Board of Governors

4 October 2010

2009/10 Annual Sustainability Report

Purpose

This report provides a summary of some of the achievements made towards sustainability in the 2009/10 academic year.

Executive Summary

Sustainability aims to fulfil human needs while preserving the environment so that these needs can be met not only in the present, but also for future generations. The University's commitment to sustainability consists of a holistic approach that involves:

- A long-term, integrated approach to developing and achieving a healthy community for staff, students and visitors by jointly addressing economic, environmental and social issues, whilst avoiding the over consumption of key natural resources.
- Adapting a series of policies and strategies which over time underpin how the University operates, functions and presents itself to the outside world.
- Complying with the increasing demand to perform across a wide range of environmental, social and economic drivers.
- To draw upon and include our staff, students, visitors, business contacts, suppliers, local residents and partners.

University of Glamorgan BSEN ISO 14001:2004 Ongoing Improvement Targets

The University has continued to measure the energy and carbon emissions, water, and waste used and produced throughout the organisation by implementing a set of 'ISO14001 Ongoing Improvement Targets' that aid in identifying the numerical trends of data and comparing this data within each financial year. These University wide ISO14001 targets can be viewed overleaf:

University of Glamorgan BSEN ISO 14001:2004 Ongoing Improvement Targets:

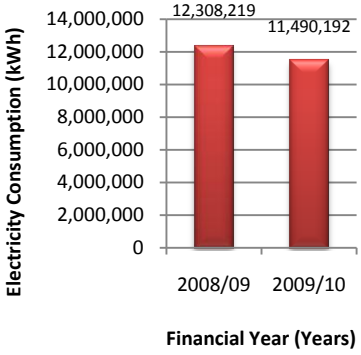
- **Reduce electricity consumption by 1% p.a. year on year in line with the number of students & staff and University GIA**
- **Reduce gas consumption by 1% p.a. year on year in line with the number of students & staff and University GIA**
- **Increase renewable energy production by 1% p.a. year on year**
- **Reduce water consumption by 2% p.a. year on year in line with the number of students & staff and University GIA**
- **Annual carbon reduction of 3% p.a. year on year in line with the number of students & staff and University GIA**
- **Short-term target of total carbon reduction of 15% between 2010 and 2015 (five years), based on a 2005 baseline**
- **Long-term target of total carbon reduction of 80% between 2010 and 2050 (forty years), based on a 2005 baseline**
- **Continual increase in environmental awareness amongst staff and students**
- **Less waste to landfill**
- **Increase recycling with the goal of achieving 'total recycling' of ALL waste**

This report sets out the annual results of the University's further developments in sustainability found in the examples of:

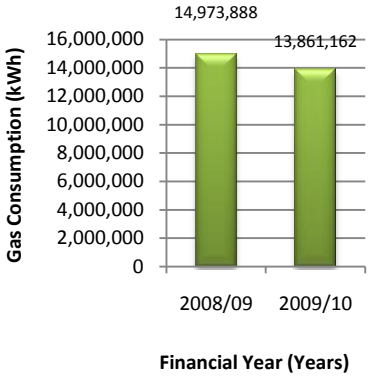
- Energy, Water and Waste Management
- Carbon Management
- Sustainable Travel
- Environmental Management
- Construction & Refurbishment
- Sustainable Procurement
- Biodiversity
- Research Development

➢ Energy, Water and Waste Management

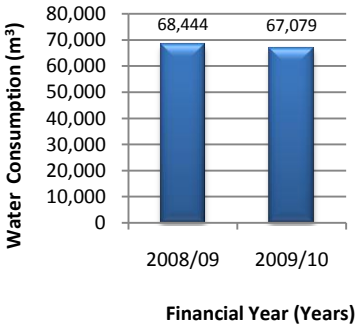
Electricity Consumption for 2008/09 and 2009/10 (kWh)



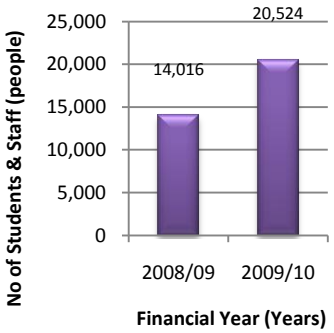
Gas Consumption for 2008/09 and 2009/10 (kWh)



