



Glasgow Caledonian University Carbon Management Programme

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Foreword from Professor Pamela Gillies Principal and Vice-Chancellor

At Glasgow Caledonian University, our commitment to using our skills, facilities and knowledge to make a positive contribution to society is reflected in our motto “For the Common Weal”, and taking action towards achieving an environmentally sustainable future is a priority.

The University’s estates strategy highlights the need to build an environmentally responsible university with reduced environmental impacts and this is a key consideration for all future development plans. Already, we have cut carbon emissions by 4% throughout the Estate. This has been achieved largely by improving energy efficiency and Building Management Systems. With the help of students and staff training awareness building events, we have also set out on a journey to cut individual energy consumption and emissions, increase recycling, reuse more of our resources and encourage travel to work and study by means other than the car.



Participation in the Carbon Management Programme will enable us to move our carbon reduction activities forward with the expert advice and support available from the Carbon Trust. The programme has identified a set of projects, which will help us embed carbon reduction and environmental management further into our university culture, benchmark our performance, and move towards our target of 20% carbon saving per year in five years.

As a university community, we are committed to playing an active part in the push to cut UK emissions by at least 80% by 2050. I believe that everyone who works or studies at the University can make a difference, so I do hope that you will actively support this very important plan.

**Foreword by Jan Hulme
University Secretary and
Carbon Management Programme Sponsor**

Having set a target of 20% reduction in our carbon emissions by 2014, as Project Sponsor I realise the challenges in achieving this. The Carbon Management Plan details the University's work to reduce our carbon footprint while heightening awareness of our sustainability agenda.

For my part, I commit to feeding back to you progress against targets and the benefits of participation in the programme, both financially and ethically.



Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change must be a key priority for universities - it's all about getting your own house in order and leading by example.

The UK government has identified the HE sector as key to delivering carbon reduction across the UK in line with its national and international commitments. The Public Sector Carbon Management Programme is designed as a systematic and whole organisational approach to develop a robust strategy that delivers against carbon reduction targets. It assists organisations save money on energy helping to protect their core front line services, respond to evolving regulatory framework and most importantly reduce their carbon footprint.

Glasgow Caledonian University was selected in 2009, amidst strong competition, to take part in this ambitious programme. This Carbon Management Plan commits Glasgow Caledonian University to a target of reducing CO₂ by 20% by 2014 and underpins potential cumulative financial savings to the organisation of around £300,000. Taking into account the future growth of the organisation these savings represent a relative reduction against a carbon emissions baseline year of 2008/9.

Universities can contribute significantly to reducing CO₂ emissions and demonstrate proactive public sector leadership. This plan that the Carbon Management Team has written represents the start of an ongoing process of Carbon Management. The Carbon Trust is proud to support Glasgow Caledonian University in their commitment to carbon reduction and public sector leadership.



Richard Rugg
Head of Public Sector, Carbon Trust

Management Summary

Glasgow Caledonian University is committed to sustainable development and Scotland's Climate Change Declaration. The University has made sustainable development a key organisational driver and will work towards ensuring that sustainable development principles are embedded in all aspects of the organisations strategic and operational plans.

The University has a number of policies, plans and strategies and a wide range of projects and initiatives under development and implementation which relate to sustainable development and Climate Change mitigation and adaption measures. To date these have not necessarily been identified, recorded and reported in such a way that demonstrates the links to this important agenda, but the roll out of both the Carbon Management Plan and EcoCampus will facilitate a framework and management system to enable document control and review

Carbon management is now very much a part of the University's strategic agenda and this has been underpinned by joining and successfully completing the Carbon Trust's Public Sector Carbon Management Programme. As part of the programme, the University has now undertaken an assessment to establish baseline data for its carbon footprint. This will enable the University to set targets for carbon emissions reductions to be achieved by services within the carbon footprint boundary. The boundary measured has the following key service areas::

- Buildings – energy usage
- Transport – fleet and business
- Waste – produced by the University
- Water – used by the University

The pie-chart indicating the percentage of carbon contribution to the carbon footprint from each of these key service areas is shown in Figure 1 below.

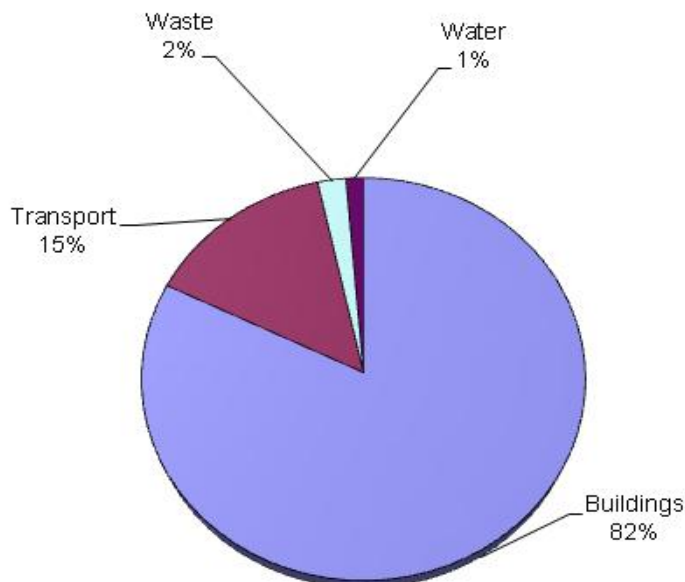


Figure 1: **Glasgow Caledonian University Carbon Emissions Baseline (2008/09)**

The total carbon emissions for the University during 2008/09 within the above footprint amounted to 11,075 tonnes CO₂.

Strategic Themes of Carbon Reduction

The University is committed to its sustainability programme and is currently embedding this via a number of routes such as the new “Campus Low Carbon Masterplan” which is a campus wide upgrade of the building stock and modified use of open space areas, as well as the development of some new buildings and incorporation of renewable technologies, rain water capture and innovative use of heat regulating technologies such as green roofs and walls. Although not in this Carbon Reduction plan, a potential investment is likely to be the installation of a campus wide Combined Heat and Power Plant (CHPP) plant which will bring significant carbon emissions savings. This would be a major financial investment for the University and the implications would affect the Carbon Reduction plan after its release in April 2010.

The other themes that deliver the carbon reduction in this plan are building management systems, lighting upgrades, window replacement and chiller replacements all of which provide substantial savings on the baseline year emissions.

Furthermore the University is part of the EcoCampus programme and is working towards silver level having been the first in Scotland to achieve bronze. Waste management, energy management and staff travel are strong components of this, and therefore this programme strongly reinforces the Carbon Management Plan described in this document.

1 Introduction

This document serves as a plan for Glasgow Caledonian University's Carbon Management Programme. The document includes the baseline carbon footprint for the University in 2008/2009, highlights the recent projects the University has taken toward carbon reduction, and outlines the range of projects the University plans to implement to meet its carbon reduction target of 20% reduction by 2015. A brief background of the University is included below to provide context for the Carbon Management Programme and Plan.

Glasgow Caledonian University

At Glasgow Caledonian University, we are committed to developing and improving our environmental performance, minimising our carbon footprint and developing environmental responsibility in all our staff and students. This is reflected in our academic research, with experts at the Caledonian Environment Centre carrying out valuable work in a range of environmental disciplines.

