

COLEG GWENT

The main aim of the project was to make significant year on year improvements in the environmental performance of the college by developing a plan that would see Sustainability, Waste Management and Social Responsibility integrated into the day to day management of the college, giving it the same 'priority' as all other management decisions effecting the college. To ensure that this was achieved the college set a number of challenging but realistic targets that would be seen by others as innovative, inspirational and sector leading.

THE INITIATIVE:

As one of the largest FE college in Wales Coleg Gwent understands the importance of innovative environmental management and sustainability leadership. In September 2008 the college set itself an ambitious plan to develop a structured EMS with robust and comprehensive policies and procedures that would ensure that year on year the college would dramatically reduce its energy consumption, reduce its CO₂ emissions, improved its waste management and sustainability. From the very early stages the College identified that to successfully achieve its year plan it had to outstanding and develop initiatives that would be innovative, inspirational and sector leading and make a true impact on the environment both within the college and in the wider communities. To ensure this a clear message was communicated that Sustainability, Waste Management and Social Responsibility had to be integrated into the day to day management of the college and that it must be given the same 'priority' as all other management decisions effecting the college and not just a bolt on afterthought. This commitment was given by the senior management team and members of the Corporation. Initial work was carried out by the Energy & Environmental Management Group, led by the Manager (Health, Safety & Environment) who conducted a comprehensive impact assessment followed by a series of discussions and workshops with staff, students, contractors and unions, where their views were obtained. The aim of this process was to ensure that from the very start all groups of the college were included, had a sense of ownership and responsibility. As a result a set of challenging but realistic initiatives and targets were agreed. Work then commenced on putting the plan together and establishing working partnerships with a number of external environmental groups and contractors to assist with the implementation.

The following list is a summary of the problems identified and initiatives and targets to be met:

The initial Problem	Initiative / target to be met by 2013/14
No formal Environmental Management System	Achieve level 5 of the Green Dragon EMS
100% of waste sent to landfill sites	Achieve 50% recycle rate
Total waste produced 733 tonnes	Reduce total quantity of waste produced by 20%
No separation of waste streams	Identify and separate all waste streams
5 separate waste contractors on site	Consolidate waste contract
Total electricity consumption 4041392 KWh	Reduce total consumption by 20%
Total gas consumption 13172881 KWh	Reduce total consumption by 20%
Total water consumption 56,624 m ³	Reduce total consumption by 20%
Total oil consumption 3440053 KWh	Reduce total consumption by 20%
No formal monitoring of energy use	Implement structured energy monitoring, reporting & campaigns
No monitoring of staff business travel	Monitor and reduce staff business travel by 10%
No travel plans available for staff or students	Develop and implement green travel plan and strategy
No consideration of biodiversity	Develop a biodiversity strategy and action plan
No formal environmental awareness training	Develop an environmental awareness programme
Environmental and sustainability not formally considered during refurbishment or new building projects	Develop, implement and integrate sustainable design principals and energy efficiency into all construction/development projects
Social responsibility and sustainability not formally considered during the procurement of goods and services	Develop, implement and integrate sustainable procedures and green purchasing strategies

THE BENEFITS AND RESULTS

Waste target = 50% recycle rate. Actual recycle rate achieved in 2013/14 = 86% recycle rate

During the plan the college made continuous year on year improvements in waste management achieving a substantial recycle rate of '86%'. In 2013-14 the total waste recycled was 575 tonnes. Below are examples of just some of the waste streams separated and recycled by the college

- 2.5 tonnes of food waste was recycled from catering this is collected, processed and converted into good quality compost
- 55 Tonnes of all paper /cardboard was collected recycled and converted back into paper for the packaging industry
- 12.8 tonnes of metal was segregated, recycled and processed and sent for use for use in the automotive industry
- 4 tonnes of all wood was segregated sent for processing and re-sold as bedding in the equine industry
- 4.38 tonnes of used tyres from the motor vehicle departments were recycled and converted into government standard (PAS 108) Tyre Bales for use in the construction industry, i.e. Sustainable Urban Drainage Systems, Sound Barriers/ Noise Bunds

Energy target = 20% reduction in consumption. Actual energy consumption and saving in 2013/14 are as follows

- Electricity consumption = 3915726 KWh. When compared to 2007 consumption this equates to a reduction of some 31%
- Gas consumption = 10020958 KWh. When compared to 2007 consumption this equates to a reduction of some 25%
- Oil consumption = 1446903 KWh. When compared to 2007 consumption this equates to a reduction of some 56%
- Water consumption = 23,044m³ When compared to 2007 consumption this equates to a reduction of some 59%

