

# TORBAY LEISURE CENTRE

Parkwood Project Management - Guiding the transformation towards sustainable leisure facilities

In recent years, the imperative need to address climate change has been at the forefront of Parkwood Project Management's forward thinking enterprise. As part of our commitment to sustainability and environmental responsibility, PPM has been supporting its clients in funding and delivering decarbonisation initiatives. This case study of Torbay Leisure Centre highlights our approach, and the impact of those initiatives.

## PROJECT OVERVIEW

Torbay Council received funding of £1,849,899 from the PSDS grant for the implementation of a decarbonisation project at the Torbay Leisure Centre. These works will assist with the Council's commitment to be carbon neutral by 2030, reducing annual gas consumption and carbon emissions. Working together with Parkwood Leisure, the facility operator, Leisure Energy were engaged to carry out an in-depth energy survey, assist with the compilation of the technical aspects of the application and provide principal designer and principal contract services for the construction phase of the project. This facility is Parkwood Leisure's first zero fossil fuel leisure centre, and was awarded the Energy Efficient Partnership of the Year at The Energy Awards 2022.

£1,849,899

TOTAL GRANT VALUE



£38,745

REDUCTION IN ANNUAL ENERGY COSTS



318 tonnes

60% REDUCTION IN ANNUAL CARBON EMISSIONS



## THE PUBLIC SECTOR DECARBONISATION SCHEME (PSDS)

We commend the Department for Business, Energy & Industrial Strategy (BEIS) for launching the Public Sector Decarbonisation Scheme (PSDS) through Salix in September 2020. This £1 billion initiative supported energy efficiency & heat decarbonisation projects in England's public sector. For details and eligibility, visit [www.salixfinance.co.uk](http://www.salixfinance.co.uk). PPM & Parkwood Leisure support numerous Public Sector organisations in securing funding which contributes to a sustainable future.

Parkwood Project Management collaboratively engaged with Leisure Energy to assess energy usage and equipment conditions at the leisure center for grant application purposes. The facility, originally built in 1976 with an extension in 1984, underwent minimal updates since the installation of a new control system and variable speed drives around 2015, resulting in utility consumption reductions.

However, our evaluation revealed critical areas for improvement. In 2019, energy consumption stood at approximately 2,638,866 kWh, emitting about 524 tonnes of carbon. Several issues were identified, including the absence of renewable technology such as solar panels, an aging heating system requiring full replacement, four out of ten boilers non-operational, and three main air handling fossil fuel units in need of complete refurbishment.

Given the size of the building, age of the plant and building facility in addition to constant heat demand required to service the swimming pools the leisure centre provided a significant opportunity for substantial carbon footprint reduction and modern sustainable technology integration.

## About Parkwood Project Management

PPM deliver project management solutions throughout the UK. We have skills and experience in decarbonisation projects, project management, asset management, lifecycle investment and sport and leisure consultancy and provide intelligible, flexible and long-lasting solutions to a variety of problems and opportunities

[enquiry@ppm-parkwood.co.uk](mailto:enquiry@ppm-parkwood.co.uk)

## Our Services Include:

- Project Management
- Asset Management
- Employers Agent



# PUBLIC SECTOR DECARBONISATION SCHEME



## OUR CLIENT:

## TORBAY COUNCIL

Torbay Council, situated in Devon, serves the communities of Torquay, Paignton, Brixham, and surrounding villages as a local government unitary authority. The Torbay Leisure Centre, situated in Paignton, is entrusted to the management of Parkwood Leisure on behalf of the council.



## ENERGY SAVING MEASURES

Implementing a range of energy-saving measures, we've introduced new air source heat pumps, upgraded AHU fan motors, and enhanced our Building Energy Management System (BEMS). Additionally, we've installed battery storage solutions, implemented water management controls, and integrated solar photovoltaic panels. Complementing these efforts are the adoption of low-energy lighting fixtures and sensors, all contributing to a more sustainable and efficient operational environment.

### INTELLIGENT CONTROLS

770 kW of heating capacity was designed utilizing 2 x air source heat pumps (ASHP) located in a newly formed external compound. These were integrated with a new large hot water storage tank, pumping systems and BEMS control. The system serves upgraded LTHW services including 2 x swimming pools with eelcrecially powered heaters providing increase in temperature for HWS

### AHU FAN MOTORS

We upgraded 3 fan motors and controls in the facility's air handling units. Our advanced software and connectivity enable continuous real-time monitoring of energy consumption, speed, torque, and temperature, facilitating automatic diagnosis of HVAC system issues. This ensures optimal energy efficiency and enables effective demand-side management.

### BEMS UPGRADE

We expanded the existing building controls, previously managed through a partial Trend system, to incorporate smart controls for the air source heat pumps (ASHPs), battery system, and photovoltaic inverters.

### BATTERY STORAGE

We installed a 100 kW, 205 kWh battery storage system. This enables surplus electricity generated during the day to be stored and utilized during peak tariff hours, rather than being exported to the grid.



### SOLAR PHOTOVOLTAIC PANELS

We deployed 476 photovoltaic solar panels on the center's roof, aimed at generating electricity to decrease reliance on grid power.

### WATER MANAGEMENT CONTROLS

The integration of pool heating circuits with the new microfiltration system guarantees optimal heat transfer efficiency and minimizes water losses. This innovative filter system has resulted in significant savings, reducing water consumption by approximately £1000 per month compared to the previous sand filtration system.

### LOW ENERGY LIGHTING SENSORS

We upgraded internal fluorescent light fixtures in various areas including the pool hall, sports hall, gym, corridors, and squash courts, replacing a total of 474 fittings with specialist low-energy lamps. These lamps are designed to lower electrical loads while enhancing illumination levels. Where feasible, we implemented 'intelligent' lighting controls, including daylight sensing, for improved efficiency.



**Glen Hall, Managing Director of Parkwood Leisure says:**

"This award is a fantastic way to recognise and celebrate our extensive energy management initiatives throughout the estate and in particular the work with Torbay Council and Leisure Energy. We're incredibly proud of this project and the benefits it's created for Torbay Leisure Centre, and it demonstrates our commitment to the extensive support we provide to our customers."



Contact us: [enquiry@ppm-parkwood.co.uk](mailto:enquiry@ppm-parkwood.co.uk)