GCU is providing the highest quality teaching, underpinned by focused areas of national and international research excellence. Winner of the Herald Society Education Initiative of the Year 2009 and the Times Higher Education Widening Participation Initiative of the Year 2009, the University offers diversity and access with excellence, and applies its knowledge and skills for the social and economic benefit of the communities it serves in Scotland and around the world.

Rated best international student experience in the UK (International Student Barometer survey 2008), and in The Sunday Times University Guide's top ten modern universities, the University is based on a modern, single-site, city centre campus. With more than 1,500 staff and 17,000 students from approximately 68 countries studying on over 200 undergraduate and postgraduate programmes (and another 2000 students at its campus in Oman), the University is committed to widening access and has an excellent record of recruiting students who may otherwise have been denied the opportunity to participate in higher education.

The University's six academic schools - Built and Natural Environment, Business, Engineering and Computing, Health, Law and Social Sciences, and Life Sciences- offer high-quality and innovative professionally focused programmes and have forged strong partnerships with business and the private and public sectors. The work of the schools is enhanced by more than 40 specialist research centres, including the Centre for the Social History of Health and Healthcare, the Moffat Centre for Travel and Tourism, Caledonian Creates, Caledonian Environment Centre, the Cullen Centre for Risk and Governance, Caledonian Family Business Centre, Glasgow Centre for the Study of Violence and the Centre for Political Song. The University's areas of particular research strength are especially strategically focused in health, the environment, and biomedical and vision sciences.

Ongoing developments to enhance learning, teaching and research at the University have included establishing the Caledonian Academy, a revolutionary initiative to ensure the University leads the way in developing and implementing innovative forms of learning and teaching, and a cutting-edge Second Life island. The island, a recreation of the University's award-winning Saltire Centre and other iconic city centre landmarks, uses the virtual world as an innovative learning tool that can be used by students, staff and the public in line with GCU's mission to provide an accessible, flexible and inclusive learning environment.

In 2008, in a first for Scotland, the University established an international foundation college, INTO Scotland. INTO Scotland is a 50/50 joint venture with INTO, a company that specialises in international teaching and recruitment. INTO Scotland prepares international students for undergraduate and postgraduate study in the UK by giving them intensive English language training alongside university course work. In November 2008 the University was voted top in the UK for its outstanding support for international students by the Times Higher Education.

1.1 Projects

| Project | Cost | | Annual Saving | | % of CO ₂ Target |
|---------------------|------------|---------|---------------|------------------------|-----------------------------|
| | Capital | Revenue | Fin | CO ₂ tonnes | |
| Existing | £3,975,000 | | £55,475 | 352 | 13.69% |
| Planned Funded | £800,000 | £50,000 | £2,322 | 48.8 | 2.20% |
| Near Term | £329,000 | £3,000 | £121,932 | 1321.6 | 64.31% |
| Medium to Long Term | £1,279,000 | | £126,666 | 837 | 35.74% |

This gives a combined total of 116% of our 20% target (actual figure 23% of baseline to allow for any drop off of projects) We have chosen this target as it is in line with the Scottish Government's Climate Change Delivery Plan which includes the target of 42% by 2020.

2 Carbon Management Strategy

The University recognises the environmental impact that climate change is having on the global community.

GCU is committed to reducing the environmental impacts of its activities. To achieve this, the University's sustainability agenda is endorsed by Court and the Executive Board.

In support of this key indicator and to ensure strategic coherence, the University has embarked on both the Carbon Management Programme and EcoCampus Initiative.

2.1 Context and Drivers for Carbon Management

GCU is committed to reducing adverse impact on the environment. This is in response to the Scottish Government's action to reduce Carbon Dioxide (CO₂) emissions, and to the Climate Change Bill 2007. Commitment has been made to reduce emissions nationally by 60% by 2050.

With the advent of the Carbon Reduction Commitment (CRC) the University is committed to future proofing not only existing facilities but ensuring that the estate and facilities are enhanced for all users while complying with legislation.

The Energy Performance of Buildings Directive (EPBD) requires the University to analyse and display energy certificates which rate the performance of buildings. The outcome of this analysis will inform future carbon reduction initiatives.

The main drivers:

- Our mission and commitment to the Common Weal
- Legislative compliance

- The efficient and best value use of university resources
- Universities and Colleges Climate Commitment for Scotland (UCCCIS) which provides a pledge to reduce carbon emissions and report annually on progress
- The University's own Master Planning and Estates Planning which provides strategic overview and direction of the institution's key drivers in both the short and long-term

2.2 Our low carbon vision

The University's sustainability agenda is driven by the commitment to "recognise that its activities impact on the environment through its operations, purchasing and supply chain activities. Stakeholder and community involvement are also recognised as a driver".

Key to this commitment is an action plan to take the demanding target of CO² emission reduction by 20% of our 2008/2009 baseline by 2014.

The 20% target by GCU remains ambitious, given our track record of commitment through previous investment as there are already efficiencies in the 2008/9 baseline, but it is achievable.

2.3 Strategic themes

The Carbon Management Plan sets out GCU's five-year strategy and actions required to achieve our targets and goals. The Executive Board are committed to resourcing:

- Continued support for the sustainability agenda through the Universities and Colleges Climate Commitment for Scotland (UCCFS) and the EcoCampus Scheme
- Integration of sustainability into all areas of University life
- Investment in the estate by increasing energy conservation technologies
- Improvement of infrastructure and information on metering of building stock
- Staff and student involvement through effective communication plans
- Partnerships with appropriate external parties and community involvement through our links with schools
- Through our travel planning, the promotion of sustainable travel through cycle to work initiatives and partnership working with Strathclyde Passenger Transport (SPT) and FirstGroup
- Review and monitoring processes and procedures to encourage improvement

2.4 Targets and objectives

The University has set a target to reduce carbon emissions by 20% of the baseline 10,952 tonnes CO₂ per year (baseline year 2008/09) by 2014.

To achieve this target, the University will undertake a range of activities to increase energy efficiency in campus buildings and infrastructure, and engage staff and students in minimizing waste and travel-related emissions. Specifically, the Carbon Management Programme will achieve the following:

- Reduce the energy consumption of the University by 10% and water consumption by 5% by 2011
- Bring together existing and future Carbon Management projects into a consistently managed and coherent programme by 31st March 2010 , with management oversight from the Carbon Management Team
- Develop waste reduction policies, including all types of waste streams
- Develop a University Travel Plan

3 Emissions Baseline and Projections

3.1 Scope

The Carbon Management Programme and baseline emissions data include information from three primary sources: 1) Buildings, 2) Transport, 3) Waste. The programme covers the entire estate and leased properties of GCU. Buildings are further segregated into two categories, non-residential and residential, to reflect different usage patterns.

Non-residential buildings

All emissions from this sector are to be included in the baseline. This includes emissions from electricity and gas. Data quality is good and reporting is already carried out with meter readings taken by the Facilities Management Department.

Electricity is half-hourly recorded by automatic meter reading. Gas Automatic Meter Readers are programmed to be installed by our current service provider with the next six months.

Residential buildings

All emissions from this sector are to be included in the baseline. This includes emissions from electricity and gas. Data quality is good and reporting is already carried out with meter readings taken by the Facilities Management Department.

There are currently no Automatic Meter Readers fitted and due to the set up of the buildings, it would be cost prohibitive.