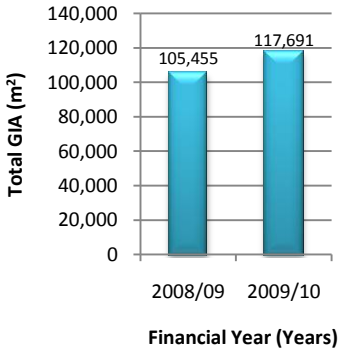
Water Consumption for 2008/09 and 2009/10 (kWh)



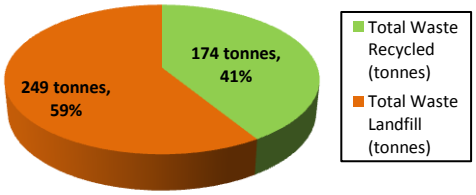
Total Number of Students & Staff (people) for 2008/09 and 2009/10



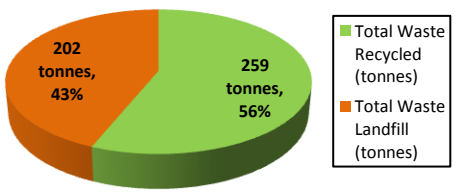
Total GIA for 2008/09 and 2009/10 (m²)



Total Waste Recycled & Sent to Landfill 2008/09



Total Waste Recycled & Sent to Landfill 2009/10



➢ Between 2008/2009 and 2009/2010 there was:

- A *decrease* in electricity consumption of 6.65% (818,027 kW) from 12,308,219 kW to 11,490,192 kW.
- A *decrease* in gas consumption of 7.43% (1,112,726 kW) from 14,973,888 kW to 13,861,162 kW.
- A *decrease* in water consumption of 1.99% (1,365 m^3) from 68,444 m^3 to 67,079 m^3.
- An *increase* in the total number of students and staff of 46.43% (6,508 people) from 14,016 people to 20,524 people.
- An *increase* in total GIA of the University of 11.60% (12,236 m^2) from 105,455 m^2 to 117,690.59 m^2.
- A *decrease* in energy consumption per square metre (GIA) of 0.00035% (0.0000021 kWh/m^2/yr) from 0.5901556 kWh/m^2/yr to 0.5901535 kWh/m^2/yr.
- A *decrease* in energy consumption per person (staff and students) of 26.74% (1.4260315 kWh/person/yr) from 5.3328693 kWh/person/yr to 3.9068378 kWh/person/yr.
- An *increase* in total waste recycled of 15% (85 tonnes) from 174 tonnes to 259 tonnes.

➢ <u>Explanation of Results</u>

- Installation of electricity and gas saving initiatives such as PIR lighting controls, high frequency lighting, installing condensing boilers and thermo-static radiator valves.

- Introduction of water management systems such as water hippos in all cisterns, reducing cistern size from 12 litres to 6 litres and greater monitoring and pro active maintenance to avoid leaks and correct defective equipment.

- The commitment to sustainability extends to the University maintenance and building management regimes. In the last year, sizeable investments have been made in heating plant and notably to the building management systems which will give even greater control of utility consumption and quality of the internal environment.

- LCSS-IS have introduced an energy saving automatic shut down of all University staff computers as part of the University's ongoing commitment to improving energy efficiency. This will reduce energy consumptions and costs, and contribute towards the University's green agenda.

- Further work has and will continue to be carried out to establish how we can reduce the number of pieces of equipment purchased without compromising the service to our staff and students, which will reduce our energy consumption, our waste and make significant financial savings by reducing the amount we buy and the significant hazardous waste disposal costs when equipment becomes unusable.

- Monitoring and adherence to all relevant environmental regulation and legislation continue as a priority. The University is a registered producer of hazardous waste with our licenses being renewed annually by the Environment Agency.

- Allowance for weather and changes to the University estate.

➢ **Potential Renewable Energy Projects at the University**

To increase the University's CRC performance the Environmental Team are exploring the following possible renewable energy projects:

- Installation of Solar PV Arrays on the roof of Stilts Restaurant

The Stilts Restaurant has a south facing roof that is perfect for maximising the generation of electricity via a solar PV array. Also the location and design of the building and roof makes it ideal for both maintenance and education purposes, exhibiting the University's commitment to carbon reduction.

