



**John Wheatley College and the Sustainable Accounting Group
Pilot Study – Reporting on Sustainable Performance**

Ref: 44768668



Project Title: Sustainability Accounting Group: Pilot Study
Report Title: Project Report
Project No: 44768668
Status: Final
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Document Production / Approval Record

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Document Revision Record

Issue No	Date	Details of Revisions
Final v1	30 March 2009	Final version of pilot study report

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Introducing the Sustainable Accounting Group

The Sustainable Accounting Group (the 'Group') is comprised of representatives from:

- John Wheatley College;
- Elmwood College;
- Oatridge College;
- Edinburgh's Telford College;
- Carnegie College; and
- The Scottish Funding Council (the 'SFC').

Technical support is provided to the Group through collaboration with sustainability consultants from URS Corporation Ltd ('URS')¹.

What is the Group's Overall Aim?

Led by John Wheatley College, the Group came together in light of the growing sustainable development agenda, in order to explore how an FE institution can measure and report on its sustainability performance in a meaningful and consistent manner (refer to Appendix A).

The Group envisaged that findings from the pilot study could be used to inform strategic decision-making both at campus and sector-wide level. The potential realisation of these wider benefits is reflected in the success of the Group to attract funding from the SFC.

What were the Objectives of the Pilot Study?

The Group wanted to participate in a focussed pilot study to determine how best to measure and record the ongoing sustainability performance of an individual college. It was also hoped that the pilot study would facilitate an increased understanding of, and a shared commitment to, continued sustainability performance improvement across the participating organisations (as well as highlighting areas for potential cost savings).

Through a tendering process led by John Wheatley College, URS was appointed to collaborate with key college representatives and develop the necessary data collation and reporting tools to support the Group's aspirations.

How was the Pilot Study carried out?

The Group determined that environmental considerations would form the focus of the initial pilot study. It was acknowledged that certain social and ethical aspects (such as staff pensions, student retention etc) are already included elsewhere in the colleges' annual reports.

The methodology followed during the pilot study is set out in Appendix B.

What is the Purpose of this Briefing?

This brief was prepared by URS and John Wheatley College to detail the scope, deliverables and findings of the pilot study.

¹ URS is an international environmental, engineering and management consultancy firm.

What are the Key Outputs from the Pilot Study?

The principle deliverables of the pilot study comprise:

- ✓ A set of KPI with an environmental focus, against which the colleges can measure year-on-year performance (see Appendix B);
- ✓ A data collation questionnaire, which provides a framework for data required to measure performance against the KPI; and
- ✓ A set of guidance notes that provide technical detail as to the nature of required data, and possible sources from which the data can be collated.

The data collation questionnaire and guidance notes are provided in Appendix C.

A number of qualitative and quantitative key performance indicators (KPI) were developed and trialled during the pilot study:

Energy Consumption

- Total energy consumption (kWh)
- Associated total carbon dioxide (CO₂) emissions (tonnes)
- Proportion of renewable sourced energy (%)
- Energy consumption by campus area (kWh)
- Average energy consumption per total square metre (kWh)
- Initiatives to minimise overall energy consumption
- Average CO₂ emissions per square metre (tonnes)
- Average energy consumption per FTE (kWh)
- Average CO₂ emissions per FTE (tonnes)
- Average energy consumption per SUMs (kWh)
- Average CO₂ emissions per SUMs (tonnes)
- Initiatives to increase proportion of renewably sourced energy

Water Usage

- Total water consumption (m³)
- Average water use per m² of campus area (m³)
- Average water usage per FTE (m³)
- Initiatives to reduce overall water consumption
- Average water usage per SUMs (m³)
- Usage by individual building / area (m³)
- Water source, as proportion of total used (%)
- Initiatives to increase the proportion of grey/harvested water used

Materials / Product Consumption

- Total number of paper reams purchased².
- Initiatives to reduce material & product consumption
- Initiatives to promote sustainably-sourced products
- Proportion of reams with recycled content (%)
- Implementation of a sustainable procurement strategy

Waste Generation & Disposal

- Total volume of waste generated (kgs)
- Waste disposal routes, as proportion of total disposed (%)

² NB. The Group discussed various materials / products that are used in significant amounts and could be tracked; paper was selected as it is a material common to all colleges.

- Volume of special waste (hazardous) generated (kgs)
- Initiatives to reduce, reuse or recycle waste

Travel & Transport

- Initiatives to encourage sustainable transport
- Initiatives to reduce transport use

Other Sustainability Initiatives

- Initiatives to protect & enhance biodiversity

The aim was to trial a large number of KPI during the pilot study, and subsequently discuss the relevance and viability of taking forward a set of core KPI in future reporting years. Key stakeholders are to be identified for consultation in this regard.

What are the Key Findings from the Pilot Study?

The following commentary provides a summary of additional findings from the pilot study (Appendix D provides further detail):

- The participating members of the Group have a valid understanding of the **corporate drivers and benefits for sustainable operation** and improved sustainability performance – at a global, national, sector and institution level (including potential cost savings from improved efficiency).
- The Group members have a genuine desire to comply with current and foreseeable sustainable development **legislation, and sector-funding requirements**.
- Experience of Group members suggests that **HE institutions** are, as a whole, typically more progressed in their sustainability achievements, and also their communication and reporting of these accomplishments.
- Without a comprehensive and cohesive reporting mechanism in place, the cumulative contribution of the efforts made by an individual college can go unreported, and thus successes unrecognised and benefits unshared. That is, achievements are not always **centrally recorded and communicated to key stakeholders** by the colleges (including effective campus-wide initiatives).
- The Group recognises the inherent value of including **a balance of quantitative and qualitative data**, so as to provide appropriate and complete context for sustainability performance reporting.
- At the outset of the pilot study, all college members of the Group expressed apprehension that data / performance against KPI could be taken out of context and used for direct comparison between colleges, rather than for the **year-on-year performance of an individual college**. These concerns were put forward in recognition of the sometimes-vast differences between FE institutions, in terms of campus age, size, infrastructure, nature of use etc. For example, direct comparison of annual energy consumption figures for an urban college campus with classroom based courses against that of a rural campus with field-based courses.

Data collation went some way to substantiate these concerns, for instance, the figure for total water usage at one college is a magnitude greater than that for other colleges, however when normalised against building area or FTE consumption is relatively comparable.

The Group concluded that it would be of greatest long-term benefit to discuss findings with other FE institutions and supporting organisations, before **finalising a core set of KPI (including normalisation factors)** to take forward in future reporting years from the larger number trialled in the pilot study.

- All college members were aware of their obligations under the **EU Directive on the Energy Performance of Buildings** (EPBD), which came into force in January 2003. Whilst acknowledging the sustainability aims and benefits of the Directive, all members expressed concerns about the practicalities and cost of meeting certain requirements. For instance, Energy Performance Certificates (EPC) must be in place for all existing public buildings with a useful floor area of $\geq 1,000$ m² by January 2009, with renewal on an annual basis.
- **Biodiversity** was not initially defined as a key sustainability theme for the pilot study. However, the Group recognises the significant contribution that college campuses can make towards enhancing biodiversity and the importance of mitigating any adverse ecological impacts. Therefore, this aspect was more latterly incorporated in the data collation tool.
- There are clear synergies between **the UCCfCS initiative** and the current pilot study, in terms of key focus areas, sustainable development objectives, and overall process.

Constraints:

To the Pilot Study

- Whilst the colleges seek to be proactive and innovative in their strategic approach to sustainable development, at times their efforts can be constrained to some degree by **resource availability** (i.e. staff and finances).
- Whilst all members of the Group were committed to the aims of the pilot study, some of the colleges have been greatly **resource / time constrained** due to mandatory obligations. This resulted in some delay during the data collation period, which impacted on the overall timescales of the pilot study.
- At the outset of the pilot study it was recognised that not all of those participating in the exercise had **access to basic database software** (e.g. Microsoft Access); the data collation questionnaire was therefore developed in spreadsheet form (using Microsoft Excel.) This format has proved successful for the collation of data for an individual financial period (i.e. the 'baseline'); however, it may not lend itself to data entry and direct comparison for subsequent periods as well as Access might.

To Improved Performance

- All colleges have at least one building, either on the main campus or satellite sites, which present financial and/or structural constraints to sustainable development. For example, **older buildings** incompatible with retrospective fitting of energy/water management technologies.
- **Existing utilities infrastructure / plant** can also present a constraint to improved sustainability performance. For example, mains electricity and mains gas are the predominate energy sources for the colleges, however where natural gas is the default main source rather than electricity, the total associated CO₂ emissions can be notably lower, even though the total energy consumed is greater.
- All colleges have found the capital and lifetime costs of **renewable energy technologies** to be a constraint when considering their feasibility.
- All colleges have found the generally **higher cost of green energy tariffs** to be a constraint when considering its feasibility.
- All colleges experienced incompatibility issues when trialling **paper with recycled content** for use in existing printers/copiers. Colleges are seeking to address this issue when purchasing new equipment.

- With one exception, colleges do not appear to have **supply chain management protocol** in place, in order to ensure ethical /sustainable procurement of goods and services.
- Although aware of general obligations under the Duty of Care Regulations ³, four of the five colleges involved in the pilot study were unable to provide the requested **waste management data**. All colleges indicated a commitment to increase the current level of information management, including contractor engagement to seek more accurate data, and the provision of this data in a readily usable format.

³ Under the Environmental Protection (Duty of Care) Amendment (Scotland) Regulations 2003, waste producers are required to keep records of all waste that transferred / received for at least two years.

Proposed follow-on activities from the pilot study focus on two areas:

- ✓ **Communication** of the project process and findings to the wider Education Sector and its support network; and,
- ✓ **Development** of the data collation and reporting framework.

We believe the latter will be more successful if informed as a result of widened communication and engagement.

Potential activities may include:

- **Disseminate this briefing report** to other FE institutions and key supporting organisations (e.g. SFC, EUAC etc), to facilitate discussion and awareness raising.
- **Discussion of project deliverables and findings** with key stakeholders, for instance, potential compatibility with forthcoming SFC E-Mandate updates, and planned Scottish EAUC initiatives (e.g. the UCCfCS, and CaSPr).
- Engagement and discussion with the **accountancy profession**, e.g. the Chartered Institute of Public Finance and Accountancy (CIPFA).
- Discuss the potential benefits of **developing the data questionnaire and reporting process** to maximise their value in the long-term. For example:
 - Collation of data for 'Year 1' (i.e. the 1st August 2007 to 31st July 2008 financial period), and **structured comparison with the baseline data**, 'Year 0' (i.e. 1st August 2006 to 31st July 2007).
 - This comparison will help to **inform which KPI are most appropriate** to help FE colleges define and measure their year-on-year progress towards sustainability commitments and goals. This should be done with consideration of other ongoing / forthcoming programmes that will have similar data collation and reporting requirements, such as the **UCCfCS**, the **Carbon Reduction Commitment** etc.
 - This, in turn, will **identify data requirements** going forward.
 - The baseline comparison will also inform which method/s of **data normalisation** provides best mitigation against data anomalies in yearly comparisons, e.g. Student Unit Measurements (SUMs), Weighted SUMs, Full Time Equivalent (FTE) staff, or building area (m2) etc.
 - Inclusion of **graphic visualisations** to aid clarity of, and engagement with, the data presented.
 - Transposition of the data collation questionnaire from spreadsheet form (Microsoft Excel) to **basic database form** (Microsoft Access). This would significantly ease the direct comparison of the baseline data and 'Year 1' data, and thus the review of progress towards sustainable development objectives by each college.
 - This transposition would also enable the development of an **integrated reporting template**, which could be used to automatically generate a sustainability statement that could be directly exported with the need for reformatting etc.
 - **Targets for improvement** in sustainability performance could be incorporated in the tool, based on relevant Scottish Government / Education Sector objectives. Any targets developed must consider improvements made to date, and must be appropriate and achievable by an individual college.

