



DECARBONISING LEISURE: HOW OXFORD IS CUTTING ENERGY USE AND CARBON

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APSE Seminar

4th June 2026

OXFORD'S ZERO CARBON JOURNEY

Oxford City Council has five key priorities that guide our work:

Good, Affordable Homes: Increasing social housing, improving existing homes, and supporting the homeless.

Strong, Fair Economy: Driving economic growth that provides high-quality jobs.

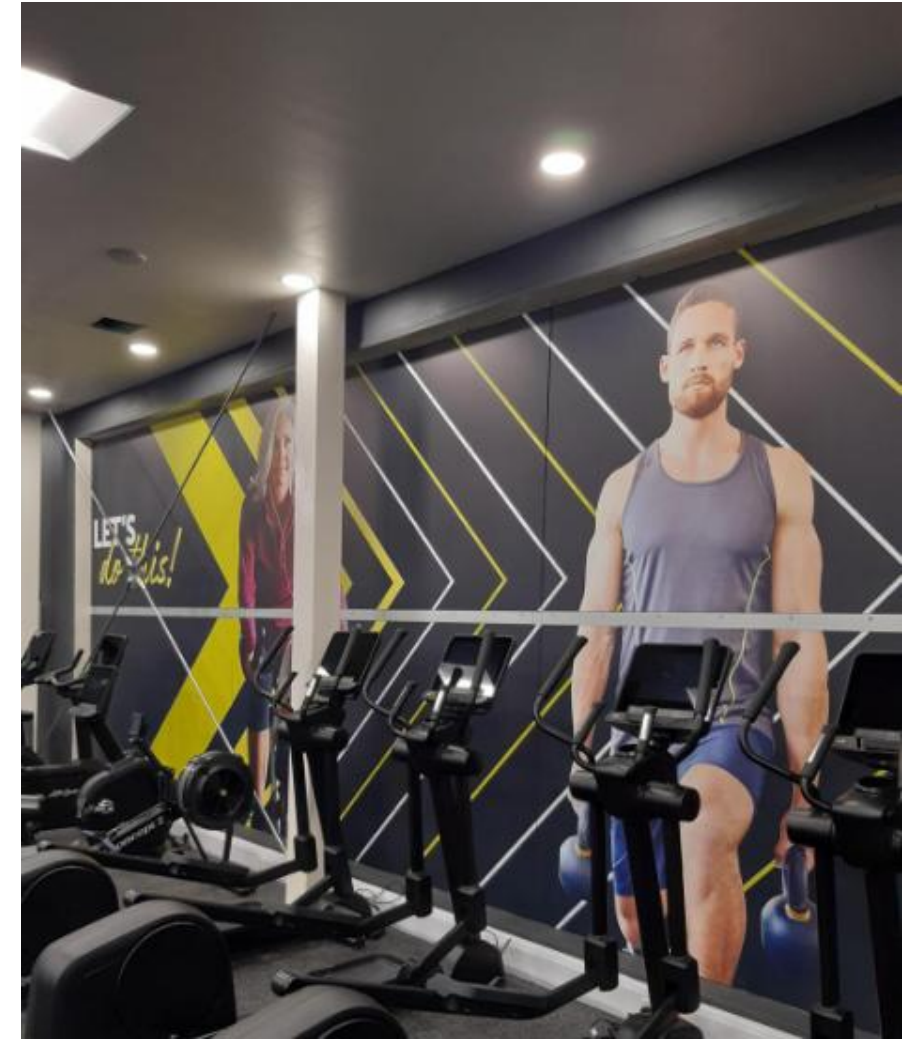
Thriving Communities: Tackling inequality to improve health, skills, and access for residents.

Zero Carbon Oxford: Cutting emissions and investing in low-carbon infrastructure.