- Installation of Wind Turbine at Tyn Y Wern

The location is based within a valley which is ideal for wind to travel through. This will enable a proposed wind turbine to generate a significant amount of electricity. The wind turbine will also act as a visual reminder to show how committed the University is to reducing its impact on the environment and researching new and innovative renewable energy initiatives.

- Installation of Voltage Optimisation Units at Glynneath Block

Operating electrical equipment at high voltages leads to significantly higher energy consumption. Lighting and motors use more power at higher voltages. Voltage optimising units lower the voltage and dramatically improve the power quality for a whole site more efficiently than any other technology available. All equipment will run more efficiently and its energy consumption will be lower. The Environmental Team hope to install these units in Glynneath Block as a trial and if successful will be installed at additional blocks where significant amounts of energy are consumed. This equipment will reduce the electricity consumption of the Glynneath building by up to 15%.

- Additional Estate Energy Initiative Projects

Energy efficient lighting and lighting controls continue to be installed as part of refurbishment works and new builds across the University estate. Work continues to update and convert boilers and heating systems to help provide energy and carbon savings.

Improving control systems to boilers and heating systems is also taking place in order to provide greater local control within individual buildings.

➢ Water Management Projects at the University

Water conservation measures continue to be implemented where potential savings are identified. This has involved installing items such as percussion and spray taps, waterless urinals and reducing the cistern sizes of toilets across the estate from 12 litres to 6 litres.

➢ Display Energy Certificates (DECs)

DECs show the actual energy usage of a building, and identify to the public the energy efficiency of a building and its consumption as recorded by gas and electricity meters. A DEC is valid for one year, being renewed annually. All public sector buildings with a total useful floor area of 1,000m^2 are required by law to display a DEC in a prominent place, clearly visible to the public. The University's chosen consultant 'Severn Surveyors' have completed the DEC updates for the year 2009 to 2010 and these are now displayed. The ratings of each building and their previous year rating are shown below for comparison:

Oct-08							
BUILDING	**ENERGY EFFICIENCY**						
RATING	**A**	**B**	**C**	**D**	**E**	**F**	**G**
Ty Crawshay (A Block) "A3" Chemistry Lab					✓		
Ty Crawshay (A Block) "A4" House					✓		
Brecon (B Block) "B1"					✓		
Brecon (B Block) "B2"					✓		
Brecon (B Block) "B3"					✓		
Centre for Sport, Health and Exercise			✓				
Dyffryn (D Block)					✓		
Ferndale (F Block)					✓		
Food Court & Restaurant						✓	
Glamorgan Conference Centre (GBC)					✓		
Glynneath (G Block) "G1"					✓		
Glynneath (G Block) "G2"					✓		
Hirwaun (H Block)					✓		
Johnstown (J Block)					✓		
Kidwelly (K Block)					✓		
Learning Resources Centre (LRC)					✓		
Halls of Residence - Neuadd Philip Evans (UA)					✓		
Halls of Residence - Glamorgan Court (One Block Only- L Block)					✓		
Wenvoe (W Block)							✓
Welsh Institute of Chiropractic		✓					
Aneurin Bevan Building			✓				
Glyntaff Learning Resources Centre (LRC)			✓				
Elaine Morgan Building (Law)			✓				
Tramsheds							✓
Enterprise House				✓			
Atrium				✓			
MTC1 (A Block)							✓
Tyn-Y-Wern Sports Centre and Pavilion			✓				
RWCMD (Anthony Hopkins Building)	✓						
RWCMD (Raymond Edwards Building)		✓					
TOTAL	**1**	**2**	**5**	**2**	**16**	**1**	**3**

KEY

Any building performing better than an E Rating is above the norm for that type of building and its use