Reduced CO₂ and Greenhouse Gases

As a result of the continuous improvements in energy, waste management and sustainable travel the college were placed 1st in 2011 and again in 2012 in the Carbon footprint benchmarking for FE colleges in Wales,



achieving a CO₂e rate of 45.7 per m² when compared to a sector average of 53.6 per m² during 2012

Size m ²	77,579
Total Energy (kg/CO ₂)	3,223,687
Paper (kg/CO ₂)	143,592
Transport (kg/CO ₂)	121,732
Landfilled Waste (kg/CO ₂)	37,500
Water (kg/CO ₂)	21,654
Carbon Footprint Total	3,548,165
Total per m ²	45.7

SUSTAINABLE PROCUREMENT

After a successful trial period in 2010-11 the college implemented eSourcing through the Bravo Solution Education UK Network for all tenders and specifications. In doing so the college were the Highest placed FE College in the Welsh League Table and 13th overall during 2012. Through using e-tendering it was estimated by Bravo Solution the college saved 170,590 sheets of A4 paper equating to saving of 18.53 trees and a tangible benefit of some £60,944.00.

STUDENT ENGAGEMENT & SOCIAL RESPONSIBILITY

Over the years the college improved student engagement, improved ESDGC and established a number of working partnerships within the local communities at each of its 5 campuses. These include Keep Wales Tidy, SEWTA, Carbon Trust, Plan-it Eco, Woodland Trust and the local councils. Through the partnerships the college has been involved in a number of environmental projects. e.g. Environmental conservation students gathered, measured and cut hazel, reed and alder to create an underground home of corridors and chambers, so that otters could rest, sleep and nest with their young cubs. Further projects included

Landbased students planting a hedge using 420 free trees from the Woodland Trust to celebrate The Queen's Diamond Jubilee, to improve the surroundings and help native woodland wildlife. The Estates department have also worked with the students at the Crosskeys Campus to establish a small wildflower meadow in a little used area of the campus to encourage the bee population which will help reduce grounds maintenance costs in this area

SUSTAINABLE DEVELOPMENT PRINCIPLES

The 5 year plan has ensured that sustainable development principles were embedded into new developments. This is best demonstrated in two new developments at the Crosskeys Campus and the new Blaenau Gwent Learning Zone (BGLZ) which were not only designed to meet the future needs of the college by providing flexible teaching facilities but also the sustainability aspects were instrumental in the informing the planning process. The Masterplans for the sites were developed through a series of key stakeholder workshops and public exhibitions, which considered a wide range of assessment criteria, including the protection and enhancement of wildlife, habitat connectivity within and outside of the site, and the potential for an integrated sustainable drainage system to benefit ecology and landscape. As a result the designs were awarded the BREEAM (Building Research Establishment Environmental Assessment Method) standard of 'Excellent'. Some of the main features include biomass boilers and solar thermal hot water at Crosskeys whilst the BGLZ, through a partnership with Blaenau Gwent County Borough Council, heat is delivered via a district heating main from CH&P boilers, both sites are controlled using an Intelligent Building Management System that sits on the college network, natural ventilation wherever possible and designed to exceed Part L insulation requirements by 20%. In terms of the scheme's wider sustainability, the Masterplans contained a range of other characteristics that will act to reduce the

environmental impact of the scheme, such as: 15% of the value of the materials used was recycled or reused; measures to encourage walking and cycling; provision for public transport services: excellent environmental performance within the built environment, including water efficiency, energy efficiency, and use of low environmental impact materials; a biomass boiler system and the use of a Sustainable Urban Drainage Systems.

Through the development of the 5 year plan the college was able to develop and embed the following procurement practices

- A green buyers guide
- Utilised the Sustainable Procurement Assessment Framework
- Sustainable Risk Assessments completed for the procurement of all services
- E-tendering for all tenders and specifications
- PQQ – includes environmental, sustainability and social responsibility questions
- Electronic requisitions

The processes developed and embedded have ensured that many departments of the college have also benefited an example of this is the Human Resources department that implemented electronic annual leave requests. Since its implementation in 01/08/12 the system has logged 10,661 separate requests (or A4 sheets of paper) this equates to a saving of 1.162 trees due to the quantity of paper saved.

CONCLUSION - SIGNIFICANCE FOR THE SECTOR

As a result of all the hard work, commitment and investment made by all staff, students, contractors and stakeholders Coleg Gwent met its plan targets by making successful and continuous year on year improvements. As can be seen from the summary above by integrating sustainability, waste management and social responsibility the college has achieved its aim of being innovative, inspirational and outstanding. It is hoped that by taking proactive actions with regard to environmental management and sustainability Coleg Gwent can be seen by other Further Education colleges that substantial reductions in waste and energy use can be achieved. In its quest for continuous environmental improvement the college believes it can share with the other colleges in the sector the significant lessons learnt and the best practices achieved.