Vehicles/transport

Emissions relating to staff business mileage are included in the baseline based on the mileage recorded in the Finance Office (air and rail) and the Transport Office for hired cars, assuming emissions based on a medium petrol car, from 1.4 - 2.0 litres and a medium diesel car, from 1.7 to 2.0 litre. The University's main hire car contractor can provide mileage information and this will be monitored in future years. Fleet mileage is recorded by the Transport Office.

Emissions relating to staff commuting are included in the baseline based on the results from a staff travel survey carried out in March 2009. Data relating to student commuting are less reliable and have not been included in the baseline at this time.

Waste Disposal

Good quality data are available for waste tonnage disposed of to landfill, tonnage recycled and tonnage of clinical waste sent for incineration from the main campus. Waste data included in the baseline included wheelie bin waste to landfill from the residences. As this is not commercial waste it is not recorded by the City Council. A calculation was made using an average of the waste uplifted.

Water

Good quality data are available for the volume of water consumed at the University. Although emissions from this source are small they have been included in the baseline as consumption data are readily available and the relevant emissions factor is known.

3.2 Baseline

The carbon emissions from the University's activities in year 2008/2009 were audited using the methodology provided by Carbon Trust's Public Sector Carbon Management Programme.

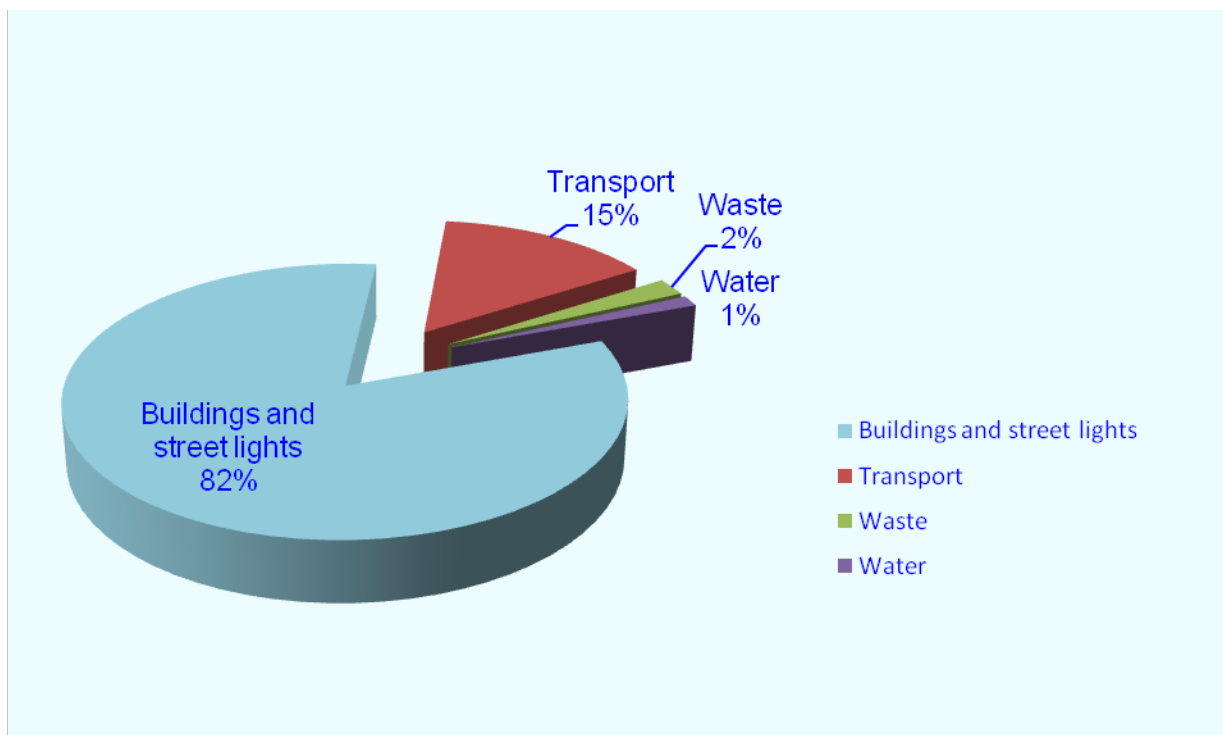
The total overall carbon emissions from the University in 2008/09 were estimated to be 10.952 tCO₂e. This can be disaggregated into the categories shown in Table 1.

Table 1: Summary table of emissions for baseline year 2008/09

| | Total | Buildings and street lights | Transport | Waste | Water |
|---|------------|-----------------------------|-----------|---------|---------|
| Baseline CO₂ emissions (tonnes) | 10,952 | 9,106 | 1,589 | 238 | 18 |
| Baseline Cost (£) | £2,481,010 | £2,117,519 | £248,343 | £43,748 | £71,400 |

The costs indicated in the table above are indicative of the costs to the University in the baseline year and the costs applied at that time.

Figure 1: Summary of emissions for baseline year 2008/09



3.3 Projections and Value at Stake

Carbon emissions projections for the University are predicted to increase by 0.7% annually over the next five years under the business as usual scenario (the red line in Figure 4). The blue line reflects the University's commitment to reduce emissions by 20% over the five year period. The process by which this will be achieved is outlined later in this document.