Oct-09							
BUILDING	**ENERGY EFFICIENCY**						
RATING	**A**	**B**	**C**	**D**	**E**	**F**	**G**
Ty Crawshay (A Block) "A3" Chemistry Lab			✓				
Ty Crawshay (A Block) "A4" House				✓			
Brecon (B Block) "B1"				✓			
Brecon (B Block) "B2"				✓			
Brecon (B Block) "B3"				✓			
Centre for Sport, Health and Exercise		✓					
Dyffryn (D Block)				✓			
Ferndale (F Block)				✓			
Food Court & Restaurant					✓		
Glamorgan Conference Centre (GBC)	✓						
Glynneath (G Block) "G1"			✓				
Glynneath (G Block) "G2"						✓	
Hirwaun (H Block)					✓		
Johnstown (J Block)						✓	
Kidwelly (K Block)			✓				
Learning Resources Centre (LRC)				✓			
Halls of Residence - Neuadd Philip Evans (UA)			✓				
Halls of Residence - Glamorgan Court (One Block Only- L Block)			✓				
Wenvoe (W Block)	✓						
Welsh Institute of Chiropractic			✓				
Aneurin Bevan Building			✓				
Glyntaff Learning Resources Centre (LRC)		✓					
Elaine Morgan Building (Law)		✓					
Tramsheds				✓			
Enterprise House	✓						
Atrium							✓
MTC1 (A Block)							✓
Tyn-Y-Wern Sports Centre and Pavilion					✓		
RWCMD (Anthony Hopkins Building)	✓						
RWCMD (Raymond Edwards Building)			✓				
TOTAL	**4**	**3**	**8**	**8**	**3**	**2**	**2**

KEY

Any building performing better than an E Rating is above the norm for that type of building and its use

It can be seen that there has been an improvement in the energy efficiency of the University buildings as the number of E and G ratings has decreased while the number of A ratings has increased. It is hoped that the ratings of the buildings will improve when they are recertified in 2010.

As new buildings are added to the University portfolio additional certificates will be commissioned in line with the rules of the scheme.

➢ PC Shutdown Energy Savings

LCSS-IS have introduced an energy saving automatic shut down of all University staff computers as part of the University's ongoing commitment to improving energy efficiency. This will reduce energy costs and contribute towards the University's green agenda. Student-based PCs across the University's computer suites already participate in this process. All staff PCs will automatically shutdown at 9pm every night to reduce the unnecessary waste of electricity.

➢ Waste Management Projects at the University

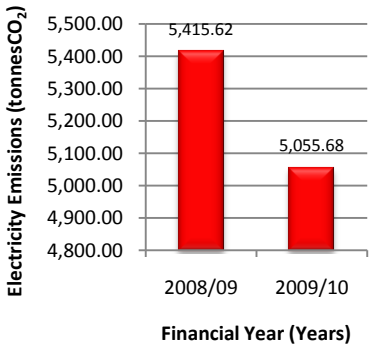
- Relocation of Waste Management Site on Treforest Campus

Our waste management site at the rear of G Block has been relocated to the rear of the Estates & Facilities Department next to the Visitors Car Park. The waste management site has been temporarily reduced in order to allow construction of the new Students Union building to be completed. However, when construction is complete the waste management site will include a large compactor, metal skip, cardboard skip and 1100 litre euro bins for the recycling of cans and plastic bottles. This location should minimise contamination of waste streams and prevent fly tipping of waste. Also there will be easier access for the collection of waste.

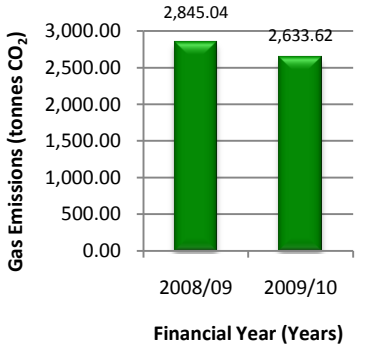
The Environment Agency renewed the University's hazardous waste and waste carrier licenses this year as a result of there being no breaches to the restrictions and processes that we have to follow.

➢ Carbon Management

Electricity Emissions for 2008/09 and 2009/10 (tonnes CO_2)



Gas Emissions for 2008/09 and 2009/10 (tonnes CO_2)



➢ Between 2008/2009 and 2009/2010 there was:

- A *decrease* in electricity emissions of 6.65% (360 tonnes CO_2) from 5,416 tonnes CO_2 to 5,056 tonnes CO_2.
- A *decrease* in gas emissions of 7.43% (211 tonnes CO_2) from 2,845 tonnes CO_2 to 2,634 tonnes CO_2.
- A *decrease* in carbon emissions per square metre (GIA) of 16.59% (0.0000356 tonnesCO2e/m^2/yr) from 0.0002146 tonnesCO2e/m^2/yr to 0.000179 tonnesCO2e/m^2/yr.

