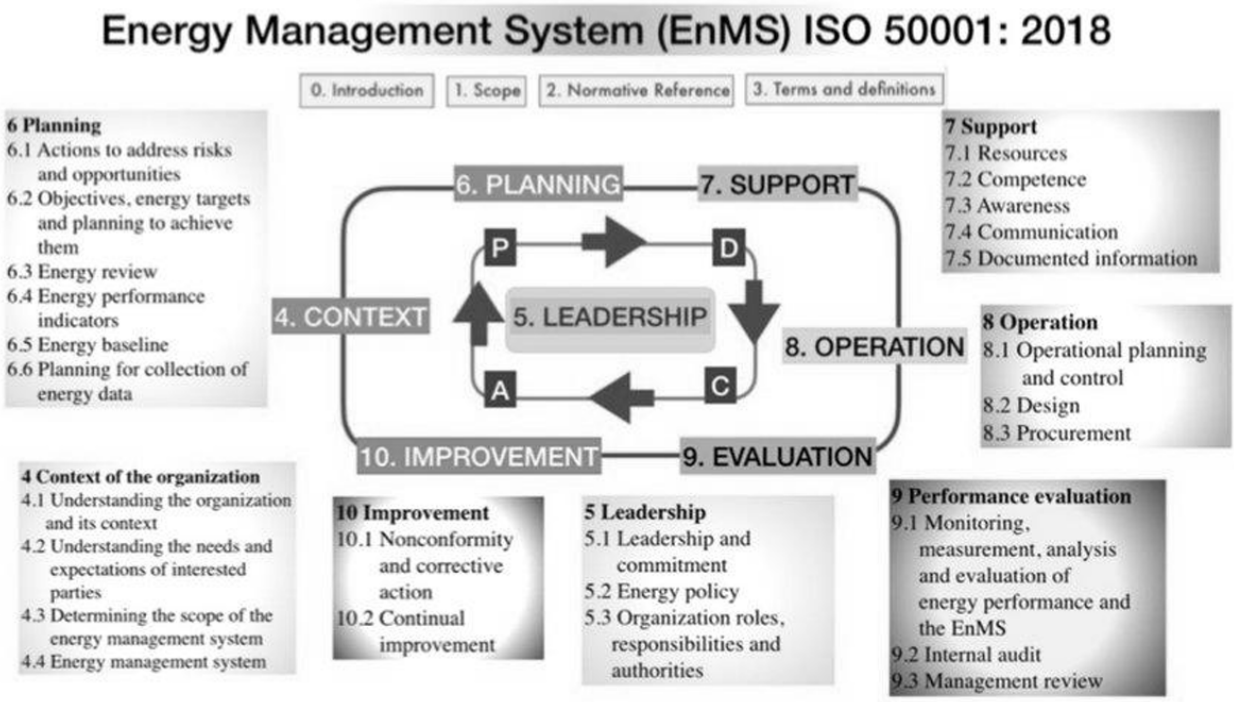
Appendix 2: Link to external references

Appendix 2: Energy Management Interventions for consideration



Appendix 3: Proposed EnMS delivery methodology

We recommend to progress from this Energy Strategy report with the adoption of the principles of an overarching **Energy Management System** (EnMS) following the best practice approach offered by the ISO50001 standard in a Plan-Do-Check-Act (PDCA) cycle.



Below are the key steps for implementation:

1. Commitment and Policy (Plan)

Obtain top management commitment and develop a Steering group with a definition of Responsible, Accountable, Consulted, Informed stakeholders.

Establish an energy policy outlining energy performance goals, compliance, continuous improvement.

Engage to ensure the policy is communicated, understood, and reviewed regularly.

2. Planning (Plan)

Overall property strategy. This strategy is crucial and HDC need to identify their long-term plan for each of their property assets.

Conduct an energy review:

- Involve swimming pool experts to tackle significant energy uses (SEUs).
- Analyse energy consumption and usage patterns.
- Establish a baseline and performance indicators (EnPIs)

Identify legal and other requirements, such as MEES and DEC improvement expectations.

Set energy objectives, targets, and action plans:

- Define measurable goals.
- Assign responsibilities, resources, and timelines.
- Align total building carbon pathway to 2040 with the HDC's overarching pathway.

3. Implementation and Operation (Do)

Define roles, responsibilities, and authorities in the implementation of the plan.

Ensure competence, training, and awareness of staff.

Establish communication procedures (internal and external).

Document and control EnMS documentation (policies, plans, records).

Operational control:

- Implement procedures for significant energy users
- Ensure effective operation and maintenance.

Design considerations for energy efficiency in new projects or upgrades.

Procurement:

- Consider energy performance in purchasing decisions.

4. Checking (Check)

Monitor, measure, and analyse EnPIs and energy performance.

Evaluate legal and other compliance.

Conduct internal audits of the EnMS.

Handle nonconformities and take corrective/preventive actions.

5. Management Review (Act)

Conduct periodic management reviews to ensure continuing suitability, adequacy, and effectiveness.

Update the policy, objectives, and processes based on review outcomes.

6. Continual Improvement

Use audit findings, performance data, and management reviews to drive ongoing improvements in energy performance and the EnMS.

Appendix 4: Links to reference material

Greater Cambridge proposed policy CC/NZ

UKGBC Net Zero Carbon Buildings Framework