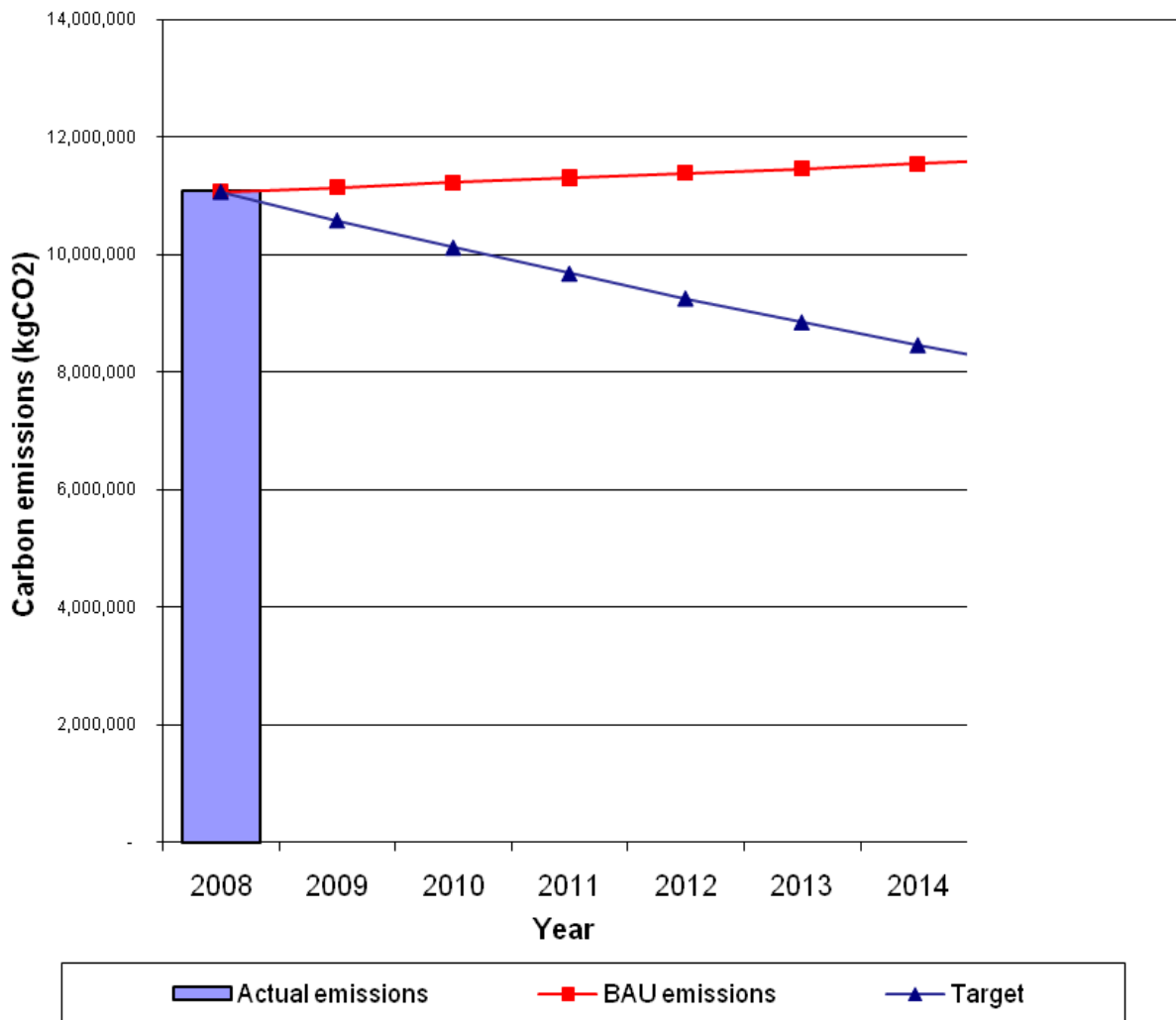


Figure 2: Comparison of actual emissions with Business As Usual (BAU) increases and reduction targets predicted

Financial value at stake

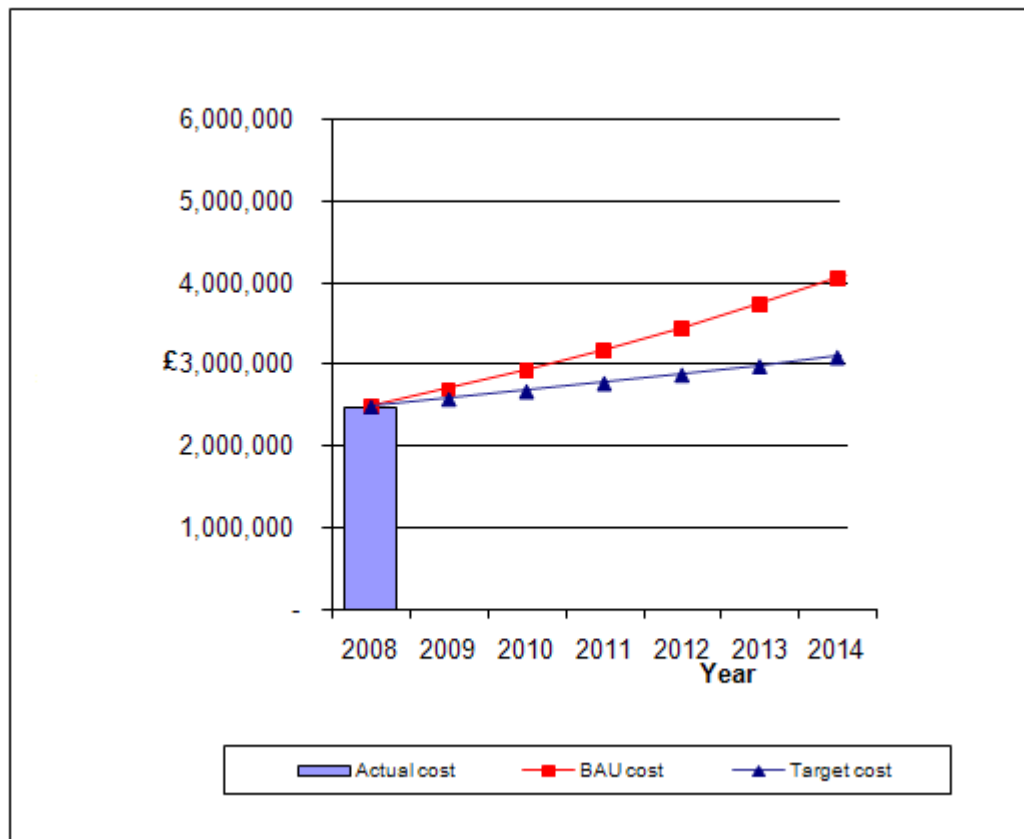


Figure 3: Financial Implications: Comparison of emissions with Business as Usual (BAU) increases and reduction targets

4 Carbon Management Projects

Over the last few years GCU has been actively identifying and implementing projects that will reduce our carbon footprint and lower energy consumption.

The University regularly updates its five year Estates Management Action Plan (EMAP) document. This document identifies major maintenance items including energy efficient projects. It is laid out in a building by building format so that projects can be easily identified and prioritised. Relevant information from the EMAP has been included in the following sections and tables below.

Table 2 “Completed Projects”, shows projects that have already been completed since 2008 and are fully operational.

Table 3 “Planned/Funded Projects”, shows projects that have been funded this year and are nearing completion.

Table 4 “Near Term Projects”, shows projects identified for consideration in this year’s planning round with a view to implementation in 2010/2011.

Table 5 “Medium to Long Term” shows projects that have been identified but have no specific funding and are expected to be carried out from 2011 onwards.

Each project, dependant on the specialisation and spend has a sponsor at a senior strategic level. The operational leads for each project are listed in the project tables below.

Projects completed since 2008/09

These projects were identified in the Estates Management Action Plan (EMAP) which addresses major maintenance replacement in a five year cycle. Whilst each project has the benefit of achieving CO² savings, this was not the main driver of certain projects.

The total CO² saving from the projects outlined in Table 2 is 352 tonnes of CO². This represents 3.26% of the total reduction required to achieve the 20% target. Since these projects did not commence until July 2008, a percentage of 50% was agreed.

Table 2: Projects completed since 2008/09

| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|---------------|--|----------|-------------------|---------|----------|----------------|-----------------|----------|---------------|------|
| | | | Capital | Revenue | Resource | Fin | CO ₂ | | | |
| 1 | Window Replacement, George Moore Building | D Little | £2,225,000 | | | £6,958.00 | 32 | 97.7 | 1.47% | 2009 |
| 2 | Zone heating valves, Govan Mbeki Building | D Little | £50,000 | | | £23,483.00 | 108 | 2.06 | 4.96% | 2009 |
| 3 | R22 Gas replacement and upgrade, campus wide | D Little | £50,000 | | | £9,567.00 | 44 | 2.06 | 2.02% | 2009 |
| 4 | Bio science chiller replacement. Charles Oakley Building | D Little | £50,000 | | | £1,665.00 | 20 | 3.87 | 0.91% | 2009 |
| 5 | Roof replacement William Harley Building | D Little | £150,000 | | | £9,567.00 | 22.5 | 5.62 | 2.02% | 2009 |
| 6 | Lecture theatre upgrades Campus Wide | D Little | £250,000 | | | £1,873.00 | 42 | 23.8 | 1.02% | 2009 |
| 7 | Old Student Union demolition | D Little | £275,000 | | | £367.00 | 1.5 | 10 | 0.20% | 2009 |
| 8 | 7th Floor labs upgrade and refurbishment George Moore Building | D Little | £925,000 | | | £1,995.00 | 82 | 12.23 | 1.09% | 2009 |
| totals | | | £3,975,000 | | | £55,475 | 352 | | 13.69% | |

4.2 Planned / funded projects 2009/10

At this stage two projects have been planned and funded. The first is phase 3 of a three year programme of windows replacements in the George Moore Building. It is estimated that the total CO₂ saving for this project is 10.68 tonnes of CO₂. This represents 1% of the total of reduction required to meet the 20% target. The second project is a waste management project that is expected to save 37.5 tonnes of CO₂. This represents 0.04 % of the 20% target.