- A *decrease* in carbon emissions per person (staff and students) of 36.42% (0.0005882 tonnesCO2e/person/yr) from 0.0016147 tonnesCO2e/person/yr to 0.0010265 tonnesCO2e/person/yr.

➢ Explanation of Results

- Installation of electricity and gas saving initiatives such as PIR lighting controls, high frequency lighting, installing condensing boilers and thermo-static radiator valves.

- Introduction of water management systems such as water hippos in all cisterns, reducing cistern size from 12 litres to 6 litres and greater monitoring and pro active maintenance to avoid leaks and correct defective equipment.

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- Monitoring and adherence to all relevant environmental regulation and legislation continue as a priority. The University is a registered producer of hazardous waste with our licenses being renewed annually by the Environment Agency.

- Allowance for weather and changes to the University estate.

➢ **Carbon Reduction Commitment (CRC) Update**

- *What is Carbon Reduction Commitment (CRC)?*

The CRC Energy Efficiency Scheme is a new mandatory emissions trading scheme that will be run by the Environment Agency.

- *Why the University?*

The University purchased in excess of 6,000 MWh of electricity through half hour meters in 2008, this then qualifies the University to be entered into the Carbon Reduction Commitment Scheme. The qualification rules apply to the highest parent company in a corporate group and consumption is calculated taking into account all majority owned subsidiaries (*Merthyr, RWMCD*).

- *Timescales for CRC*

➢ Phase 1 - Introductory Phase

- Qualification Period - 1 January 2008 to 31 December 2008
- Registration Period - 1 April 2010 to 30 September 2010
- Footprint Year - 1 April 2010 to 31 March 2011
- Annual Reporting Years - 1 April 2010 to 31 March 2013

➢ Phase 2

- Annual Reporting Years - 1 April 2011 onwards
- No purchasing of CRC required until April 2012

➢ *University Liability*

- Registration Costs - One off cost **£950** / registration
- Failure to register will equate to a **£5,000** fine with a charge for **£500** / day thereafter.
- Annual Costs - **£1,290.00**
- Purchase of CRC allowances equates to a projected cost of **£12/tonne** of Carbon produced for electricity
- Based on consumption in 2008, January to December the cost of CRC allowances equates to **£66,253.76**, to the University group.

➢ *Future CRC*

- Up until 2013 the cost of CRC will be set by the government after 2013 a limit of the availability of allowances will be capped and therefore a potential auction of the purchase of allowances will take place, the liability of the University at this stage cannot be ascertained.
- There is a potential to reduce the cost, if the University succeeds in reducing its Carbon Footprint within the year it will be able receive income back, however this means it will receive some of its earlier costs back.
- Given that the University has been so active in this area over a number of years, many if not all the "quick fix" investments have been completed. The remaining opportunities require in most cases significant capital funding and building changes. When fully implemented, the plan and the ongoing activities within the University are expected to reduce overall CO_2 emissions from University owned buildings by at least 15% by 2015.

➢ Sustainable Travel

- Appointment of Travel Coordinator

In line with the University's Travel Plan, a Travel Coordinator has been appointed by the Estates & Facilities Department in order to achieve the aims of the Travel Plan, which are:

- To deliver a long term commitment to changing travel habits, to reduce single occupancy car trips to and from the University
- To offer every encouragement for those travelling within, to and from the University to be able to use public transport, cycle or walk in a safe and secure manner

- University Bike Scheme

Staff at the University will soon be able to take advantage of tax-free bikes and bike equipment when a cycle scheme finally launches at Glamorgan later this year. The scheme will allow staff to purchase bike equipment through a network of local bike shops using a voucher system, which is handed over to participating shops without the need for exchanging cash. The participating staff member then signs an agreement with the University and pays back the value of the goods, minus the VAT, Income Tax and National Insurance contributions, to the University via a salary sacrifice scheme.

➢ Environmental Management

➢ ISO14001 Environmental Compliance Audits

- Penarth Management Annual Environmental Legislation Audit

Jodie Read and Chris Green from Penarth Management Services carried out our annual environmental audit on the 25th and 26th February 2010. They have audited the University's environmental policies and procedures to ensure they comply with all present legislation. The general feedback from the audit was that staff awareness was very good, especially with the Environmental Representatives. One thing that the environmental team need to work on is student environmental awareness and recycling at accommodation.