- The structure of the data collation questionnaire was also designed to allow addition to the sustainability themes considered. Whilst certain **social aspects** (such as staff pensions, student retention etc) are already included elsewhere in the colleges' annual reports, other elements could be measured and reported on. For instance, staff learning, staff retention, diversity of participation, investment in teaching, investment in research, community relations, learning for sustainability, student participation in decision-making, and ethical investment.
- The Group could seek to extend the traditional accounting framework to include **monetised environmental and social information**; with the data collection questionnaire updated to accommodate this. This could potentially help to track spend against benefit, and inform longer-term financial and strategic decision-making.

Appendices

APPENDIX A. Pilot Study Context

What is sustainability accounting?

Broadly speaking, **sustainability accounting** seeks the inclusion of social and environmental impacts (positive and negative) within the financial reporting process.

The emergence of sustainability accounting reflects a growing transition towards a different kind of organisational decision-making focused not just on economic rationality, but consistent with environmental and social sustainability.

What are the drivers for sustainability accounting?

Public service reporting on sustainability performance is an increasingly common element of corporate performance management and reporting protocols. However, the private sector is arguably 'leading the field', with public sector organisations having somewhat less of a comprehensive and consistent approach.

Further Education (FE) Colleges have a dual role in addressing the **climate change agenda** – both as the educator of learners, and also as a resource consumer.

With some 350,000 learners engaged each year, the FE sector in Scotland clearly has a key role to play in the development of the sustainability agenda. It has the opportunity to educate many learners who will be involved in the implementation of the changes that will be required in the coming years to meet national and international sustainable development targets.

To physically enable the role of educator, colleges operate a **large number of campuses** throughout the country. Colleges and universities procure, operate and occupy buildings as collected assets, maintaining direct control of their investments and surroundings. By considering efficiencies to be gained through looking at those assets in various groupings, a wide range of cost savings and benefits are available, particularly in terms of infrastructure and energy use.

Using a sustainable approach to estate development and estate/facilities management can offer a real contribution to institutions, in terms of optimising their assets and reducing risks, costs and impacts.

In terms of **estate management**, Scotland's colleges and universities play a significant role in promoting the national sustainability agenda by:

- Serving as centres of excellence for intellectual and practical responses to the challenges of climate change from local to global levels;
- Demonstrating through their actions, vision and leadership to their employees, students and surrounding communities;
- Optimising utilisation of their estates and thereby reducing negative environmental costs and impacts; and
- Using intelligent procurement to minimise adverse environmental, social and ethical impacts, and maximise the FE sector's positive beneficial contribution.

Political Context

The new Scottish Government administration sees its 'central purpose' as increasing **sustainable economic growth**. There is a wealth of policies and targets that serve to contribute to national sustainable development aims, such as:

Emissions

- The Kyoto Protocol and the European Union (EU) burden sharing agreement bind the UK to a 12.5% reduction in greenhouse (GHG) emissions by 2012, against 1990 levels.
- The Scottish Climate Change Bill sets out an ambitious target to reduce Scotland's GHG emissions by 50% below 1990 levels by 2030, and a reduction target of 80% by 2050.

Renewable Energy

- The EU Renewables Directive has a target of 22% of electricity from renewables by 2010.

- Scottish Executive's Renewable Policy (2003) states a target of sourcing 18% of electricity from renewable energy by 2010, with an aspiration to generate 40% by 2020.

Waste

- The EU Landfill Directive sets demanding targets to reduce the amount of biodegradable municipal landfilled, relative to that produced in 1009 – to 75% by 2010; to 50% by 2013; and to 35% by 2020.
- In January 2008, the Government's stated that it is aspiring to move to a "zero waste" goal for Scotland. The National Waste Plan, currently under review, is expected to support this aim.

Scotland's Further and Higher Education Sectors

Reporting to the Scottish Government, the [Scottish Funding Council](#) (SFC) is responsible for setting the strategic context for, and the funding of, Further and Higher Education (FHE) in Scotland. The SFC is increasingly including sustainability within their plans and guidance, demonstrating a clear commitment to this agenda. Recent examples of this commitment include:

- Agreeing to fund the EAUC ⁴ Campus Sustainability Project ('CaSpr') for a further three years;
- Commissioning publication of the 'Sustainable Development Guidance for Estate Management';
- Funding research into the post occupancy performance of recently constructed College campuses that have been designed and built with sustainability embedded in comparison with other campus buildings.

A further exciting development is the '[Universities and Colleges Climate Commitment for Scotland](#)' (UCCfCS), which goes beyond the Climate Change Declaration signed by Scottish local authorities. To date, 38 institutions have agreed to sign the Commitment, a public declaration of their intention to address the challenges of climate change and reduce their carbon emissions ⁵. Signatories are committed to developing a 5-year Climate Change Action Plan by January 2010. The Plans will include a set of measurable targets and timescales to achieve a significant emission savings across all operations and activities, such as energy use, waste management, sustainable campus development, green travel planning and sustainable procurement. There are clear synergies between this initiative and the current pilot study.

Corporate Reporting

The requirement for [public accountability](#) in the delivery of publicly supported services continues to grow.

The FE sector has already demonstrated its commitment to the sustainability agenda in a pro-active way. Reporting on sustainability performance is likely to become an integral aspect of the sector's overall approach to the sustainability agenda, encouraging transparent and accountable governance.

The Accounting Standards Board has recently published a [new Statement of Recommended Practice](#) (SORP) for the HE and FE sectors. This document governs financial reporting for the college sector from the 2007/08 financial year onwards. In addition to the guidance on the application of accounting standards, the SORP also introduces the requirement to publish Operating and Financial Review (OFR) to the College sector.

The OFR is a narrative report that should enhance corporate reporting and provide stakeholders with a more rounded view of a College's financial and operational environment, performance and future plans. While the SORP is not prescriptive about precisely what information should be included it does lay out general principles about what the report should include. One of the key principles is that the report should provide information which is likely to be of interest to stakeholders, in the political context outlined above, it would be hard to argue that disclosures relating to sustainability could reasonably be omitted from such a report.

Economic Drivers

As well as having a clear responsibility to future generations to mitigate any adverse environmental or social impacts, colleges also have an obligation to stakeholders in terms of the [ever-increasing economic challenges](#) associated with estate management.

⁴ Environmental Association of Universities and Colleges (EAUC).

⁵ Including Edinburgh's Telford College, Elmwood College, John Wheatley College and Oatridge College.

For example:

- Energy costs have already risen dramatically; with forecasts predicting further steady rises in the coming years.
- Landfill tax will also become an increasing cost pressure in coming years, with landfill tax set to rise by £8 per tonne each year until at least 2010/2011.
- The prospect of carbon trading schemes being introduced in the UK (such as the forthcoming the Carbon reduction Commitment) also add to increasing importance of environmental performance measurement and management in economic sustainability terms.

With the establishment of Advanced Procurement in Universities and Colleges (APUC) Ltd to facilitate collaborative procurement across all FHE institutions, there is a clear opportunity to address such challenges by embedding sustainable and ethical procurement practices across the entire sector.

APPENDIX B. Pilot Study Methodology

The Group determined that environmental considerations would form the focus of the initial pilot study. It was acknowledged that certain social aspects (such as staff pensions, student retention etc) are already included elsewhere in the colleges' annual reports.

The following section outlines the approach followed in the development of the tools.

Stage 1: Project Inception

- The Group defined the following as the principle sustainability themes for inclusion in the initial pilot study:
 - Energy consumption;
 - Water usage;
 - Material and product consumption;
 - Waste generation and disposal; and
 - Transport.
- Focusing on these sustainability themes, URS identified and reviewed best practice guidance, sector guidelines, and peer organisation reports.
- Based on this benchmarking and strategy review, URS developed a set of provisional key performance indicators (KPI) against which sustainability performance could be consistently measured.
- A project kick-off meeting was held between URS and representatives of each SAG Colleges, in order to:
 - Establish internal expectations and drivers;
 - Agree a draft set of KPI for initial trial;
 - Discuss existing data sources, in terms of availability and accuracy;
 - Identify key employees from each College to be involved in the data collation and knowledge sharing process;
 - Agree the two Colleges to be involved in the initial trial of the data collation tool; and
 - Define project milestones and timescales.

Stage 2: Design of Initial Data Collation Tools

- Based on the provisional KPI, URS designed a framework for collecting relevant quantitative and qualitative baseline data, comprising a data collation questionnaire and a set of corresponding guidance notes.
- The Excel-based data collation tool comprises:
 - Worksheet 1: An introductory sheet that can be populated with basic details of the College and the person/s coordinating the data collation;
 - Worksheets 2 – 6: Individual worksheets requiring data entry for each of the five identified sustainability themes;
 - Worksheet 7: Enables the recording of performance in other areas of sustainable development, such as contribution to biodiversity; and
 - Worksheet 8: A summary sheet automatically populated with information from earlier worksheets, which can be directly transposed into a reporting statement.
- The accompanying set of guidance notes comprise advisory detail on the exact nature of data required, and also possible data sources.
- URS sought to design the data collation questionnaire and guidance notes so that individual FE institutions are able to undertake the data entry and interpretation without the need for future external assistance. The in-built flexibility of the Excel-based questionnaire allows for future revision or update.

- At this stage, informal engagement was undertaken with key representatives from the Scottish Branch of the Environmental Association of Universities and Colleges (EUAC), in order to discuss the general content of the data collation tool and guidance notes.

Stage 3: Trial of the Data Collation Tools

- One urban institute and one rural institute were included in the initial trial (John Wheatley College, and Elmwood College, respectively), to ensure diverse application of the tool.
- Prior to the site visits, the URS team provided key employees with a briefing sheet, which outlined the project objectives, and the data collation and knowledge sharing process.
- URS team members held an informal onsite workshop with key employees from each of the two colleges, to facilitate face-to-face constructive discussion of the draft data collation tools.
- The workshops enabled in-depth consultation with college representatives in relation to the content, appearance, and usability of the draft tools.
- The workshops (and other SAG meetings) facilitated knowledge sharing and capacity building, in terms of opportunities for improvement in sustainability performance and associated financial & reputational benefits, and also internal data management.