Table 3: Planned/funded projects 2009/10

| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|---------------|--|----------|----------|---------|----------|---------------|-----------------|----------|--------------|------|
| | | | Capital | Revenue | Resource | Fin | CO ₂ | | | |
| 9 | Window replacement, George Moore Building | D Little | £800,000 | | | £2,322 | 10.68 | 105.4 | 0.50% | 2010 |
| 10 | Waste Management Including reduce, reuse and recycle | T Fraser | | £50,000 | | | 37.5 | | 1.70% | 2010 |
| totals | | | | | | £2,322 | 48.18 | | 2.20% | |

4.3 Near term projects 2010/11

The projects in table 3 are scheduled to go into planning cycle 2010/11. These projects are taken from the Estates five year Long Term Maintenance Plan.

Table 4: Near term projects 2010/11

| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|-----|--|----------|---------|---------|----------|---------------|-----------------|----------|-------------|------|
| | | | Capital | Revenue | Resource | Fin | CO ₂ | | | |
| 11 | Pipework alterations in George Moore plantroom | D Little | £15,000 | | | £718 | 3.3 | 10 | 0.15% | 2010 |
| 12 | Lighting controls ARC | D Little | £8,000 | | | £766 | 9.2 | 3.81 | 0.42% | 2010 |
| 13 | BMS Upgrade Britannia Building | D Little | £10,000 | | | £451 | 2.1 | 9.09 | 0.10% | 2010 |
| 14 | Lighting controls Britannia Building | D Little | £8,000 | | | £799 | 9.6 | 3.49 | 0.44% | 2010 |
| 15 | BMS Upgrade Charles Oakley | D Little | £15,000 | | | £1,566 | 7.2 | 10.23 | 0.33% | 2010 |
| 16 | Lighting controls Charles Oakley | D Little | £8,000 | | | £799 | 9.6 | 3.49 | 0.44% | 2010 |
| 17 | Lighting controls CPD Centre | D Little | £8,000 | | | £475 | 5.7 | 8.08 | 0.26% | 2010 |

| | | | | | | | | | | |
|---------------|---|-----------|----------|--------|--|-----------------|---------------|------|---------------|------|
| 18 | Chiller replacement George Moore Building | D Little | £160,000 | | | £10,156 | 122 | 10.1 | 5.53% | 2010 |
| 19 | BMS and control valve replacement George Moore Building | D Little | £20,000 | | | £2,044 | 9.4 | 5.4 | 0.43% | 2010 |
| 20 | Chiller replacement Govan Mbeki | D Little | £20,000 | | | £941 | 11.3 | 4.76 | 0.51% | 2010 |
| 21 | Split A/C replacent Govan Mbeki | D Little | £10,000 | | | £566 | 6.8 | 3.87 | 0.31% | 2010 |
| 22 | BMS and control valve replacement Hamish Wood | D Little | £4,000 | | | £261 | 1.2 | 5 | 0.06% | 2010 |
| 23 | Lighting controls Hamish Wood | D Little | £8,000 | | | £799 | 9.6 | 3.49 | 0.44% | 2010 |
| 24 | BMS and control valve replacement Milton Street | D Little | £2,000 | | | £174 | 0.8 | 3.06 | 0.04% | 2010 |
| 25 | Lighting controls Milton Street | D Little | £80,00 | | | £799 | 9.6 | 3.49 | 0.44% | 2010 |
| 26 | Lighting controls Saltire Building | D Little | £20,000 | | | £1,640 | 19.7 | 4.16 | 0.89% | 2010 |
| 27 | Lighting controls William Harley Building | D Little | £5,000 | | | £799 | 9.6 | 3.49 | 0.44% | 2010 |
| 28 | BMS and control valve replacement William Harley Building | D Little | £8,000 | | | £1,261 | 5.8 | 6.6 | 0.27% | 2010 |
| 29 | Awareness campaign | J McQueen | | £3,000 | | £7,335 | | | 4.00% | 2010 |
| 30 | Terminate heartbeat | R Murphy | £0 | | | £89,583 | 1069.1 | | 48.81% | 2010 |
| Totals | | | | | | £121,932 | 1321.6 | | 64.31% | |

4.4 Medium to long term projects

The projects in table 4 are planned but not yet implemented. The majority of these projects are taken from the Estates five year Long Term Maintenance Plan. It must be noted, that some of these projects are dependent on the outcome of the current Campus Masterplan study and may not gain approval at this stage.

Table 5: Medium to long term projects

| Ref | Project | Lead | Cost | | | Annual Saving | | Pay back | % of Target | Year |
|-----|------------------------------------|----------|---------|---------|----------|---------------|-----------------|----------|-------------|-----------|
| | | | Capital | Revenue | Resource | Fin | CO ₂ | | | |
| 31 | Ventilation upgrade ARC | D Little | £20,000 | | | £766 | 4.4 | 13.73 | 0.42% | 2014 |
| 32 | Ventilation upgrade Charles Oakley | D Little | £90,000 | | | £6,077 | 73 | 9.1 | 3.31% | 2013/2014 |
| | Chiller replacement | D Little | £90,000 | | | £7,825 | 94 | 6.35 | 4.26% | 2013/2014 |