- BM Trada Audit

BM Trada carried out our 6 monthly ISO14001:2004 environmental compliance audit in April 2010. The findings of the audit were that the University has successfully maintained its accreditation. It was identified that the main theme at present continues to be reducing

energy usage and hence carbon emissions, and the University must expand plans already in place to explore different base metrics for energy management, and cater for changes in circumstances such as an increase in student numbers and an increase in floor area.

- **The Times Higher Green League 2010**

The Green League is People & Planet's award-winning environmental ranking of the UK's universities. It aims to improve environmental performance in universities by raising the profile of environmental issues and creating a competition mechanism to drive up standards in the sector, with results being published in the Times Higher Education Supplement (THES). This year the University of Glamorgan was awarded a first for its environmental performance in the 'Green League', being named the 'greenest' University in Wales by the Times Higher Education. Next year we hope to continue to achieve this standard for the 5th year running.

- **Construction & Refurbishment**

University Site Waste Management Procedures

In line with the relocation of the waste management site and to ensure waste management best practice and comply with the 'Site Waste Management Plans Regulations 2008', the Estates & Facilities Department have introduced site waste management procedures for all new builds and refurbishment projects. These procedures provide guidelines for all staff and contractors on Waste Management Responsibilities, Waste Disposal, Hazardous Waste Disposal, Emissions, Effluents, Risk of Pollution and Non-Conformities.

- **Sustainable Procurement**

University Ethical Investment Policy

The University was identified within the Higher Times Green League Table as not having an Ethical Investment Policy. An Ethical Investment Policy recognises the importance of making the link between the investments an organisation makes and the corporate practices it is supporting. The Ethical Investment Policy for the University has been drafted. The proposal for the policy will now go through to the Ethical Committee for approval.

- **Biodiversity**

Woodland Walk Now Open

Jane Davidson, Minister for the Environment, Sustainability and Housing, officially opened the University's Woodland Walk at a ceremony on the Treforest campus on Friday, 23rd July. The Minister was joined by PVC Helen Marshall for the ceremony. The Woodland Walk is a 322 metre path that intersects the campus, running between Stilts restaurant and the crèche. The conservation area features picturesque views, peaceful clearings and even a mountain stream and is home to a multitude of wildlife including bats, foxes and birds. It's an ideal place for staff and students to escape for some peace and quiet over lunch, or to get some fresh air.

The project is fully sustainable; the footpaths have been resurfaced using recycled woodchips from old office furniture and timber left over from the clearing work within the woodland area, and is lined using recycled plastic bottles from the University recycling bins. Seating areas, bird tables and even birdbaths have also been fashioned from timber sourced from the woodland itself. The Walk also features useful information points, containing facts about the area for visitors. An outdoor classroom, also fashioned from wood sourced from the site, has been included for the use of local school children and crèche users to encourage youngsters to learn about local wildlife and experience the outdoors. The walk has been developed by the University's estates department in collaboration with Keep Wales Tidy and RCT Tidy Towns.

The Walk will be open daily from 10am – 3pm throughout the year, for staff, students and visitors. Appropriate footwear is advisable during wet weather.

- **Research Development**

Universities that Count - Year 2

Universities that Count is a benchmarking and performance improvement programme for the UK Higher Education sector, based on the Business in the Community Corporate Responsibility Index. It aims to transform the way that universities approach issues of environmental and social responsibility. Funded by the four UK Higher Education Funding Councils, the programme originated in a partnership between The Environmental Association for Universities and Colleges (EAUC) and Business in the Community.

The Universities that Count (UTC) programme had an excellent first year with 56 institutions taking part. 31 completed the environment index and 25 the full social responsibility index. Institutions received their individual feedback reports in July 2009 which gave them detailed analysis on the four 'pillars' of responsibility – Community, Environment, Marketplace and Workplace and enabled them to compare their scores with that of the business community as well as their peers. Alan Lovell is currently preparing the University's submission for the second year of Universities that Count.

- **Recommendations**

If it is viable then the University could make the decision to put their entire electricity supply out to tender, with the supply of green energy forming one of the main procurement criteria. In doing this the University would significantly reduce its emissions that it currently produces, by substituting the non-renewable energy resources that supply the electricity for renewable energy resources (e.g. wind energy, tidal energy).

The University could implement a carbon management plan/programme to reduce its Carbon Footprint. This would include initiatives such as the following:

- Encouraging the use of video conferencing and reducing business trip travel where practically possible.