Stage 4: Population of the Data Collation Questionnaire

- Based on feedback from the workshops, URS updated both the data collation questionnaire and the guidance notes.
- The revised tools were circulated to the all colleges in the Group for population.
- URS provided support by phone and email to all of the colleges during the data collation period.
- During this period, college staff at the three colleges out with the trial also found face-to-face discussion with the URS team to be beneficial, and this served to increase knowledge sharing / exchange.

Stage 5: Data Assessment

- Each of the member colleges returned a populated data collation questionnaire to URS.
- The URS team reviewed the completed questionnaires, with the purpose of establishing levels of data quality and availability, and also to identify any trends across the individual datasets etc.

Stage 6: Reporting and Provision of Project Deliverables

- URS and John Wheatley College have prepared this briefing report, to outline the project scope and methodology, general findings, and sustainability performance statements for each of the SAG Colleges (refer to Appendix B).
- This briefing report will be provided to all key stakeholders, along with copies of the main deliverables of the pilot study - the data collation questionnaire, and the corresponding set of guidance notes.
- A final project meeting will be held with the Group members and the URS project team. During the meeting, URS will present the project findings, in terms of current performance and KPI trends, as well as benefits and challenges identified during the project. The meeting will also act as a forum to discuss how the deliverables and the findings should be distributed other Scottish FE institutions.

1. INTRODUCTION & CONTEXT

Commitment to sustainable development

Sustainable development underpins each of the College's strategic priorities and means an increasing focus on the balanced consideration of economic, social and environmental aspects in making business decisions. The College aims to promote sustainable development, locally and globally, through teaching, research, knowledge transfer and the general conduct of its business.

To this end, it has introduced a Sustainability Development Policy, which requires that all the College working groups and committees, including the Board of Management, address the issues of sustainable development as a standing agenda item, or as an integral component of their Operational Plans.

The Sustainable Development Policy and its associated Action Plan are monitored and reviewed annually by the Sustainable Development Co-ordinator, who will advise the Senior Management Team and the College Board of Management through the annual report of progress and amendments. The report encompasses any potential risks of non-compliance or failure to take positive action in relation to the continuing commitment to and the promotion of sustainable development.

The College has set up a Sustainability Forum chaired by the Head of Land Use in order to encourage and enable sustainability and environmental improvements within the College. The Forum comprises students, lecturers, and support staff (including representation from the Property team). The aim of the Forum is to develop awareness and plan future actions relating to sustainable development.

The College's Sustainable Development Policy is integrated with other College processes and is compliant with legislation and regulations.

The Policy is based upon commitment to the following principles:

- continual improvement, through setting objectives and targets, continuous monitoring and review;
- complying with, and where appropriate exceeding, applicable legal and other requirements relevant to our operations;
- prudent use of natural resources and the prevention of pollution and inefficient use of resources;
- communicating College's commitment to sustainable development across the institution and beyond.

The Oatridge Student Association has an Environment & Sustainability Representative on its Executive Committee.

Course-related projects allow students to work with the Property team and other key staff members, and enable valuable 'live learning'. The College also offers several courses, such as Countryside Management, that include practical work in partnership with BTCV Scotland, the largest of the conservation voluntary organisations.

Working practice circulars are regularly distributed via e-mail to the Property team, and, where applicable, to all staff. The circulars often include sustainability aspects, such as waste management, energy efficiency etc. Occasionally, the Oatridge Student Newsletter also provides sustainability-related information directly to students.

The College continues to foster a close working relationship with external stakeholders, such the local authority, West Lothian Council. The College seeks to maximise potential sustainability benefits from these constructive interactions in terms of joint opportunities and low/no cost resources.

Oatridge College is member of the Business Environment Partnership, which provides free and subsidised assistance with environmental management to small to medium sized businesses throughout Scotland.

Purpose of this report

This report has been prepared in order to outline the sustainability performance of Oatridge College over the 2006-07 financial period against key performance indicators (KPIs). Qualitative information is also provided in relation to initiatives / technologies in place that support improved performance against the KPIs.

The data collected for this period will effectively form the baseline against which future performance is measured against each of the KPIs.

The tables provided in this report include a column for 'baseline' data for information purposes only, i.e. to provide an indication of how data/performance of subsequent years will be recorded.

In future reports, the following key will be used to indicate progress made against KPIs:

- | | | | |
|-------------------------------------|----------|---|-----------|
| <input checked="" type="checkbox"/> | Improved | ~ | Unchanged |
| <input checked="" type="checkbox"/> | Worsened | ? | Unknown |

Significant changes that may affect performance

2006-07 was the first year of occupancy of the new £3.5 million learning centre, which comprises 14 state-of-the-art classrooms and lecture rooms, a laboratory and an IT suite. The Property team have been exploring the potential opportunities that the new building offers in terms of sustainable estate management and live learning.

2. ENERGY CONSUMPTION

Key performance indicators

The following data relates only to the main Oatridge College Campus ^a:

Total energy consumption		Baseline	2006-07	Trend
Total energy consumption	kWh	1,762,137	1,762,137	n/a
Associated total carbon dioxide (CO ₂) emissions	tonnes	600	600	n/a
Proportion of renewably sourced energy supplied	%	0	0	n/a

Normalised Energy Usage		Baseline	2006-07	Trend
Average energy consumption per m ²	kWh	118	118	n/a
Average CO ₂ emissions per m ²	tonnes	0.04	0.04	n/a
Average energy consumption per FTE	kWh	1,041	1,041	n/a
Average CO ₂ emissions per FTE	tonnes	0.35	0.35	n/a
Average energy consumption per SUMs	kWh	185	185	n/a
Average CO ₂ emissions per SUMs	tonnes	0.06	0.06	n/a

FTE = Full time equivalent of staff and students; SUMs = student units of measurement; m² = square meterage of the campus area included in the assessment.

^a Areas excluded from the assessment: Oatridge Golf Course & Pavilion, the Suntrap Centre for Lifelong Learning, the Oatridge Dog Grooming Salon, and the Oatridge Farm & Cottages.

Initiatives to minimise overall energy consumption

Based on learning gained through external workshops, training and knowledge-sharing events, the College has sought to introduce several energy efficiency initiatives. Such initiatives include the following:

- The College commissioned retrospective installations of motion sensors for light fittings in all the main campus buildings (where H&S considerations allow);
- Energy saving light bulbs are ordered as standard and used wherever possible;
- Single socket switch-off units in all main offices and some classes, which can be used to turn off electricity to all sockets on leaving an office or teaching space;
- A 'switch-off' campaign communicated through staff meetings (academic staff and support teams), and also with students (focusing on those that stay in the onsite student residences); and
- Awareness raising circulars in relation to initiatives such as those outlined above, distributed via e-mail to all appropriate staff (both teaching and support).

Through the course of the year, the Property Team has continued to develop its familiarity and understanding of the potential energy efficiencies to be made through the Building Management System (BMS) of the new learning centre. For instance, remotely controlling individual areas of the building, to meet occupier requirements and to avoid unnecessary heating of storage space etc. The College is seeking further training for key staff in relation to the BMS to further maximise the potential benefits of the integrated energy management technology.

Initiatives to increase proportion of renewably sourced energy

The College has commissioned an energy usage report by the Carbon Trust. When this is completed in August 2008, the College will review the recommendations and take any appropriate action.

3. WATER USAGE

Key performance indicators

Water consumption		Baseline	2006-07	Trend
Total water consumption	m ³	23,981	23,981	n/a
Average water usage per m ²	m ³	0.0077	0.0077	n/a
Average water usage per FTE	m ³	14.11	14.11	n/a
Average water usage per SUM	m ³	2.52	2.52	n/a

Water consumption by campus area ^b		Baseline	2006-07	Trend
Oatridge Campus Site	m ³	12,088	12,088	n/a
Oatridge Farm & Cottages	m ³	6,358	6,358	n/a
Oatridge Golf Pavilion	m ³	5,445	5,445	n/a

Proportion of total water consumed by water source		Baseline	2006 - 07	Trend
Potable mains	%	100	100	n/a

^b Areas excluded from the assessment: Oatridge Golf Course, the Suntrap Centre for Lifelong Learning, and the Oatridge Dog Grooming Salon.

Proportion of total water consumed by water source		Baseline	2006 - 07	Trend
Potable abstraction	%	0	0	n/a
Grey	%	0	0	n/a
Harvested	%	0	0	n/a
Other	%	0	0	n/a

Initiatives to reduce overall water consumption

The College arranged water audits to be undertaken through the Business Environment Partnership (BEP), as an initial step to tackling rising water and effluent costs. From the analysis and quantification process it was discovered that around £10,000 worth of water was being lost as unidentified pipe leaks. In addition to leak repairs a number of efficiency recommendations were made, and the total cost savings identified from the project were £32,500 per annum. Bobby Wilson, Head of the Property Team, received a Business Excellence - Employee Initiative Award from the West Lothian Chamber of Commerce for his role in the audit and subsequent savings exercise.

4. MATERIALS & PRODUCT CONSUMPTION

Key performance indicators

Main Types of Paper Used	Total Number of Reams Purchased			Proportion of Total Reams with Recycled Content (%)		
	Baseline	2006-07	Trend	Baseline	2006-07	Trend
Canon A4 80G	372	372	n/a	0	0	n/a
Canon A3 80G	15	15	n/a	0	0	n/a
Canon A4 80 GSM	12	12	n/a	0	0	n/a

Initiatives to reduce material & product consumption

The standard staff e-mail signature includes environmental consideration before printing e-mails or any attachments. Staff are encouraged to print selectively, and where printing is unavoidable, to set the output to double-sided (e.g. for student handouts). To this end, printers have been set to default to print double-sided (where settings allow).

The College encourages the distribution of meeting minutes, notes, agenda etc via e-mails or intranet links embedded in e-mails. Staff are encouraged to use the intranet as a repository and quick retrieval system as it contains all policies and procedures, forms, and information for daily operations through an easily accessible e-system.

Students are encouraged by financial incentives to use less paper, and to also print double-sided.

Implementation of a sustainable procurement strategy

The College is considering the formation of a 'working group' comprising academic and support staff, to explore sustainable procurement in order to enhance the College's impact on the wider environment and society. It is anticipated that during any decision-making, the working group will seek to consider centralised procurement initiatives, such as APUC, which are hoped will further seek to address sustainability aspects of the College's supply chain.

5. WASTE GENERATION & DISPOSAL

Key performance indicators

The College is fully aware of the need for sustainable waste management, however it has not been possible to collate accurate data for the 2006-07 reporting period.

The College is seeking to address this apparent data gap, and will seek to report the following for the 2007-08 reporting period:

- Total volume of waste generated (kgs);
- Volume of special waste generated (kgs); and
- Waste routes used (i.e. % of total waste that is recycled, recovered, reused, and disposed of to landfill/incinerator).

Initiatives to reduce, reuse or recycle waste

The College is reviewing its current contracts with waste carriers with a view to requesting/preparing more detailed data in terms of volume and types of wastes generated by the College.

The Property Maintenance Unit tracks, stores and facilitates College-wide reuse of equipment and furnishings. This has significantly reduced potential waste generation at the College, especially during refurbishments.