| | | | | | | | | | | |
|---------------|---|----------|-------------------|--|--|-----------------|------------|------|---------------|---------------|
| 33 | CPD Centre | | | | | | | | | |
| 34 | Lighting Controls ARC | D Little | £12,000 | | | £6,077 | 9.2 | 5.71 | 4.13% | 2013/2014 |
| 35 | *Boiler replacement CPD Centre | D Little | £90,000 | | | £7,576 | 91 | 7.7 | 0.43% | 2013/2014 |
| 36 | BMS and control valve replacement George Moore Building | D Little | £30,000 | | | £783 | 9.4 | 5.4 | 0.44% | 2013/2014 |
| 37 | Lighting controls George Moore Building | D Little | £12,000 | | | £3,305 | 9.6 | 4.44 | 0.70% | 2013/2014 |
| 38 | *Boiler replacement Govan Mbeki | D Little | £80,000 | | | £1,265.00 | 71 | 8.52 | 0.69% | 2012/2013 |
| 39 | BMS and control valve replacement Govan Mbeki | D Little | £30,000 | | | £739 | 15.2 | 6.6 | 0.16% | 2013/2014 |
| 40 | Split A/C replacement Govan Mbeki | D Little | £5,000 | | | £13,916 | 3.4 | 3.74 | 2.94% | 2012 |
| 41 | *Boiler replacement Hamish Wood | D Little | £370,000 | | | £483 | 64 | 7.25 | 0.26% | 2012/2013 |
| 42 | BMS and control valve replacement Hamish Wood | D Little | £6,000 | | | £849 | 5.8 | 5 | 0.46% | 2013/2014 |
| 43 | Lighting controls Hamish Wood | D Little | £12,000 | | | £1,348 | 10.2 | 4.5 | 0.28% | 2013/2014 |
| 44 | Window replacement Milton Street | D Little | £150,000 | | | £174 | 6.2 | 79.4 | 0.04% | 2013/2014 |
| 45 | BMS and control valve replacement Milton Street | D Little | £3,000 | | | £43 | 0.8 | 3.06 | 0.46% | 2013/2014 |
| 46 | Lighting controls Milton Street | D Little | £12,000 | | | £1,640 | 10.2 | 4.5 | 0.89% | 2013/2014 |
| 47 | Lighting controls Saltire Building | D Little | £30,000 | | | £849 | 19.7 | 6.25 | 0.46% | 2013/2014 |
| 48 | Lighting controls William Harley Building | D Little | £120,00 | | | £1,131 | 10.2 | 4.5 | 0.24% | 2013/2014 |
| 49 | BMS and control valve replacement William Harley Building | D Little | £15,000 | | | £16,960 | 5.2 | 8.1 | 3.58% | 2013/2014 |
| 50 | *Boiler replacement ARC | D Little | £50,000 | | | £13,916 | 78 | 69 | 2.94% | 2011 |
| 51 | *Boiler replacement Britannia Building | D Little | £60,000 | | | £28,702 | 64 | 7.25 | 6.06% | 2010/ 2011 |
| 52 | *Boiler replacement George Moore Building | D Little | £150,000 | | | £10,981 | 132 | 9.01 | 2.32% | 2010/ 2011 |
| 53 | *Boiler replacement William Harley Building | D Little | £40,000 | | | £1,261 | 50.5 | 7.07 | 0.27% | 2010 |
| totals | | | £1,357,000 | | | £126,666 | 837 | | 35.74% | |

*These projects are subject to Masterplanning approval and may be deferred, cancelled or replaced by a centralised boiler installation.

4.5 Projected achievement towards target

Table 6 below summaries the total tonnages of CO₂ saved against the baseline. The University is ambitious in its commitment to drive down carbon emissions and set a target of 20% reduction of the baseline by 2014. This represents a reduction of 2,190 tonnes CO₂ from the baseline (10,952 tonnes CO₂) over this period. The final saving shown is actually a 23% (2,537 tonnes CO₂) reduction by 2014 to allow for a degree of uncertainties in the data projections.

Table 6: Summary of total carbon reductions

| Year | Total CO2 Reduction (in tonnes) | Percent Reduction | Percent of Reduction Target |
|------|---------------------------------|-------------------|-----------------------------|
| 2009 | 483 | 4% | 22% |
| 2010 | 946 | 9% | 43% |
| 2011 | 1,388 | 13% | 63% |
| 2012 | 1,811 | 16% | 82% |
| 2013 | 2,215 | 20% | 100% |
| 2014 | 2,602 | 23% | 118% |

5 Carbon Management Plan Financing

Sustainability and efficient carbon management are key criteria in university investment decisions, and have been considered in planning all estates investment for a number of years.

The University spends on average over £1m annually on minor estate works, with the energy efficiency, sustainability and carbon management of each decision carefully considered before investment takes place. The benefits from this provision over the past few years are clearly outlined throughout this plan. We will continue to invest in minor works and drive CO₂ savings through this spend.

The University has also invested over £6m within the past four years in major estates programmes. Again sustainability and carbon savings have been a key factor within the decision making process for this activity.

The University is currently well advanced in a campus master planning project, with early to medium term investment in the estate of over £40m identified as part of an exciting range of developments. A low carbon campus developed working closely with ARUP, is an integral part of the overall plan. Greening the campus and sustainability are cornerstones of the master plan and will result in significant spend in areas such as building energy performance, sustainable materials, carbon neutrality, Combined Heat and Power etc

While the current funding climate within the public sector and universities is challenging, the University has identified funds to assist in undertaking future estate and campus master plan activity and will pursue further additional funding sources to take forward our ambitious plans.

The University notes with some disappointment that the previously available funding source known as “Salix” is now unavailable in Scotland.

CRC compliance

Due to the University’s half hourly electrical consumption for 2008 being greater than 6000Mwh/yr. we qualify to take part in the first round of CRC and GCU is required to register before 30th Sept2009.

GCU’s Electrical consumption in 2008 was approx 11800Mwh/yr. The total energy consumption for the GCU in 2008 when converted into tons of carbon at the government set price of £12/t CO₂ is equivalent to a payment to CRC of approx £100k from April 2011.

5.1 Assumptions

- Baseline year is 2008/09
- No allowance made for potential new build with BREEAM excellent rating
- Savings are included from actual savings calculated from the University Planning document “Long term essential Maintenance 2009 – 2014”
- Central Energy Efficiency Fund (CEEF) projects deliver a projected average reduction of 109 tonnes, based on the average annual reduction over the previous past 4 years. This is the projected annual reduction from 2010/11

5.2 Benefits / savings – quantified and un-quantified

| | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 |
|--------------------------------------|---------|---------|---------|---------|---------|---------|
| Annual cost saving | £55k | £10k | £156k | £14k | £16k | £56k |
| Annual CO ₂ saving | 352 | 48 | 1,568 | 78 | 138 | 374 |
| % of CO ₂ target achieved | 13.7% | 6.2% | 69.0% | 2.9% | 3.9% | 20.3% |

Unquantified benefits:

- Improved utilities consumption data shown in SFC Estate Management Statistics.
- Year-on-year reduction in CO₂ emissions will help to improve the University's standings in benchmarking exercises such as the People & Planet Green League and the Business in the Community (BITC) Environment Index.
- Enhanced reputation of the University
- Increased attractiveness of University for prospective students and staff
- Increased partnership working (for example with Local Government agencies such as Strathclyde Partnership for Transport and Glasgow Land and Environmental Services (LES) Cleansing & Recycling.)
- Legislative compliance

5.3 Financial costs and sources of funding

| figures in £ 1000's | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/ 14 |
|----------------------------|----------------|--------------|--------------|-------------|--------------|--------------|
| Annual costs: | | | | | | |
| Total annual capital cost | £3,975k | £800k | £579k | £50k | £455k | £602k |
| Total annual revenue cost | - | £53k | - | - | - | - |
| Total costs | £3,975k | £853k | £579k | £50k | £455k | £602k |
| Committed funding: | | | | | | |
| Committed annual capital | £3,975k | £800k | - | - | - | - |
| Committed annual revenue | - | £53k | £579k | - | - | - |
| Total funded | £3,975 | £853k | £579k | - | - | - |
| Unallocated funding | | | | | | |
| Unallocated annual capital | - | - | - | £50k | £455k | £602k |
| Unallocated annual revenue | - | - | - | - | - | - |
| Total unfunded | - | - | - | £50k | £455k | £602k |

6. Actions to Embed Carbon Management in Glasgow Caledonian University

(See Annex A - Carbon Management Matrix – Embedding)

Table 7: Carbon Management Embedding Matrix

| | CORPORATE STRATEGY | PROGRAMME MANAGEMENT | RESPONSIBILITY | DATA MANAGEMENT | COMMUNICATION & TRAINING | FINANCE & INVESTMENT | POLICY ALIGNMENT |
|---|--------------------|----------------------|----------------|-----------------|--------------------------|----------------------|------------------|
| 5 | 2011 | 2011 | 2011 | 2012 | 2011 | 2012 | 2012 |
| 4 | | 2010 | | | | | |
| 3 | 2010 | | 2010 | 2010 | 2010 | | 2010 |
| 2 | | | | | | 2010 | |
| 1 | | | | | | | |

Embedding the principles of carbon management is at the heart of the University's policies, strategies and projects and is key to ensuring the success of the carbon management programme.