A Well-Run Council: Focusing on efficiency, digital services, and financial sustainability

In 2019 the City Council announced a Climate Emergency, and two key targets were set:

1. Zero Carbon across our own estate in which we pay the energy bill by **2030**
2. Zero Carbon City by **2040**



OXFORD'S LEISURE ESTATE — BACKGROUND

Leisure Centres Portfolio

Oxford City Council operates five leisure facilities, offering diverse activities for community health and wellbeing (3 leisure centres, an outdoor pool and ice rink)

Energy Intensive Facilities

Swimming pools and extended operating hours make these leisure centres highly energy-intensive buildings within the Council estate.

Carbon Emissions Impact

In 2022, leisure centres accounted for about 40% of the City Council's operational carbon emissions, a major footprint contributor.

Climate Emergency Response

The 2019 climate emergency declaration prioritised reducing emissions while sustaining quality public leisure services.



WHY LEISURE AND CLIMATE ACTION MATTER

Leisure Services and Community Health

Leisure facilities foster physical activity, mental wellbeing, and social connection as essential community services.

Environmental Challenges in Leisure

Leisure buildings often rely on gas-intensive heating and long operating hours, posing environmental challenges.

Integrated Climate and Social Goals

Oxford City Council aligns climate action with health, equality, and affordability to benefit communities.

Opportunity for Carbon Reduction

Decarbonising leisure facilities reduces emissions while enhancing frontline community services.



HEADLINE CLIMATE IMPACTS ACHIEVED

Energy Reduction Achievements

To date Oxford City Council's leisure centres have reduced total energy use by 26%, significantly cutting carbon emissions.

Carbon Savings Impact

Decarbonisation projects have helped the Council save 523 tonnes of carbon annually and contribute strongly to Oxford Council's net-zero and city-wide climate goals.

Maintaining Service Quality

Decarbonisation has been achieved without disrupting operations, preserving accessibility and service quality for residents.

Building Confidence for Future

Successful decarbonisation efforts boost organisational confidence in pursuing further climate action responsibly.



TRANSITION TO LOW-CARBON TECHNOLOGIES



Air Source Heat Pumps

Air source heat pumps provide efficient electric heating at leisure centers, reducing dependence on fossil fuels significantly.



Water Source Heat Pump

Water source heat pump at Hinksey Pool extracts renewable heat from a lake, supplying majority of heating needs sustainably.



Complementary Energy Measures

Solar panels, LED lighting, efficient air handling, and water-saving showers contribute to a holistic low-carbon building approach.

ENERGY MANAGEMENT AND OPERATIONAL CONTROL

Beyond Technology Upgrades

Effective management and control are essential alongside technology upgrades for long-term emissions reduction.