The College has also successfully implemented the following initiatives to reduce, reuse or recycle waste:

- Shredding units for confidential paper, the waste from which is reused as bedding for small farm animals;
- Collection bins for empty printer cartridges, which are returned to the supplier for recycling;
- The installation of two key recycling points with waste segregation facilities for paper & cardboard, and glass;
- Waste segregation bins within offices, conference/meeting rooms and some teaching rooms (where viable);
- Segregation of scrap ferrous metal, for collection and offsite recovery by a local scrap metal merchant; and
- Christmas card collection bins for offsite recycling (organised in partnership with a leading supermarket).

The College is also exploring the feasibility of introducing mobile phone, and clothes collection bins for offsite recycling.

6. TRAVEL & TRANSPORT

Initiatives to encourage sustainable transport

The College seeks to promote and facilitate the use of sustainable forms of transport for travel to and from the campus:

- The campus is served by limited public transport – it is on a direct, but infrequent, bus route and there are two train stations within 5 miles;
- The College's website provides direct links to an online bus service timetable;

- The public bus service is complemented by a diesel coach that runs once a day to and from Edinburgh, and also by diesel-run minibuses that serve students staying in the Linlithgow and Livingston areas;
- The minibuses are also used to transport students for offsite learning, leisure activities, food shopping excursions etc;
- External bicycle racks have been installed for use by students and staff, and change facilities with lockers have also been provided; and
- The feasibility of a Car Share scheme is currently being explored.

Initiatives to reduce transport use

It is anticipated that the College's provision of coach / minibus transport for students will minimise the number of individual car trips made.

Telephone conference facilities are available for use by teaching and support staff members.

7. OTHER SUSTAINABILITY INITIATIVES

Initiatives to protect & enhance biodiversity

The College seeks to conserve and enhance biodiversity, not only on the college estate and the grounds of organisations on which work is undertaken, but also in the wider community. For instance, at the work places where students undertake training in practical conservation skills; importantly these students can then use these skills and implement them in their own lives – both personal and work.

Other initiatives to protect and enhance biodiversity comprise:

- HNC and HND Countryside Management students established as a CLAN community group.
- HNC students establishing an Oatridge Ranger Service, to monitor and undertake practical conservation tasks around the college estate.
- HND students run a committee for the Oatridge Conservation Team, planning, organising, undertaking and reviewing practical conservation tasks. (Block1 pond project, Block2 will also be carrying out some project work for organisations such as the Scottish Wildlife Trust, Lothian and Amphibian Reptile Group and West Lothian Ranger Service)
- Training in practical conservation skills is provided to students on full-time courses within the section and also to a number of external groups such as Falkirk Council Get Ready for Work and Positive Transitions programmes.
- HNC students organise and run a family fun day as part of the unit The Leadership of Countryside Activities which brings members of the public to the college grounds to take part in a range of activities such as guided walks, environmental games, construction of bird feeders and encouraging wildlife into your garden.
- HND students undertook vegetation surveying work for Easter Inch Moss and Seafield Law Local Nature Reserve as part of the Ecology studies and HNC students undertook an investigation into the biodiversity of Harperrigg Reservoir for the Pentland Hills Ranger Service to support their proposal to designate the site as the second Local Nature Reserve in West Lothian.
- The delivery of all courses within the countryside management section involve interaction with external organisations through guest speakers, site visits and practical activities – putting into practice theory taught in the classroom.

- The college have been working in closely with the Paths for All Partnership to develop and construct a lowland path demonstration site at Oatridge demonstrating not only best practice in terms of construction techniques and design, but also the range of materials that have been utilised throughout the project such as modified soil, recycled products from Tarmac and 'as dug' material sourced onsite, and 'green engineering' utilising willow spilling as a solution to reduce bank erosion and flooding in the vicinity of the demonstration site.
- This project will help to raise awareness of many of issues relating to Access to the Countryside for both users and landowners.

JOHN WHEATLEY COLLEGE: 2006-07 SUSTAINABILITY REPORT

1. INTRODUCTION & CONTEXT

Commitment to sustainable development

As part of its commitment to minimising its impact on the wider environment, and also to transparent, holistic corporate reporting and accountability, the College is currently leading a Sustainable Accounting pilot study, to explore how sustainability performance can be incorporated into annual reports. This partnership project is financially supported by the Scottish Funding Council, and the working group includes four other Further Education Colleges.

The main purpose of the project is to develop and pilot robust key performance indicators (KPIs) (focused initially on environmental aspects), and to consider how College performance against these KPI may be gauged, and subsequently presented in annual reporting.

Following a tendering process, the working group appointed URS Corporation Ltd, environmental and sustainability consultants, to assist with the development of suitable KPIs, a data collection questionnaire and a set of guidance notes.

It is envisaged that these tools will, in due course, allow key College staff to consistently record accurate data, and to allow comparison of this data against the KPI, in order to determine year-on-year sustainability performance.

This will enable clear communication of sustainability performance and key achievements of each participating College through annual reporting. Such information will also inform internal strategic decision-making, and encourage understanding of, and commitment to, sustainability improvement in College activities.

Purpose of this report

The following information outlines the baseline sustainability performance of John Wheatley College against the initial KPIs over the 2006-07 financial period. Qualitative information is also provided in relation to initiatives / technologies in place that support improved performance against the KPIs.

The data collected for this period will effectively form the baseline against which future performance is measured against each of the KPIs.

The tables provided in this report include a column for 'baseline' data for information purposes only, i.e. to provide an indication of how data/performance of subsequent years will be recorded.

In future reports, the following key will be used to indicate progress made against KPIs (i.e. performance trends):

<input checked="" type="checkbox"/>	Improved	~	Unchanged
<input checked="" type="checkbox"/>	Worsened	?	Unknown

Significant changes that may affect performance

The College sold and vacated its Shettleston Campus and opened the new East End Campus during 2006-07. Consequently, the data provided for Energy Consumption and Water Usage, relates only to the Easterhouse campus.

It is envisaged that energy and water data for both the East End and Easterhouse campuses will be collated during the 2007/8 financial year, for inclusion in the 2007/08 annual report.

2. ENERGY CONSUMPTION

Key performance indicators

The main energy uses at the Easterhouse Campus are for the heating and lighting of the campus including the operation of the training restaurant. The 2006-07 energy consumption performance against the preliminary KPIs for the Easterhouse Campus is provided in the following tables ¹.

In line with best practice, the factors used to convert energy consumption to tonnes of carbon dioxide have been sourced from the UK Department for Environment, Food and Rural Affairs. The Full Time Equivalent (FTE) figure consists of both staff and students.

Total energy consumption		Baseline	2006-07	Trend
Total energy used	kWh	1,105,000	1,105,000	n/a
Associated total carbon dioxide (CO ₂) emissions	tonnes	230	230	n/a
Proportion of renewably sourced energy	%	33	33	n/a

Normalised energy consumption		Baseline	2006-07	Trend
Average energy consumption per m ²	kWh	232	232	n/a
Average CO ₂ emissions per m ²	tonnes	0.83	0.83	n/a
Average energy consumption per FTE	kWh	1,766	1,766	n/a
Average CO ₂ emissions per FTE	tonnes	0.64	0.64	n/a
Average energy consumption per SUMs	kWh	72.04	72.04	n/a
Average CO ₂ emissions per SUMs	tonnes	0.015	0.015	n/a

FTE = Full time equivalent of staff and students; SUMs = student units of measurement; m² = square meterage of the campus area included in the assessment.

Initiatives to minimise overall energy consumption, and to increase the proportion of renewably sourced energy

During the 2006-07 accounting period, 66% of the electricity consumed at the Easterhouse Campus was purchased through the Scottish Power Green Energy H2O Tariff. Scottish Power matches all energy purchased on this tariff with an equivalent amount of renewable hydro-power supplies to the national energy grid. This means that the equivalent of 32.5% of the total (gas and electricity) energy used at the Easterhouse Campus can be attributed to renewable energy sources. To improve on the overall energy performance of the Easterhouse Campus, the College is seeking to retrofit a number of energy efficiency and sustainable energy technologies, e.g. photovoltaic cells and aero-generators to the campus during 2007-08.

The new East End Campus has not been in operation for the full reporting period, and therefore sufficient data is not available for inclusion in this reporting session. That said, the new East End Campus has been designed to be energy efficient and to utilise an extensive range of sustainable technologies to reduce overall energy consumption and also enable the use of on-site renewable energy sources. Technologies in place include a biomass boiler, air source heat pumps, high levels of insulation, photovoltaic cells, solar heating, and both passive and active energy control systems.

The College pro-actively tries to educate staff and students in respect of minimising energy consumption, raising awareness is done through a variety of means including posters, induction and quality day events and regular articles in the Staff Magazine.

¹ Areas currently excluded from reporting: the Shettleston Campus, and the East End Campus.

3. WATER USAGE

Key performance indicators

The main water uses at the Easterhouse Campus are for sanitary purposes and the training restaurant. The 2006-7 performance against the preliminary KPIs for water consumption at the Easterhouse Campus is provided in the following tables ².

Water consumption		Baseline	2006-07	Trend
Total water consumption	m ³	3,174	3,174	n/a
Average water usage per m ²	m ³	0.67	0.67	n/a
Average water usage per FTE	m ³	5.07	5.07	n/a
Average water usage per SUMs	m ³	0.21	0.21	n/a

Proportion of total water consumed by water source		Baseline	2006-07	Trend
Potable mains	%	100	100	n/a
Potable abstraction	%	0	0	n/a
Grey	%	0	0	n/a
Harvested	%	0	0	n/a
Other	%	0	0	n/a

Initiatives to reduce overall water consumption

In order to reduce water consumption, the Easterhouse Campus has been retrofitted with automatic supply cut-off washbasins, which are installed at the new East End Campus.

Initiatives to increase the proportion of grey/harvested water used

A rainwater harvesting system supplies the new Campus with non-potable water which can be used for toilet flushing, for example, and thus reduces the required volume of mains supply water.

4. MATERIALS & PRODUCT CONSUMPTION

Key performance indicators

In agreement with the working group, the College has identified paper consumption as a homogenous product or material to be measured and compared over time. The following table provides detail of the College's paper consumption levels during the 2006-07 reporting period.

Main Type of Paper Used	Total Number of Reams Purchased			% of Total Reams with Recycled Content		
	Baseline	2006-07	Trend	Baseline	2006-07	Trend
Canon A4 80g	5,173	5,173	0	0	0	n/a

Initiatives to reduce material & product consumption

The College is currently reviewing its use of electronic communications and the College web site, in order to reduce paper consumption.

² Areas currently excluded from reporting: the Shettleston Campus, and the East End Campus.

The College targets efficient material/product usage throughout its activities wherever possible, for example, teaching-related construction materials are re-used several times in order to reduce the need for virgin materials.

Initiatives to promote sustainably sourced products

The College also routinely sources materials and products from Authorities Buying Consortium (ABC) contracts, and has engaged with ABC so that sustainability is included in its tender processes. However, responsibility for this is now moving to Advanced Procurement for Universities and Colleges Ltd (APUC). The College has lobbied APUC and so that the sustainability agenda (including Fair Trade) is included in the contracts that they will negotiate on behalf of the sector.