Using the Carbon Trust's Carbon Management Matrix tool the project team has identified its current position and highlighted actions for improvement, summarized below:

- Integrate Carbon Management into the responsibilities of Heads of Department
- Regularly update the Principal's Executive Group
- Establish a 'Champions' network within departments
- Establish a communications strategy.

6.1 Corporate Strategy – embedding CO₂ saving across your organisation

The University's published Strategic Plan for 2009-2010 and its 2015 Vision gives Governing Body approval to our drive towards sustainability.

The Executive Board has endorsed the draft Carbon Management Plan. The adoption of the Campus Master Plan will see the Carbon Management Plan fully integrated within the University's developments.

The 20% target for carbon reduction will have to be addressed by Schools and Departmental Plans during this and future planning rounds and will form part of future individual proposals for new developments, purchases and departmental targets.

6.2 Responsibility – being clear that saving CO₂ is everyone’s job

The Project Team has clearly defined objectives in both project delivery and inclusion within main campus life:

1. Ensure that carbon management and reduction are embedded within the University’s strategy and aims.
2. Ensure governance oversight and review by informing the Executive Board of progress against agreed targets.
3. Involve all interested parties and stakeholders, seek “Carbon Ambassadors” from student bodies and Schools/Departments, who will act as champions in their area to promote the sustainability agenda.

These objectives will be achieved by:

1. Developing an integrated Engagement and Communication Strategy which provides regular information on progress against targets and encourages participation..
2. Embed Carbon Management within the university planning ethos.
3. Seek Carbon Ambassadors from within University Departments.
4. Promote energy efficiency schemes.
5. The Programme Board will continue as a high level Sustainability/Carbon Management group

6.3 Data Management – measuring the difference, measuring the benefit

There is already effective collation of energy performance data, and this will be consolidated by the University’s Estates Manager and updated to include statistics covering:

1. Energy
2. Waste management
3. Recycling
4. Transport

These will be communicated to all staff through a series of campaigns and initiatives such as Energy Awareness Days.

Each School and Department will, through its “Carbon Ambassador”, report through Health and Safety Committees and other School reporting lines.

The website is updated weekly with pertinent information and input from both staff and students.

6.4 Communication and Training – ensuring everyone is aware

The project team has prepared a communications strategy which includes:

- Creating and updating a university web page for Carbon Management
- Poster campaigns, in particular to remind staff to turn off electrical equipment during holiday periods
- University Portal messages to draw attention to specific news about CMP and events/ progress
- Articles for newsletters and student papers
- Environment awareness events to raise general awareness
- Designing a web carbon saving checklist to enable staff and students to evaluate their contribution to energy saving.

A review of the effectiveness of the communications strategy will take place annually.

6.5 Policy Alignment – saving CO₂ across GCU

Policy alignment will be achieved through the Carbon Management Team and Ecocampus programme team working corporately across the University to ensure sustainable development principles and carbon management are included in all relevant new policies and strategies. Relevant existing policies and strategies will also be reviewed with a view to including these principles.

7 Programme Management of the CM Programme

7.1 The Programme Board – strategic ownership and oversight

The project leaders will meet with the project sponsor on a regular basis as required by the programme but in any case, no less than once a month.

The project will fall as an item under the Carbon Management Team who will meet monthly. Information from this meeting is passed to senior managers via the project sponsor to the Executive Board, of which the project sponsor is a member. Additional meetings will be arranged as necessary to discuss progress and arising issues. The Executive Board serves primarily as an oversight body with financial and strategic decision making powers.

Reporting of progress and issues will be undertaken by the project leaders to the sponsor.

7.2 The Carbon Management Team – delivering the projects

The Carbon Management Team is responsible for ensuring the delivery of projects as well as for collecting necessary data and oversight. The table below outlines the roles, names and position within the University, of the team members.

| Role in Carbon Management Programme | Name | Position in Glasgow Caledonian University |
|-------------------------------------|------------------|--|
| Sponsor | Jan Hulme | University Secretary |
| Project Leader | Douglas Little | Head of Estates & Buildings |
| Project Leader | Thérèse Fraser | Head of Campus Services |
| Finance Champion | Paul Queen | Management Accountant |
| Team Members | Caroline Summers | Director of Policy and Planning |
| | Jim McQueen | Facilities Management Co-ordinator |
| | Kenny Allen | Estates Manager |
| | Alison Arnot | Communications Manager |
| | Charlie Russell | Senior Research Fellow, BNE |
| | Jas Sangha | Vice President Support & Advice, Student Association |
| | Raymonde Murphy | Head of Information Services Support |

7.3 Succession planning for key roles

The Project Sponsor has tasked a core team of individuals to manage and advise on the Carbon Management Programme. Taken from diverse areas of the University the project leaders and team manage and advise on the University's commitment to sustainability and carbon reduction.

Each team member has specific and specialist roles. Responsibilities are embedded in the job role.

Departments are aware of their role within the Carbon Management Plan and have appointed deputies where necessary. This will greatly assist succession planning as sustainability is embedded across the University.

The introduction of sustainability and EcoCampus as a core staff induction topic will further develop awareness and commitment.

Relevant staff training will be provided in line with the roles and responsibilities of the individual staff member.

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7.4 Ongoing stakeholder management

Key stakeholders and their relationship to one another are summarised in the figure below. A detailed Stakeholder Communications Plan has been developed and is summarised in Annex C.

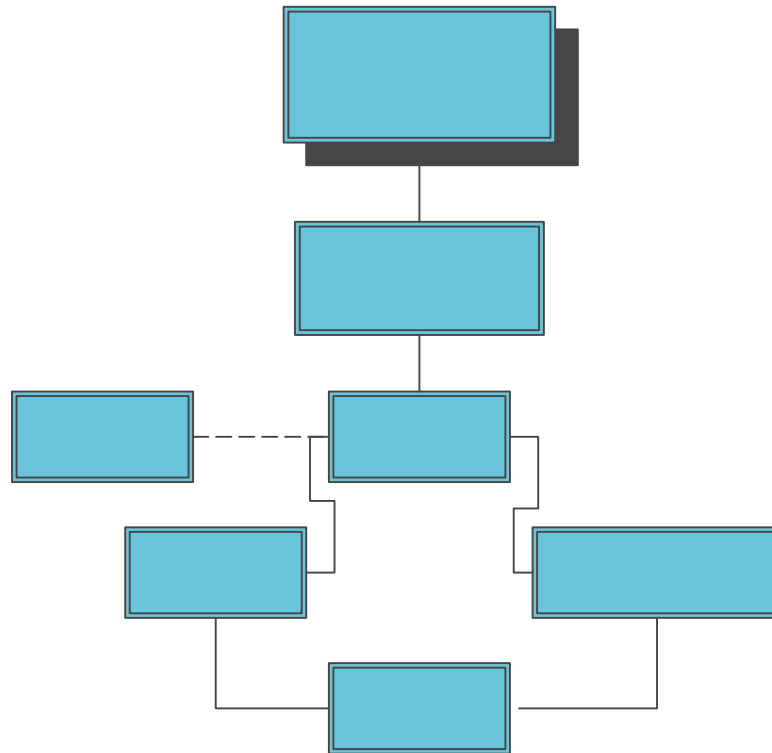


Figure 4: Stakeholder Organization Chart

7.5 Annual progress review

Progress will be assessed internally by the Carbon Management Team and through the annual review of the Carbon Management Plan. Reporting of progress and issues will be undertaken by the project leaders to the sponsor.