Dynamic Demand Response

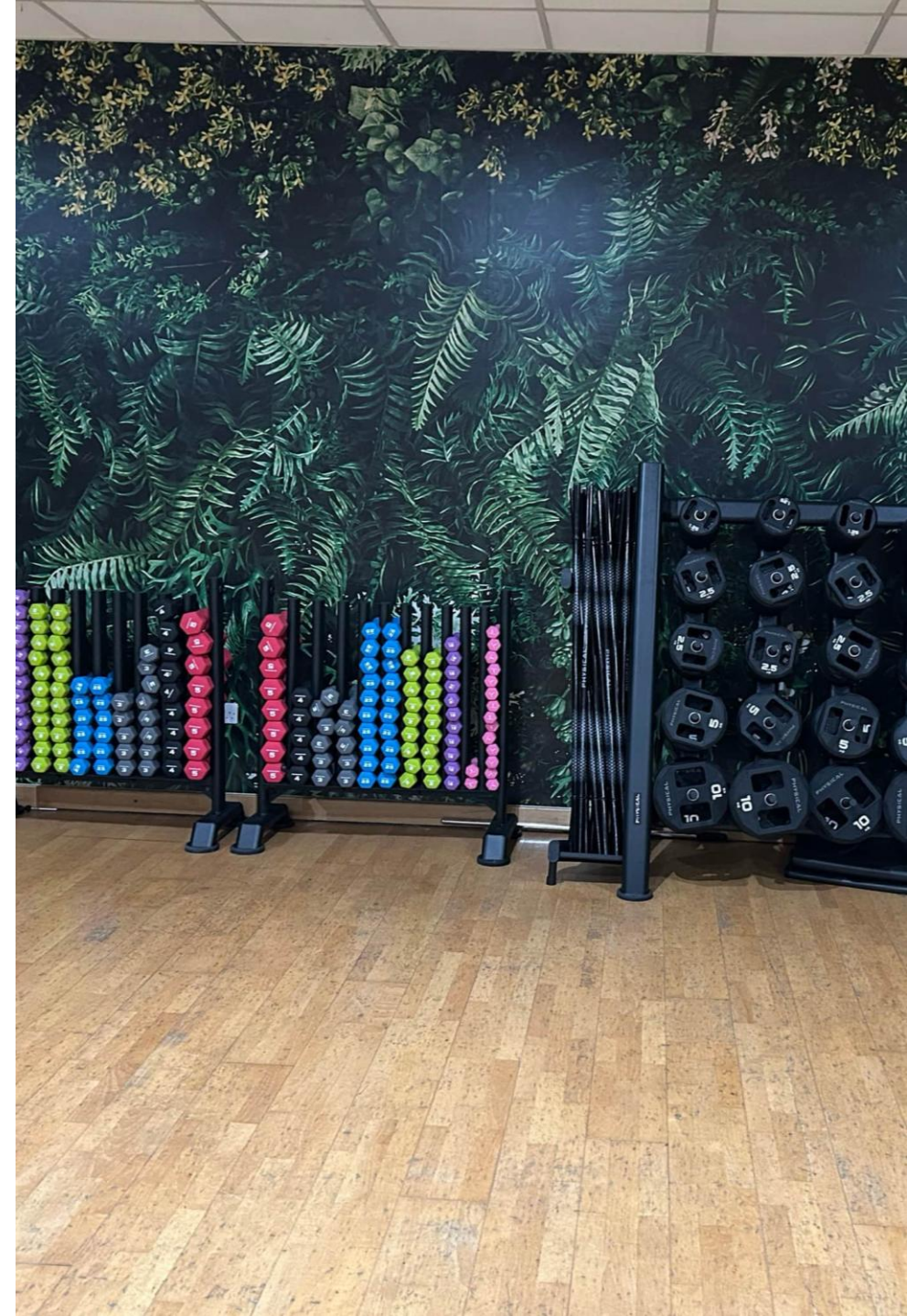
Enhanced controls allow buildings to dynamically respond to demand and reduce unnecessary energy use.

Partnership and Energy Awareness

Close collaboration fosters energy awareness and embeds it into daily operations for sustained benefits.

Data-Driven Continuous Improvement

Focus on data, controls, and continuous improvement locks in savings and reduces operational risk.



FINANCIAL SUSTAINABILITY OF LEISURE SERVICES

Energy Cost Reduction

Reducing energy use in leisure facilities lowers operating costs and reduces exposure to volatile energy prices.

Investment in Low-Carbon Technology

Investing in efficient, low-carbon technologies helps stabilize budgets and supports sustainable leisure services.

Affordable Access and Service Quality

Efficiency improvements protect affordable access while maintaining high-quality leisure services for residents.



WHAT WE'VE LEARNT

Target High-Energy and/or Older Sites

Focusing on high-energy (and/or older) sites like swimming pools rapidly reduces carbon emissions and provides quick wins.

Combine Decarbonisation with Service Protection

Balancing carbon reduction efforts with protecting services maintains public support and operational stability.

Leverage External Funding

Accessing national decarbonisation funding unlocks investments otherwise difficult for councils to deliver.

Phased Evidence-Led Approach

Using phased, data-driven methods helps councils learn, adapt, and build confidence over time.





THANK YOU, QUESTIONS AND CONTACTS

Feel free reach out to officers

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More info on our website

www.oxford.gov.uk/building-projects/leisure-centre-decarbonisation