In addition, the College is in the process of requiring the catering contractor at the new East End Campus to make Fairtrade produce available to learners and staff.

5. WASTE GENERATION & DISPOSAL

Key performance indicators

Whilst the College fully recognises the importance of sustainable waste management and disposal, it has not been possible to obtain reliable and accurate data for the 2006-07 reporting period.

Addressing this issue will form part of our efforts in the coming year, when the College will seek to report the following:

- Total volume of waste generated (kgs);
- Volume of special waste generated (kgs); and
- Waste routes used (i.e. % of total waste that is recycled, recovered, reused, and disposed of to landfill/incinerator).

Initiatives to reduce, reuse or recycle waste

The College complies with legislation, such as the Waste Electronic and Electrical Equipment (WEEE) regulations, and disposes of its waste responsibly. Recycling points that segregate waste are in place at the East End Campus.

6. TRAVEL & TRANSPORT

Initiatives to encourage sustainable transport

The College has developed and implemented a 'Green Travel Plan', which is reviewed on a two-yearly basis. The Green Travel Plan is a set of measures designed to reduce the impact of traffic for journeys to and from the College. Initiatives include public transport, car sharing, cycle and pedestrian facilities and the provision of travel information.

Arrangements have been made so that learners and staff have access to public transport and tailored public transport travel plans and bus timetables are available in both campuses. The College also actively promotes walking and cycling as alternatives to other forms of transport.

The College has liaised with Strathclyde Partnership for Transport and others to successfully lobby for a new train station to be opened in close proximity to the new East End campus.

Initiatives to reduce transport use

The College seeks to prepare learner and teaching staff in a way that minimises travel between campuses, and that any unavoidable travel can be accommodated for by the use of public transport.

7. OTHER SUSTAINABILITY INITIATIVES

The new East End Campus

The new East End Campus building was awarded with a Building Research Establishment Environmental Assessment Method (BREEAM) 'Excellent' Rating as being in the very highest category of sustainable building design. The award recognises the low environmental impact of the building design in the following areas:

- Energy use: operational energy and carbon dioxide (CO₂) issues;
- Health and well-being: indoor and external issues affecting health and well-being;
- Pollution: air and water pollution issues;
- Transport: transport-related CO₂ and location-related factors;
- Land use: greenfield and brownfield sites;
- Ecology: ecological value conservation and enhancement of the site;
- Materials: environmental implication of building materials, including life-cycle impacts; and
- Water: consumption and water efficiency.

This achievement further demonstrates the College's genuine commitment to sustainability and the wider environment. As previously mentioned, the College now seeks to retrofit the Easterhouse Campus with sustainable technologies in order to increase operational efficiency and increase the proportion of energy and water from sustainable sources.

Raising environmental Awareness

The College recognises the importance of minimising its environmental impact, and regularly publishes topical articles in its newsletters, displays awareness raising posters and other reminders to learners and staff. Environmental awareness is now an important part of the induction process for learners and is included within the curriculum for almost all learners. The College is also a member of the Environmental Association for Universities and Colleges (EAUC) and also participates in the Campus Sustainability Programme (CaSPr).

Protection & enhancement of local biodiversity

The College is currently developing a Local Biodiversity Action Plan (LBAP), which will be implemented during the 2008-09 financial year. The LBAP is being developed by the College's Sustainable Development Committee and will establish conservation targets and outline the actions that the College will take to meet those targets. The LBAP will also seek to embed biodiversity in the curriculum and will meet the College's statutory duties established by the Nature Conservation (Scotland) Act 2004.

1. INTRODUCTION & CONTEXT

Commitment to sustainable development

Carnegie College recognises the importance of sustainable development in the East of Scotland for future economic, social and environmental sustainability of the region. During the last five years the College has invested over £8 million in developing the campus to ensure that learners are provided with innovative state-of-the-art learning environments that both encompass modern educational concepts and also embody sustainable development and sustainable technologies.

During 2006-7, the new £4.5m Sustainable Development Centre (SDC) (or ECOSpace Facility') at the Halbeath campus was opened to visitors and students. The SDC comprises Construction Space (workshop facilities and lecture theatres) for the School of Built Environment, and also the ASPIRE (Additional Support Programme in Real-life Environments) learning area for students with severe learning difficulties, disabilities and complex needs.

It is hoped that the new SDC will be a flagship in applying sustainable technologies in new building design in the Fife region. The SDC building was awarded with a Building Research Establishment Environmental Assessment Method (BREEAM) 'Excellent' Rating, as being in the very highest category of sustainable building design. The award recognises the low environmental impact of the building design in the following areas:

- Energy use: operational energy and carbon dioxide (CO₂) issues;
- Health and well-being: indoor and external issues affecting health and well-being;
- Pollution: air and water pollution issues;
- Transport: transport-related CO₂ and location-related factors;
- Land use: greenfield and brownfield sites;
- Ecology: ecological value conservation and enhancement of the site;
- Materials: environmental implication of building materials, including life-cycle impacts; and
- Water: consumption and water efficiency.

The College has a Green Practices Working Group for staff chaired by an Assistant Principal. The Working Group explores any new initiatives to propose to the Executive group. A recent project to overhaul the use of notice boards throughout the campuses will reduce the number of posters being produced and also allow better targeting of information - such as about environmental initiatives.

We regularly attend CaSPr conferences to keep up to date with good practice. The timetable is being reviewed to try and centralise the use of rooms in less busy times (e.g. evenings) which would allow sections of the campus to be 'switched off' as such.

Purpose of this report

This report has been prepared in order to outline the sustainability performance of Carnegie College over the 2006-07 financial period against key performance indicators (KPIs). Qualitative information is also provided in relation to initiatives / technologies in place that support improved performance against the KPIs.

The data collected for this period will effectively form the baseline against which future performance is measured against each of the KPIs.

The tables provided in this report include a column for 'baseline' data for information purposes only, i.e. to provide an indication of how data/performance of subsequent years will be recorded.

In future reports, the following key will be used to indicate progress made against KPIs (i.e. performance trends):

- ☑ Improved
- ☒ Worsened
- ~ Unchanged
- ? Unknown

Significant changes during that may affect performance

During 2006-7, the 1,600m² SDC was opened to visitors and students. Other significant changes to the College's estate during the reporting period comprise the addition of further teaching space at Cowdenbeath campus, and major refurbishment and installation of additional engineering equipment at the Rosyth campus.

2. ENERGY CONSUMPTION

Key performance indicators

Total energy consumption		Baseline	2006-07	Trend ¹
Total energy used	kWh	1,822,137	1,822,137	n/a
Associated total carbon dioxide (CO ₂) emissions	tonnes	606.5	606.5	n/a
Proportion of renewably sourced energy	%	1.65	1.65	n/a

Energy consumption by campus area ²		Baseline	2006 - 07	Trend
Main Halbeath campus, including ECOSpace	kWh	1,792,137	1,792,137	n/a
Carnegie Conference Centre	kWh	30,000	30,000	n/a

Normalised energy consumption		Baseline	2006-07	Trend
Average energy consumption per m ²	kWh	114	114	n/a
Average CO ₂ emissions per m ²	tonnes	0.04	0.04	n/a
Average energy consumption per FTE	kWh	3,820	3,820	n/a
Average CO ₂ emissions per FTE	tonnes	1.27	1.27	n/a
Average energy consumption per SUMs	kWh	32.75	32.75	n/a
Average CO ₂ emissions per SUMs	tonnes	0.01	0.01	n/a

Note: FTE = Full time equivalent of staff and students; SUMs = student units of measurement; m² = square metres of the campus area included in the assessment.

Initiatives to minimise overall energy consumption

The main Halbeath building was constructed in the 1970's and retains many original features (e.g. single-glazing, no cavity insulation etc), which are not favourable for efficient estate management.

¹ The period for collecting baseline data is 2006-7. The data has been presented in this way to show how future reporting may look.

² Areas excluded from the assessment: Employment & Enterprise (E&E) Centres, the Construction Centre in Cowdenbeath, and the Rosyth Campus (School of Engineering).

That said, the College has sought to put in place certain sustainable resource initiatives, such as:

- A regular maintenance programme of plant, boilers etc;
- The setting of certain printers / photocopies to default to stand-by during extended periods of non-use;
- Automatic internal doors for disabled access, which also reduce heat loss; and
- Double-glazing with the refurbished media space.

A number of energy-saving features have been integrated into the new SDC, such as:

- An energy-monitoring programme – a series of small meters, which measure electric usage and solar gain.
- Solar gain panels fitted to the main spine of the building, to prevent solar gain within the corridor, and mitigate the need for air conditioning;
- Timber 'breathing' walls insulated with recycled paper - allow the free movement of air, avoiding the need for non-passive air conditioning;
- Strategic positioning of windows - to maximise natural light and passive ventilation; and
- Double-glazed windows, and a planted 'green roof' - to retain heat and reduce the need for central heating.

In addition, energy saving lights bulbs are used where light fittings allow, and motion-activated lights have been fitted in the SDC and the Media Centre. Carbon Trust and school-designed posters have also been placed throughout the College, along with 'switch-off' signs.

Initiatives to increase proportion of renewably sourced energy

An array of south-facing solar panels are integrated into the roof design of the SDC workshops, which have been estimated to deliver approximately 30,000 kWh annually, i.e. 45% of the facility's annual energy domestic hot water system (DHWS) load. Based on DEFRA fuel conversion values ³, this roughly equates to an annual emissions saving of 6.2 tonnes CO₂, as compared with an equivalent natural gas system (such as that used in the older main building).

3. WATER USAGE

Key performance indicators

The College recognises the value of sustainable water management, however it has not been possible to collate reliable data for the 2006-07 reporting period. The College is seeking to address this apparent data gap, in order to report the following for the 2007-08 reporting period:

- Total water consumption (m³);
- Total water consumption by campus building / area (m³);
- Average water usage per m² of included campus area (m³);
- Average water usage per FTE (m³);
- Average water usage per SUM (m³); and
- Proportion of total water consumed by water source (potable mains/abstraction, grey, harvested etc) (m³).

³ 'Guidelines on Defra's greenhouse gas (GHG) conversion factors for company reporting'. Defra, June 2008.

Initiatives to reduce overall water consumption

There were no water audits undertaken during 06/07 but we are currently working with Scottish Water/Business Stream to agree proposals to reduce consumption and cost.

A number of water efficiency features are integral to the new SDC facility, for instance:

- The external access road to the SDC is made of porous paving, which will reduce surface water run-off, lessening the pressure placed on the existing drainage system and avoiding unnecessary off-site water treatment;
- Part of the roof area of the new facility is covered by sedum; living roofs such as this are said to retain approximately 40% of rainwater, aiding storm attenuation, and again lessening pressure on the main drainage system; and
- Water efficient toilets were fitted in the SDC. The toilets are not only low flush resulting in a significant resource saving, they also utilise grey water sourced from rainwater harvesting rather than mains white water.

