

# Constructing Net Zero

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# Dudley College of Technology

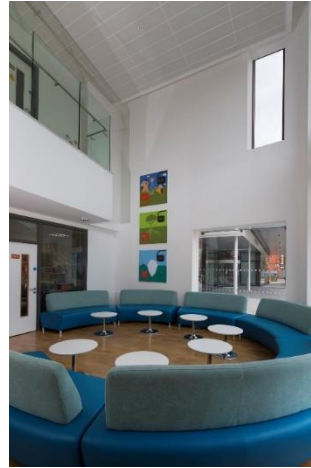


- A long and **well established** further education college.
- The college's history can be traced to the Dudley Institute in **1862**.
- The preferred choice for **12,500 students**, including young people, adults and employers.
- We have **5,000 students** aged 16-18 studying on a full time basis.
- We have **3,700 apprentices** at all levels and ages
- We offer **4,000+** courses.
- We offer a wide range of **vocational** and **academic** programmes.
- We employ **960 staff**.
- **£50 million** turnover.

# Dudley Evolve



# Dudley Sixth

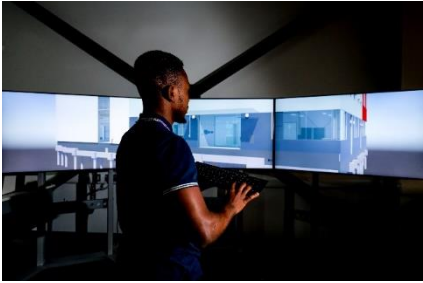




# Dudley Enhance



# Dudley Advance



# Dudley College of Technology



- Completed **7 new buildings** over the last 9 years
- First buildings all **BREEAM Excellent**
- **Funders** drive sustainability targets
- Last 2 buildings college **more in control of outcomes**
- Aided by **new procurement** route Integrated Project Insurance (IPI)
- **Cost norms** for build dictates funds available to use and forces **prioritisation on spend** decisions.
- **Net Zero** not easily **affordable** if at all with current thinking and **support in the Further education sector.**



# Dudley Advance II





# Institute of Technology



# Dudley College New Builds



	<b>Advance I (2014) BREEAM Excellent</b>	<b>Advance II (2017)</b>	<b>Institute of Technology (2021)</b>
EPC	29	23	22
U value Av	0.41	0.3	0.31
Energy Consumption kWh/m <sup>2</sup>	66.25	44.84	29.84
Building Emissions KgCO <sub>2</sub> /m <sup>3</sup>	20.19	13.06	15.5
Air Permeability M <sup>3</sup> /hr.m <sup>2</sup> @ 50pa	5	3	2.79
On site generation kWh/m <sup>2</sup>	10	0	0

# Initiatives

- Sourcing of Materials embedded carbon
- Use of local labour companies, and materials increased from 62% - 84%
- Specific
  - High Insulation Levels
  - Low Air Permeability
  - Maximum natural ventilation, minimising plant and associated emissions and energy use
  - Low temperature heating, Thermally Active Building system (TABS)
  - Omit use of Gas, and using Air Source Heat Pumps.
- Future
  - More onsite generation