

CREATING AN INSPIRATIONAL AND GREEN LEARNING ENVIRONMENT



“We are extremely pleased with the results... a reduction in our consumption of 9.8% means a saving in carbon emissions of over 38,000kg of CO2 together with a saving of about £7,000 per year.”

Claire L. Burnard, Business Manager,
Stoke Damerel Community College

EC HARRIS
BUILT ASSET
CONSULTANCY

Stoke Damerel Community College specialises in mathematics and computing and is a Raising Achievement Partnership College. It is situated in Plymouth and admits pupils between 11 and 18 years old.

The college needed to increase its capacity to meet the needs of the local community. Given the budget available, it was decided that the best option was to build an extension to the original buildings and use innovative furniture, fixtures and ICT solutions to create capacity.

EC Harris was appointed to project manage the process, ensuring that the development was aligned to the college's education vision, aspirations, needs and wider local objectives.

Creating Solutions

The building and refurbishment works were completed to an extremely high standard, ahead of schedule and below budget. The project led to:

- An improved entrance
- The creation of larger, more flexible spaces for learners to enjoy
- An extended library with over a hundred flat screen computers
- A larger and better equipped Sixth Form common room
- Improved sports facilities.

The new extension and refurbishment helped create a vibrant and inspirational environment for learners. However, the energy demand following the project was greater than the capacity of the existing site supply. Two options were available to solve this problem.

The first was to increase the electricity supply to the site, this would have resulted in a capital investment cost of around £40,000 for the college for which there would be no payback. The second option was to undertake a number of energy saving initiatives resulting not only in financial savings but also a reduction in carbon emissions. The initial capital costs of such work would be paid back through the reduction in energy bills over a number of years.

The college agreed to go ahead with the second option and EC Harris sustainability consultants were brought in to review the energy efficiency of the college and undertake a robust energy audit. This involved:

- Identifying the current energy consumption and initial areas for improvement
- Using EC Harris data to benchmark performance and predict the size of the savings
- Designing a phased and deliverable action plan to achieve the savings.

Adding Value

EC Harris effectively developed and implemented a robust plan to help the college save money and reduce its carbon emissions. The main element of the plan was the installation of a voltage optimisation unit, which would reduce the voltage rating of power delivered to the site.

An unnecessarily high voltage causes electrical equipment to run inefficiently and decreases their life span. The reduced voltage to the college ensures all electrical equipment runs more efficiently and reduces overall energy consumption.

Within the first six months of the installation of the voltage optimisation unit the electrical consumption was recorded as 9.8% lower than the expected levels. This equates to a projected annual carbon dioxide emissions saving of approximately 38,800kg and a financial saving of £7,760 per annum. The cost of all the improvements recommended will be paid back in less than four years.

When all the recommended energy savings are in place, the EC Harris team will have been able to save the Stoke Damerel Community College the cost of a teacher by reducing their energy usage.

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