Initiatives to increase the proportion of grey/harvested water used

The rainwater harvesting system collects water from the SDC roof, this grey water is then fed to a toilet flush system in the new building as well as providing an irrigation system for the sedum roof. As well as reducing the annual volume of surface run-off directed to the drainage sewer, the rainwater harvesting system has the added benefit of reducing the volume of mains water used within the building.

4. MATERIALS & PRODUCT CONSUMPTION

Key performance indicators

Main Type of Paper Used	Total Number of Reams Purchased			Proportion of Total Reams with Recycled Content (%)		
	Baseline	2006-07	Trend	Baseline	2006-07	Trend
White A4	8,910	8,910	n/a	0	0	n/a
Coloured A4	875	875	n/a	0	0	n/a

Initiatives to reduce material & product consumption

The College trialled the use of recycled paper towards the end of 2006/07, however, at the time, it was prohibitively expensive compared to paper sourced from sustainably managed forests, which was selected for use instead. The College intends to investigate recycling options further.

In order to promote reduced paper consumption, the following initiatives are in place:

- The corporate e-mail signature encourages environmental consideration before printing e-mails or any attachments at the end;
- Staff are encouraged to print selectively, and where printing is unavoidable, to ensure that the output is set to double-sided (e.g. for student handouts);
- Where settings allow, printer default options are set automatically to double-sided printing;
- Staff are encouraged to distribute meeting minutes, notes, agenda etc via e-mails and/or through the use of shared network drives; and
- Students are charged to use photocopying facilities within the College library; it is hoped that this financial incentive will encourage students to reassess their level of paper consumption.

Where viable, sustainable construction materials were used in the SDC development, for instance the 'mat well' in the entrance to the building is made of recycled tyres, thus avoiding the use of virgin materials.

Initiatives to promote sustainably sourced products

The onsite canteen offers Fair Trade coffee for all catering. The onsite canteen also sources the majority of its fruit and vegetables from a local supplier, and its meat from a local butcher, who in turn sources its meats from local farms.

Course-specific initiatives are encouraged in order to minimise resource consumption. For instance, students in the School of Built Environment construct half-size doors as part of their training, and the timber is recovered and reused for other training purposes.

The timber frame of the SDC building is made from Douglas Fir from managed forests and is Forestry Stewardship Council (FSC) certified. The timber was purchased from local suppliers, thus providing benefit to the local economy. The use of Douglas Fir offers benefits at reconstruction as the timber can be reused for future projects, further adding to sustainability.

The SDC building has a structural timber frame with 'breathing' walls, insulated with recycled paper. This design is understood to have eliminated the use of plastics and also allows the free movement of air, helping to create a healthy indoor environment. The external walls are made of 'green oak' cladding, which was cut down in the six months prior to use - meaning that no pre-treatment, other than fireproofing, was required before use.

Implementation of a sustainable procurement strategy

Through involvement with APUC, the College will continue to pursue sustainable procurement through collaboration⁴.

5. WASTE GENERATION & DISPOSAL

Key performance indicators

The College is fully aware of the need for sustainable waste management, however it has not been possible to collate accurate data for the 2006-07 reporting period. The College is seeking to address this apparent data gap, and will seek to report the following for the 2007-08 reporting period:

- Total volume of waste generated (kgs)
- Volume of special waste generated (kgs)
- Waste routes used (i.e. % of total waste that is recycled, recovered, reused, and disposed of to landfill/incinerator).

Initiatives to reduce, reuse or recycle waste

We comply fully with the local Councils recycling policy using all the suitable refuse bins. In addition we also have no wood waste (from training courses) as all wood is reused and recycled.

There are segregated waste paper bins in the refectories, most offices and classrooms, the contents of which are collected for offsite recycling. The College intends to replace the currently used cardboard containers with new plastic containers, thus avoiding the need for black plastic sacks to hold the waste.

⁴ APUC (Advanced Procurement for Universities and Colleges) Ltd is the procurement centre for Scotland's universities and colleges. It is a private limited company, owned by institutions and established in response to the McClelland Report, Review of Public Procurement in Scotland.

Where use-and-return schemes are offered, printer cartridges are returned to the supplier. Otherwise, cartridges are sent to the Children's Hospice Association Scotland (CHAS) for recycling. Cartridges are collected from College sites during routine visits by the Estates team – avoiding additional trips being made.

The College has several paper shredding units onsite for confidential papers, as well as a bagging scheme for confidential papers, the contents of which are collected for offsite confidential recycling.

Where viable, unwanted furniture is separated into its component parts, and the metal recovered and sold to waste metal merchants.

6. TRAVEL & TRANSPORT

Initiatives to encourage sustainable transport

Students are provided with limited onsite car parking spaces. This serves to discourage private vehicle use and/or sole car use, and encourage the use of public transport and/or car sharing, either of which could alleviate congestion and air pollution.

The campus is well-served by bus transport, for which students can purchase four-weekly or 12-weekly bus passes at the College. Where students meet set criteria, funding is available for purchasing such bus passes. The College is investigating the possibility of a tax incentive scheme tied to annual bus tickets for staff. The nearest train station is about 15 minutes walk away.

There are secure bicycle racks, shower / change facilities and lockers available to students, staff & visitors in the Media Centre, SDC and the catering sections within the College.

Pool cars and minibuses are available for use by staff for College-related business, as well as minibuses.

Initiatives to reduce transport use

The College now offers 'Carnegie 24', a portal for on-line learning that takes the user directly into a vast range of college services and resources. This new resource makes distance / off-campus learning even more accessible - Carnegie 24 learners have direct access to their tutors and can send messages, submit pieces of work and log queries for the tutor's attention. Using the internet, learners can use Carnegie 24 to access their learning programmes from anywhere in the world, at any time of the day.

Where viable, teaching and support staff are encouraged to use telephone conference facilities for 'meetings' with off-campus parties.

7. OTHER SUSTAINABILITY INITIATIVES

Initiatives to protect & enhance biodiversity

We comply with the Nature Conservation (Scotland) Act where applicable e.g. replacing bushes undone from estates works.

The new SDC development was constructed on former brownfield land, thereby avoiding the loss of valuable greenfield and any associated native flora and fauna.

Part of the roof area of the SDC building is covered by sedum; there are numerous environmental benefits to this living roof material, for instance:

- The removal of carbon dioxide and absorption of air pollutants;
- Wildlife habitat creation - an undisturbed, self-sustaining rooftop habitat for bees, ladybirds, insects, butterflies and birds;

- Reduction of rainwater runoff (living roofs are said to retain around 40% of rainwater), which will minimise the pressure placed on the local drainage system by new building;
- Rainwater harvesting - describe system;
- Absorption of noise (both into and out of the building);
- Reduced heating and air conditioning needs / costs, due to the insulating properties of the green roof; and
- Visual appeal - sedums change colour seasonally, both through flower and foliage, adding further interest to the roof, and positively contributing to the aesthetics of the building exterior.

The SDC development was constructed on former Brownfield land, thereby avoiding the loss of valuable Greenfield and any associated native flora and fauna.

Work on a sensory garden attached to the SDC is in progress.

As part of the proposed demolitions of hutted accommodation onsite, the College is planning to use the Fife Ranger Service to identify any animals housed beneath the huts and make any necessary arrangements for displacement and resettling.

ELMWOOD COLLEGE: 2006-07 SUSTAINABILITY PERFORMANCE REPORT

1. INTRODUCTION & CONTEXT

Commitment to Sustainable Development

Elmwood has adopted a progressive and proactive approach towards sustainable estate and land asset management, to underpin its primary purpose in providing education and training. Using the college golf course and farm as living/working educational resource, Elmwood operates to ISO14001 Environmental Management System.

Elmwood's Environmental Policy states that the college will:

- Operate to minimise the environmental impact of our work and to establish a reputation for effective environmental management.
- Collaborate with others and share good practice with third party organisations.
- Promote and enhance biodiversity locally, regionally and nationally.
- Continue to invest in improving energy efficiency and energy conservation.
- Seek to conserve natural resources through efficient use, careful planning and the use of recycled materials.
- Seek suppliers and contractors who have environmental performance standards.
- Control the creation of waste and, wherever practicable, recycle materials and dispose of all waste in a safe and responsible manner.
- Strive to reduce the release of emissions and pollutants.
- Provide a safe and healthy working environment for all who use the college.
- Assess all new processes and procedures for environmental impact before introduction.
- Provide appropriate environmental education and training to meet the needs of staff and students.
- Help raise public awareness on environmental issues.

Purpose of this report

This report has been prepared in order to outline the sustainability performance of Elmwood College over the 2006-07 financial period against key performance indicators (KPIs). Qualitative information is also provided in relation to initiatives / technologies in place that support improved performance against the KPIs.

The data collected for this period will effectively form the baseline against which future performance is measured against each of the KPIs.

The tables provided in this report include a column for 'baseline' data for information purposes only, i.e. to provide an indication of how data/performance of subsequent years will be recorded.

In future reports, the following key will be used to indicate progress made against KPIs (i.e. performance trends):

- | | |
|------------|-------------|
| ☑ Improved | ~ Unchanged |
| ☒ Worsened | ? Unknown |

Significant changes that may affect performance

There were no significant changes to operating conditions during 2006-07.

2. ENERGY CONSUMPTION

Key performance indicators

Total energy consumption		Baseline	2006-07	Trend ¹
Total energy used	kWh	3,260,478	3,260,478	n/a
Associated total carbon dioxide (CO ₂) emissions	tonnes	694	694	n/a
Proportion of renewably sourced energy	%	0.00	0.00	n/a

Energy consumption by campus area ²		Baseline	2006 - 07	Trend
Main campus building, and horticultural & engineering facilities	kWh	2,387,825	2,387,825	n/a
Student residences	kWh	407,156	407,156	n/a
Elmwood House	kWh	153,230	153,230	n/a
The College farm	kWh	15,355	15,355	n/a
The Golf Clubhouse, Pro Shop etc	kWh	296,912	296,912	n/a

Normalised energy consumption		Baseline	2006-07	Trend
Average energy consumption per m ²	kWh	261	261	n/a
Average CO ₂ emissions per m ²	tonnes	0.06	0.06	n/a
Average energy consumption per FTE	kWh	1,342	1,342	n/a
Average CO ₂ emissions per FTE	tonnes	0.29	0.29	n/a
Average energy consumption per SUMs	kWh	113	113	n/a
Average CO ₂ emissions per SUMs	tonnes	0.03	0.03	n/a

Note: FTE = Full time equivalent of staff and students; SUMs = student units of measurement; m² = area of campus included in the assessment in square metres.

Initiatives to minimise overall energy consumption

As part of the College's compliance with ISO14001, energy consumption is monitored and reviewed continually by the College's Environment Manager, in conjunction with the College Environmental Steering Group and department managers.

The College commissioned Carbon Trust to carry out an energy efficiency survey, which was completed on 16th January 2006. The College is currently implementing recommended actions from the survey.

The College has also put in place:

- A refurbishment policy that requires the purchase of energy efficient lighting and equipment.
- Default computer settings (hibernation after a set period of inactivity).
- A "lights off" policy with regular inspections.
- The replacement of oil fired boilers by gas, thereby reducing the carbon emissions associated with energy use.