- Encouraging the use of pool cars for business trips where recharges per gallon of fuel used are applied specifically to departments to reduce unnecessary travel.

- Reducing both staff and student commuting via single occupancy vehicles and promoting the use of public transport through the University's Travel Plan and appointment of the Travel Plan Coordinator.

- Including student and staff travel to and from the University on a daily basis, and at the start and end of each academic semester and each academic year.

- The University could calculate and monitor its Carbon Footprint by reducing its rate of CO_2 emissions per employee or student. This would be much more effective than simply buying 'carbon credits' in the market. In addition to this any 'offsets' that the University did commit to could be undertaken with recognised carbon management schemes to deliver genuine reductions in unavoidable emissions. This could be done in association with charities such as the Woodland Trust or the Carbon Trust as part of their 'Carbon Reduction Commitment', which is a government regulation that all large organisations are legally obliged to follow.

The Sustainability Team has a dedicated budget as part of a carbon reduction plan to procure and implement energy initiatives and carbon reduction projects, including both staff and student projects, in order to reduce the University's energy consumption and carbon footprint. This budget is based on the benchmark 10% of the total energy consumption cost of the previous year Utility Cost Total, equating to approximately £50,000 per annum.

The Sustainability Team could donate time to provide energy surveys within each department across the campus not only to help the department to reduce their carbon emissions, but also to enable the staff and students to grasp the larger sustainable picture. The University could continue to support the already implemented recycling scheme with the addition of branching out the scheme to incorporate other recyclable materials such as plastic film and packaging, and composting food waste. The University could also arrange environmental improvement volunteering projects to improve energy consumption and reduce the amount of waste produced as an organisation.

The University could install more water conservation measures and undertake an increased amount of regular inspection and maintenance to prevent waste. Some additional water conservation measures that could be utilised are waterless urinals, percussion taps, flow restriction valves and installing smaller cisterns such as 6 litre cisterns instead of 12 litre cisterns. The University of Glamorgan could implement long-term targets and awareness initiatives to educate both staff and students, reduce its impact on the environment and increase its ISO 14001 coverage even further. Meeting these targets would come down to actions by both staff and students so education would need to take priority through awareness-raising initiatives such as exhibitions, newsletters, promotional posters and internet and intranet environmental information pages.

➢ Conclusion

The University of Glamorgan is committed to measuring its performance as an organisation in the subject of CSR. To demonstrate its commitment, the University has created a formal Environmental Management System which has been successfully assessed to the International Environmental Management Standard BS EN ISO14001:2004. A major part of the University's commitment has been to improve how it measures and benchmarks its sustainable impacts. This has been done by implementing a set of 'ISO14001 Ongoing Improvement Targets' that aid in identifying the numerical trends of data and comparing this data within each financial year in order to comply with the ISO14001 standard.

The findings from this analysis have indicated that the University has been mostly successful in achieving its targets in line with ISO14001, in particular in the areas of waste being sent to landfill and being recycled. However, a number of findings convey that the University of Glamorgan has not been successful in achieving some targets, especially regarding KPIs associated with energy consumption and emissions.

From undertaking this study it can be seen that although the analysis of the University of Glamorgan's 'ISO14001 Ongoing Improvement Targets' has identified areas where the organisation has been successful and unsuccessful in achieving its ISO14001 targets, more importantly it has conveyed how successful benchmarking is as an approach for a University to use in order to become more corporately socially responsible, as benchmarking can, and as this study has proven, does identify gaps in performance and improvement, facilitates new ideas and aids in setting priorities for environmental management. This study has also illustrated the importance of comparing KPIs that incorporate floor area, number of students and staff and energy consumption all together, as this provides more accurate and precise data that can be analysed against the ISO14001 targets to greater effect, thus providing more applicable and relevant information.

From the results of this study, the Sustainability Manager at the University of Glamorgan has reinforced how important KPIs are to environmental management and CSR:

"With the mixture of increasing energy prices, increasing numbers of both staff and students and increasing campus size, the need for benchmarking has never been greater. Benchmarking is key in reviewing our energy and environmental performance year on year and allows us to identify areas where we need to improve in order to achieve our targets and remain compliant with the ISO14001 standard, which plays a significant part in the University's CSR Policy".