Dunfermline Learning Campus - Schools

Application of the Net Zero Public Sector Buildings Standard (the Standard)

Fife Council

Scottish Futures Trust

Zero Waste Scotland

Scottish Government
Riaghaltas na h-Alba
gov.scot

Schools

Application of the Standard

Project details

Building type
Secondary Schools

Standard review stage
Concept Design

Area
27,000 m² (GIA)

Student roll
Woodmill High School - 2,700
St Columba's RC High School - 1,000

Reduction in climate impacts

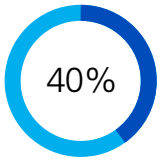
Typical energy use
162 kWh/m²/year

↓ 64%

Predicted energy usage
58 kWh/m²/year

Construction Embodied Carbon
A recommended 650 $kgCO_2eq/m^2$ is being considered by the project team

The Standard saves an average of 40% embodied carbon



Project background

The new Dunfermline Learning Campus was announced in 2019 and will open in 2024. It will include the relocation of a college and two schools: Fife College Halbeath Campus, St Columba's RC High School and Woodmill High School.

The campus will provide a 'joined up learning' approach within a unique, high quality and digitally enabled learning environment.

Fife College and Fife Council collaborated to develop the overall site masterplan.

The new voluntary Standard supported the Dunfermline Learning Campus to meet its net zero commitments for the new campus, influencing the project from early concept design stage.

> "Working with the Net Zero Public Sector Building Standard as a Pathfinder project, our design & construction processes and standards have been improved to meaningfully integrate carbon, energy and environment to create truly sustainable new high schools. In creating our innovative Dunfermline Learning Campus, we want to provide a lasting educational legacy for future generations, supporting and improving their environment. This will help us deliver against the Climate Emergency."
>
> **Alan Paul, Senior Manager Property Services, Fife Council**

DUNFERMLINE LEARNING CAMPUS

Schools

Application of the Standard

Working towards the Net Zero Public Sector Buildings Standard

Place

Fife College Halbeath Campus collaborated with Fife Council to relocate the Further Education college and both of the schools, moving to a joint learning campus. It will host both new buildings and promote joined-up learning.

The Council's strategic case for its element of the learning campus noted the very poor condition of the old Woodmill and St Columba's High Schools.

The masterplan emphasised the need for both sustainability and the delivery of healthy places.

The opportunity created a proposal for an integrated campus, of schools, colleges, development hubs and sports facilities.

Learning from the Standard helped to inform a reduced carbon, fit-for-purpose, flexible and modern learning environment.

The campus is an exemplar of cross-sector engagement and collaborative design.

Carbon

Funding from the Learning Estate Investment Programme (LEIP) supported the project, accelerating the transition to net zero emissions and the build of a resilient, and sustainable place.

Fife Council are also implementing the Passivhaus Standard.

The funding and Passivhaus Standard are driving highly ambitious operational carbon and energy targets – reducing metered consumption to only 58 kWh/m²/year (from approximately 162 kWh/m²/year).

Informed by dynamic simulation modelling and optimisation of fabric and form, followed by buildings services.

Utilising all-electric or zero direct emissions heating solutions.

The Council made clear an ambition to include a Construction Embodied Carbon target.

The Standard was invaluable in helping to provide a target and defining how it would be developed during the building design process.

Internal and external environment

Fife Council applied Building Bulletin 101 guidance intended to improve ventilation, thermal comfort, and indoor air quality in schools.

The project committed to good daylighting and acoustics, reducing energy consumption.

Concept design stage modelling and strategy sought to integrate the ambitions of the Standard and achieve the energy performance targets.

The project applied Silver Active requirements of Section 7 of the Scottish Building Regulations, with specific requirements for biodiversity and water usage.

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