¹ The period for collecting baseline data is 2006-7. The data has been presented in this way to show how future reporting may look.

² Areas excluded from the assessment: the nursery, the golf course irrigation pump, the Group Homes, and the Tied Cottages.

Initiatives to increase proportion of renewably sourced energy

Elmwood has previously investigated the feasibility of switching to a Green Tariff for electricity supply. However, at the time it was felt that the available schemes were of limited environmental benefit when considering the additional premium cost.

The College, in partnership with the Carbon Trust, investigated the feasibility of commissioning a wind turbine on the College Golf Course this project is currently on hold awaiting the results of the feasibility study.

3. WATER USAGE

Key performance indicators

Water consumption		Baseline	2006-07	Trend
Total water consumption	m ³	23,891	23,891	n/a
Average water usage per m ² of campus area	m ³	1.95	1.95	n/a
Average water usage per FTE	m ³	9.83	9.83	n/a
Average water usage per SUM	m ³	0.83	0.83	n/a

Water consumption by campus area ³		Baseline	2006-07	Trend
Main campus, including horticultural & engineering facilities, student residences, & Elmwood House	m ³	12,088	12,088	n/a
The College farm	m ³	6,358	6,358	n/a
Golf course irrigation pump, clubhouse & Pro Shop	m ³	5,445	5,445	n/a

Proportion of total water consumed by water source		Baseline	2006-07	Trend
Potable mains	%	-	100	n/a
Potable abstraction	%	-	0	n/a
Grey	%	-	0	n/a
Harvested	%	-	0	n/a
Other	%	-	0	N/A

Initiatives to reduce overall water consumption

Elmwood is committed to efficient water consumption during irrigation of the College's golf course. The fully computerised irrigation system enables detailed and accurate monitoring and application of water usage. All water use is metered.

The farm is currently investigating methods to reduce water use. Regular meter readings are carried out and this helps to identify any leaks.

Initiatives to increase the proportion of grey/harvested water used

The College Golf Course operates an effective 'Waste to Water' recycling facility on its wash bay. The amount of water saving is not recorded but it is believed to be substantial.

Waste water generated during the washing of golf course maintenance machinery is harvested and bio-remediated prior to re-use. Some rain run off is also harvested.

³ Areas excluded from the assessment: the nursery, the Group Homes, and the Tied Cottages.

4. MATERIALS & PRODUCT CONSUMPTION

Key performance indicators

Main Type of Paper Used	Total Number of Reams Purchased			Proportion of Reams with Recycled Content (%)		
	Baseline	2006-07	Trend	Baseline	2006-07	Trend
White A4	5,000	5,000	n/a	0	0	n/a

Initiatives to reduce material & product consumption

The College encourages the distribution of correspondence, meeting minutes, notes, agenda etc via e-mails rather than by hard copy. Support and teaching staff are encouraged to print selectively, and where printing is unavoidable, to set the output to double-sided.

Initiatives to promote sustainably sourced products

An ISO14001 certified EMS requires that the College seeks suppliers with good environmental performance standards, preferably with accreditation to a similarly recognised environmental standard.

College Fair Trade Week (May 2007) - a weeks' trial of Fairtrade products at retail outlets within the college campus. Elmwood plans to apply for full, Fairtrade status in 2008. The College Refectory is going for accreditation to a Healthy Living Award.

The Hair and Beauty department seeks to source products from ethical companies. These products are Fairtrade, not tested on animals, made from natural ingredients, come in re-cycled containers, are provided with re-usable dispensers, no cardboard outers, etc.

The College currently sells organic lamb and beef produced on the college farm. There are plans to expand this service to include other local produce. The Student Development team have set up an organic vegetable delivery service to staff and students in partnership with a local farm.

Implementation of a sustainable procurement strategy

Elmwood is fully engaged with the Campus Sustainability Programme (CaSpr), and are considering joining the purchasing group associated with this.

Elmwood is signed up to Advanced Procurement Universities and Colleges (APUC). In the meantime, the College has an informal policy to procure services and equipment from companies practicing Best Practical Environmental Option (BPEO).

5. WASTE GENERATION & DISPOSAL

Key performance indicators

Volume of waste disposed		Baseline	2006-07	Trend
Total volume of waste disposed	kgs	1,722,365	1,722,365	n/a
Volume of special waste disposed	kgs	TBC	TBC	n/a

Waste disposal routes (as proportion of total disposed)		Baseline	2006-07	Trend
Recycled	%	31.4	31.4	n/a
Recovery	%	0	0	n/a

Waste disposal routes (as proportion of total disposed)		Baseline	2006-07	Trend
Landfill	%	68.6	68.6	n/a
Incineration	%	0	0	n/a
On Site Reuse	%	0	0	n/a
Off Site Reuse	%	0	0	n/a

Initiatives to reduce, reuse or recycle waste

The college has instigated a wide range of waste reduction initiatives. These include straightforward waste re-cycling systems supported by a waste streaming guide.

Elmwood also has plans to implement a print management system in the main IT Suites and photocopying is defaulted to double sided.

The college has an advanced composting system to deal with organic wastes arising from our grounds, farm and golf course such that none of these wastes are disposed to landfill - the overall recycling rate would be very much higher taking this into account (estimate over 50%). The college has plans for a waste water (run-off) treatment pond (reed bed) to service the farm and golf course.

Woody materials are all chipped and used as mulch - this again would increase our overall recycling rate. Peat compost is 100% reused.

Elmwood plans to join a food waste composting pilot project with Fife Council. The college is also investigating (piloting) the use of waste cooking oil as a bio-fuel.

In future, suppliers of electronic equipment will be asked to be fully compliant with WEEE.

6. TRAVEL & TRANSPORT

Initiatives to encourage sustainable transport

The College has developed a Green Travel Plan for staff, learners and visitors, which is reviewed annually. The College Travel Plan supported by a Energy Saving Trust Travel Plan Report is now ready to launch - implementation planned for 2008-2009.

The College has seeks to promote and facilitate the use of sustainable modes of transport, for travel to and from the campus, for example:

- Facilitating a car sharing scheme;
- Providing bicycle facilities,
- Facilities for walkers;
- Shower facilities;
- Free contract buses for the use of students and staff in remote locations; and
- Regular free minibus service to outlying college facilities.

Initiatives to reduce transport use

Elmwood seeks to send a single lecturer to multiple students rather than vice versa; this has proven successful for learning provided in China, Slovenia and Spain, for instance.

The College offers on-line learning via a VLE (Moodle). A proportion of most courses are available for full-time, part-time, day and block release students and for community use. Lecturers are encouraged to post their learning materials on the VLE reducing the need for students to travel to the college. Most learning offered via the VLE currently is blended with classroom learning and other delivery modes but the intention is to develop some courses for complete on-line delivery.

The college operates a number of community outreach centres e.g. St Andrews, Newburgh, Auchtermuchty, etc. This again reduces the need for students to travel to college and reduces our overall carbon footprint.

7. OTHER SUSTAINABILITY INITIATIVES

Initiatives to protect & enhance biodiversity

Elmwood College has achieved an international reputation in standards of teaching, and quality of provision in golf course management and greenkeeping. Golf courses present particular challenges and opportunities in land management. The College operates to the International Standard "Committed to Green", which is shortly to be converted to "Golf Environment Europe". We have published papers in relation to Sustainable Golf Course Management.

ISO14001 certification recognises biodiversity as a significant impact of the college's activities and each year objectives and targets are set in relation to this.

The College has developed a biodiversity management plan. To date the College has commissioned Phase 1 Habitat Surveys; a Phase 2 Habitat Survey; a River Habitat Survey; a Breeding Bird Survey; Butterfly Recording Transects; Vegetation Surveys. The College has created wildlife areas on its estate and is actively engaged in promoting and enhancing biodiversity, for instance, the College plans to carry out a campus-wide bat survey in 2008. Elmwood has published a number of case studies in relation to Biodiversity Management e.g. The EAUC Biodiversity Guide.

EDINBURGH'S TELFORD COLLEGE: 2006-07 SUSTAINABILITY PERFORMANCE REPORT

1. INTRODUCTION & CONTEXT

Commitment to sustainable development

Edinburgh's Telford College commitment to sustainable development is embodied in the new West Granton Campus. The design offers a sustainable, accessible, learning environment, which combines sensitive modern design with environmental concerns. Various design elements were utilised to enable the building's sustainability to be enhanced, for example:

- Designed as a 'green' building with natural ventilation and limited air conditioning;
- 'Green' IT solutions are used wherever possible e.g. servers;
- Space has been created for a wilderness garden to encourage biodiversity on the site as live learning; and
- Levelus shading on the windows reacts to sunlight and provides shade or utilises the natural light as appropriate.

Purpose of this report

This report has been prepared in order to outline the sustainability performance of Edinburgh's Telford College over the 2006-07 financial period against key performance indicators (KPIs). Qualitative information is also provided in relation to initiatives / technologies in place that support improved performance against the KPIs.

The data collected for this period will effectively form the baseline against which future performance is measured against each of the KPIs.

The tables provided in this report include a column for 'baseline' data for information purposes only, i.e. to provide an indication of how data/performance of subsequent years will be recorded.

In future reports, the following key will be used to indicate progress made against KPIs (i.e. performance trends):

- | | |
|------------|-------------|
| ☑ Improved | ~ Unchanged |
| ☒ Worsened | ? Unknown |

Significant changes that may affect performance

2006-07 was the first full year of occupancy of the new £70 million West Granton Campus, which occupies the site of a former gasworks in Edinburgh's Granton area, one of the principle areas of city regeneration. The new campus, which has effectively replaced three separate sites in North Edinburgh, provides an accessible new educational and social focus for the local community.

During 2006-07 staff and learners alike have been familiarising themselves with the opportunities and facilities that the new campus provides in terms of estate management and live learning.

Due to the relocation of three former College sites to the new West Granton Campus, comparison of current sustainability performance to that in previous years may not provide meaningful or appropriate results.

2. ENERGY CONSUMPTION

Key performance indicators

The following data relates only to the West Granton Campus ^a:

Total energy usage		Baseline	2006-07	Trend
Total energy used	kWh	6,037,292	6,037,292	n/a
Associated total carbon dioxide (CO ₂)emissions	tonnes	2,340	2,340	n/a
Proportion of renewably sourced energy	%	0.0	0.0	n/a

Normalised energy consumption		Baseline	2006-07	Trend
Average energy consumption per m ²	kWh	171	171	n/a
Average CO ₂ emissions per m ²	tonnes	0.07	0.07	n/a
Average energy consumption per FTE	kWh	1,006	1,006	n/a
Average CO ₂ emissions per FTE	tonnes	0.39	0.39	n/a
Average energy consumption per SUMs	kWh	TBC	TBC	n/a
Average CO ₂ emissions per SUMs	tonnes	TBC	TBC	n/a

FTE = Full time equivalent of staff and students; SUMs = student units of measurement; m² = square meterage of the campus area included in the assessment.

Initiatives to minimise overall energy consumption

The Estates Management team has used the first year of occupancy at the new campus to develop familiarity and understanding of its integrated technologies and associated benefits. In terms of sustainable energy consumption, these aspects include:

- The building's orientation maximises its passive heating potential and natural daylight availability, with north facing rooflights and large top floor windows providing high levels of good quality glare-free daylight;
- The barrel-vaulted roof in the central social area (the 'Hub') has an ethylene tetrafluoroethylene (ETFE) roof that provides maximum natural light and good thermal insulation. The main atrium provides double-aspect daylight, with floor to ceiling glazing;
- Large areas of exposed thermal mass in the form of high quality concrete soffits, which also minimise the need for mechanical cooling or heating;
- A series of bespoke motorised shading fins surround the building, which automatically tilt to create an intelligent form of controlling solar heat gain, light and glare along with natural ventilation to allow a cross flow of air throughout classrooms;
- Natural ventilation paths provided by cross-ventilation can be further enabled by the opening of roof lights and windows on top floors. In addition, remotely controlled windows allow night cooling of the structure as needed;
- The building management system can be used to manually set luminance ('LUX') levels throughout the building, or to automatically adjust to ambient light levels; and
- The majority of rooms have simple wall-mounted 'dimmer' switches that enable LUX levels to be locally adjusted as required, and also have motion activated lights.

^a Areas currently excluded from reporting due to a lack of data: the Muirhouse Campus, the Gyle Campus, and the Employment Enterprise Partnership unit in Edinburgh's St James Centre.

The College is looking into the feasibility of electricity sub-metering across the campus, which would enable more detailed monitoring and analysis of energy usage in different areas of the site, and thus allow more effective and efficient energy management. The College is also seeking further training for key staff in relation to the powerful building management system to further maximise the potential benefits of integrated building features and technologies.

Initiatives to increase proportion of renewably sourced energy

The overall design of the new West Granton Campus makes the future installation of solar panels photovoltaic or thermal and wind turbines a logistically viable option.

In the meantime, the College has selected a Green Tariff for the West Granton Campus from the mains electricity provider. Through the Green Tariff, the College has specified that the electricity provider must make grid contributions of electricity generated by renewable technologies to a 10% equivalent of the total electricity units consumed at the new campus.

3. WATER USAGE

Key performance indicators

The following data relates only to the West Granton Campus ^b:

Water consumption		Baseline	2006-07	Trend
Total water consumption	m ³	52,853	52,853	n/a
Average water usage per m ²	m ³	1.5	1.5	n/a
Average water usage per FTE	m ³	8.8	8.8	n/a
Average water usage per SUM	m ³	TBC	TBC	n/a

Proportion of total water consumed by water source		Baseline	2006-07	Trend
Potable mains	%	100	100	n/a
Potable abstraction	%	0	0	n/a
Grey	%	0	0	n/a
Harvested	%	0	0	n/a
Other	%	0	0	n/a

Initiatives to reduce overall water consumption

A number of water reduction measures have been introduced at the new campus, including basin taps with volume controlled delivery.

Initiatives to increase the proportion of grey/harvested water used

The 'Wilderness Garden' at the new campus includes reed beds which enable grey-water recycling.

This landscaped amenity space also incorporates a pre-existing diverted culvert into a Sustainable Urban Drainage System (SUDS), thus avoiding unnecessary treatment of storm water.

^b Areas currently excluded from reporting due to a lack of data: the Muirhouse Campus, the Gyle Campus, and the Employment Enterprise Partnership unit in Edinburgh's St James Centre.

4. MATERIALS & PRODUCT CONSUMPTION

Key performance indicators

Main Types of Paper Used	Total Number of Reams Purchased			Proportion of Reams with Recycled Content (%)		
	Baseline	2006-07	Trend	Baseline	2006-07	Trend
A4	TBC	TBC	n/a	TBC	TBC	n/a
A3	TBC	TBC	n/a	TBC	TBC	n/a

Initiatives to reduce material & product consumption

To reduce overall paper consumption, staff are encouraged to distribute digital meeting minutes, notes, agenda via attachment to e-mails or via intranet links embedded in e-mails

Initiatives to promote sustainably sourced products

Fair Trade products, including coffee, are available the food outlets and in staff areas.

The majority of produce used in the training kitchen is locally sourced from Scottish suppliers (butchers, farmers etc).

Implementation of a sustainable procurement strategy

With a dedicated procurement manager, the College is working towards a sustainable life cycle analysis (LCA) strategy for certain purchases (e.g. IT equipment). This strategy will take into account centralised procurement initiatives, such as APUC, which are hoped will further seek to address sustainability aspects of the College's supply chain.

5. WASTE GENERATION & DISPOSAL

Key performance indicators

The College is fully aware of the need for sustainable waste management, however it has not been possible to collate accurate data for the 2006-07 reporting period.

The College is seeking to address this apparent data gap, and will seek to report the following for the 2007-08 reporting period:

- Total volume of waste generated (kgs);
- Volume of special waste generated (kgs); and
- Waste routes used (i.e. % of total waste that is recycled, recovered, reused, and disposed of to landfill/incinerator).

Initiatives to reduce, reuse or recycle waste

During 2006-07, students, staff and visitors were encouraged to make use of the numerous recycling bins located at strategic points across the new campus. The recycling bins allow the segregation of plastics, aluminium and paper for offsite recycling. The new campus also has a cardboard packaging collection area, where the waste cardboard is compacted and baled, prior to collection for offsite recycling.

Informal recycling initiatives are also encouraged at the new campus, for instance, empty plastic containers from the hairdressing unit and used wooden drinks stirrers from staff areas are passed to the engineering course leaders for onsite reuse onsite. Reusing materials in this manner helps to reduce the site's overall materials consumption, as well as the volume of wastes generated.

The College provides mains water coolers within the West Granton Campus rather than bottled water coolers, which helps to mitigate consumption of plastics and associated waste generation.

6. TRAVEL & TRANSPORT

Initiatives to encourage sustainable transport

The College is developing a Green Travel Plan for staff, learners and visitors.

The College has actively sought to promote and facilitate the use of sustainable forms of transport for travel to and from the new West Granton Campus. The College has successfully negotiated with local bus companies to improve services, and has also introduced the option to purchase season tickets via salary sacrifice.

The College is also exploring the feasibility of a cycle purchase scheme for staff via salary sacrifice, and improvements to change facilities for staff cyclists.

Bus timetables, bus route maps, and cycle route maps are displayed within the reception area of the new campus building.

The College is exploring the viability of a 'car club'; by signing up to a car club, staff would be able to book a car when required, as opposed to having dedicated fleet cars being permanently located onsite for the use of College staff only, thus effectively seeking to reduce the number of cars 'on the road'. Joining a car club would also provide staff with the opportunity to choose alternative-fuel cars or new vehicles with lower carbon emissions, where travel by private vehicle cannot be avoided.

The College is currently developing a Green Travel Plan for staff and learners. The new West Granton Campus lies on the proposed 'Phase 2' route of the Edinburgh Tram, and the College continues to support the development of this 'low carbon' transport option. According to a survey carried out by Transport Scotland in January - February 2007, approximately 77% of students at Telford College would use the tram - and more than half (53%) would leave the car to do so.

Initiatives to reduce transport use

The new campus effectively replaced three separate sites in North Edinburgh. In addition, there plans to relocate activities from the Muirhouse and Gyle Campuses to the new West Granton Campus, thereby eliminating the need for students and staff to travel between sites.

In addition, both telephone conferencing and video conferencing facilities are available at the new campus for staff use.

7. OTHER SUSTAINABILITY INITIATIVES

Initiatives to protect & enhance biodiversity

The new West Granton Campus features a 'Wilderness Garden' that comprises an informal green space planted with indigenous species, which is enclosed by the two main building 'arms'. The garden, which is open to the public during the day, includes reed beds for grey-water recycling.

APPENDIX C. 2006-07 Sustainability Performance Reports

APPENDIX D. Overview of Data Availability & College Initiatives

Key: ✓ Data available for use in pilot study / initiative in place at time of pilot study

DATA AVAILABILITY		CARNEGIE	EDINBURGH'S TELFORD	ELMWOOD	JOHN WHEATLEY	OATRIDGE
General	Number of employees and students as full-time equivalents (FTE)	✓	✓	✓	✓	✓
	College activity expressed as student units of measurement (SUMs)	✓		✓	✓	✓
Energy consumption	Campus building / area included (m ²)	✓	✓	✓	✓	✓
	Campus building / area excluded (m ²)			✓	✓	
	Annual energy consumption: Total	✓	✓	✓	✓	✓
	Annual energy consumption: By campus building / area	✓	✓	✓	✓	✓
	Annual energy consumption: By source	✓	✓	✓	✓	✓
Water usage	Campus building / area included (m ²)		✓	✓	✓	
	Campus building / area excluded (m ²)	✓		✓	✓	
	Annual water usage: Total		✓	✓	✓	✓
	Annual water usage: By source		✓		✓	✓
	Annual water usage: By campus building / area		✓	✓	✓	
Material / product consumption	Paper type	✓	✓	✓	✓	✓
	Total number of reams purchased	✓		✓	✓	✓
	Number of reams with recycled content	✓		✓	✓	✓
Waste Generation & Disposal	Total volume of waste generated			✓		
	Volume of special waste generated					
	Disposal Routes			✓		
Travel & Transport		✓	✓	✓	✓	✓
Biodiversity		✓	✓	✓	✓	✓

INITIATIVES IN PLACE		CARNEGIE	EDINBURGH'S TELFORD	ELMWOOD	JOHN WHEATLEY	OATRIDGE
Energy consumption	Management focussed (e.g. facilities team)	✓	✓	✓	✓	✓
	Staff-focused					✓
	Student-focused					
Water usage	Management-focussed	✓	✓	✓	✓	✓
	Staff-focused					
	Student-focused					
Material / product consumption	Management-focussed					
	Staff-focused	✓	✓	✓	✓	
	Student-focused		✓	✓		

Waste generation & disposal	Management-focussed	✓	✓	✓		✓
	Staff-focused	✓	✓			✓
	Student-focused		✓			✓
Travel & Transport	Management-focussed	✓	✓	✓	✓	✓
	Staff-focused	✓	✓	✓	✓	✓
	Student-focused	✓	✓	✓	✓	✓
Biodiversity	Management-focussed	✓	✓	✓	✓	
	Staff-focused					
	Student-focused					

Additional Aspects	CARNEGIE	EDINBURGH'S TELFORD	ELMWOOD	JOHN WHEATLEY	OATRIDGE
Full-time sustainability staff		✓ 1	✓ 2		
Major facility investment in last five years	✓	✓		✓	✓
Excellent BREEAM rated campus building/s	✓	✓		✓	
Older campus building/s	✓	✓	✓	✓	✓
Energy efficiency audit carried out in last 5 years					
Water efficiency audit carried out in last 5 years					
Green travel plan (available to staff, learners & visitors)			✓	✓	
Recognised environmental management system certification			✓ 3		

1. Procurement
2. Environment
3. BS EN ISO14001