Annex A: Carbon Management Matrix - Embedding

| | CORPORATE STRATEGY | PROGRAMME MANAGEMENT | RESPONSIBILITY | DATA MANAGEMENT | COMMUNICATION & TRAINING | FINANCE & INVESTMENT | POLICY ALIGNMENT * |
|-----------------------------|--|--|---|--|---|--|---|
| BEST 5 | <ul style="list-style-type: none"> Top level target allocated across organisation CO₂ reduction targets in Directorate Business Plans | <ul style="list-style-type: none"> Senior Management Team/Committee/Court review progress against targets on quarterly basis Quarterly diagnostic reports provided to Directorates Progress against target published externally | <ul style="list-style-type: none"> CM integrated in responsibilities of senior managers CM part of all job descriptions Central CO₂ reduction advice available Green Champions leading local action groups | <ul style="list-style-type: none"> Quarterly collation of CO₂ emissions for all sources Data externally verified M&T in place for: <ul style="list-style-type: none"> buildings street lighting waste transport | <ul style="list-style-type: none"> All staff given formalised CO₂ reduction: <ul style="list-style-type: none"> induction and training communications Joint CM communications with key partners Staff awareness tested through surveys | <ul style="list-style-type: none"> Finance committed for 2+ yrs of Programme External funding being routinely obtained Ring-fenced fund for carbon reduction initiatives | <ul style="list-style-type: none"> CO₂ friendly operating procedure in place Central team provide advice and review, when requested Barriers to CO₂ reduction routinely considered and removed |
| 4 | <ul style="list-style-type: none"> CO₂ reduction commitment in Corporate Strategy Top level targets set for CO₂ reduction Climate Change Strategy reviewed annually | <ul style="list-style-type: none"> Sponsor reviews progress and removes blockages through regular Programme Boards Progress against targets routinely reported to Senior Mgt Team | <ul style="list-style-type: none"> CM integrated in to responsibilities of department heads Senior Management Team/Committee/Court regularly updated Staff engaged though Green Champion network | <ul style="list-style-type: none"> Annual collation of CO₂ emissions for: <ul style="list-style-type: none"> buildings street lighting transport waste Data internally reviewed | <ul style="list-style-type: none"> All staff given CO₂ reduction: <ul style="list-style-type: none"> induction communications CM matters communicated to external community | <ul style="list-style-type: none"> Coordinated financing for CO₂ reduction projects via Programme Board Finances committed 1yr ahead Some external financing | <ul style="list-style-type: none"> Comprehensive review of policies complete Lower level policies reviewed locally Unpopular changes being considered |
| 3 | <ul style="list-style-type: none"> CO₂ reduction vision clearly stated and published Climate Change Strategy endorsed by Cabinet and publicised with staff | <ul style="list-style-type: none"> Core team regularly review CM progress: <ul style="list-style-type: none"> actions profile & targets new opportunities | <ul style="list-style-type: none"> An individual provides full time focus for CO₂ reduction and coordination across the organisation Senior Sponsor actively engaged | <ul style="list-style-type: none"> Collation of CO₂ emissions for limited scope i.e. buildings only | <ul style="list-style-type: none"> Environmental / energy group(s) given ad hoc: <ul style="list-style-type: none"> training communications | <ul style="list-style-type: none"> A view of the cost of CO₂ reduction is developing, but finance remains ad-hoc Some centralised resource allocated Finance representation on CM Team | <ul style="list-style-type: none"> All high level and some mid level policies reviewed, irregularly Substantial changes made, showing CO₂ savings |
| 2 | <ul style="list-style-type: none"> Draft Climate Change Policy Climate Change references in other strategies | <ul style="list-style-type: none"> Ad hoc reviews of CM actions progress | <ul style="list-style-type: none"> CO₂ reduction a part-time responsibility of a few department champions | <ul style="list-style-type: none"> No CO₂ emissions data compiled Energy data compiled on a regular basis | <ul style="list-style-type: none"> Regular awareness campaigns Staff given CM information on ad-hoc basis | <ul style="list-style-type: none"> Ad hoc financing for CO₂ reduction projects | <ul style="list-style-type: none"> Partial review of key, high level policies Some financial quick wins made |
| 1 Worst | <ul style="list-style-type: none"> No policy No Climate Change reference | <ul style="list-style-type: none"> No CM monitoring | <ul style="list-style-type: none"> No recognised CO₂ reduction responsibility | <ul style="list-style-type: none"> No CO₂ emissions data compiled Estimated billing | <ul style="list-style-type: none"> No communication or training | <ul style="list-style-type: none"> No specific funding for CO₂ reduction projects | <ul style="list-style-type: none"> No alignment of policies for CO₂ reduction |

* Major operational policies and procedures, e.g. Capital Projects, Procurement, HR, Business Travel

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Window Replacement George Moore |
| Reference: | 1 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Improve thermal efficiency of windows and building aesthetics |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £ 22,764</i> • <i>Payback period: 97.7 years</i> • <i>CO₂ Emissions reduction: 32 tonnes of CO₂</i> • <i>0.3 of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £2,225,000</i> • <i>Operational costs,</i> • <i>Source of funding:</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones</i> <ul style="list-style-type: none"> ○ <i>start date: 20/6/08</i> ○ <i>completion date (when it will deliver savings): 30/9/08</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Zone Heating Valves, Govan Mbeki Building |
| Reference: | 2 |
| Owner (person) | Douglas Little |
| Department | Finance Management Department |
| Description | Fit zone valves and set up controls to provide zone control |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £24,214</i> • <i>Payback period: 2.06 years</i> • <i>CO₂ Emissions reduction: 108 tonnes of CO₂</i> • <i>1% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost, £50,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones</i> ○ <i>start date: 20/6/2009</i> ○ <i>completion date (when it will deliver savings): 01/10/2009</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | <i>R22 Gas Replacement and upgrade, Campus</i> |
| Reference: | 3 |
| Owner (person) | Douglas Little |
| Department | Finance Management Department |
| Description | To comply with current F-gas regulations and improve efficiency of plant by including free cooling. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £24,214</i> • <i>Payback period: 2.06 years</i> • <i>CO₂ Emissions reduction: 44 tonnes of CO₂</i> • <i>0.4% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost £50,000</i> • <i>Operational costs,</i> • <i>Source of funding:</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates e.g. 2008 & 2009</i> <ul style="list-style-type: none"> ○ <i>start date: 07/07/09</i> ○ <i>completion date (when it will deliver savings): 30/09/2009</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Bio science chiller replacement. Charles Oakley Building |
| Reference: | 4 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Replace existing obsolete 150kW unit by a smaller 90kW capacity modular set up to reduce energy consumption and compliance with F-gas regulations.. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £7,780</i> • <i>Payback period: 3.87 years</i> • <i>CO₂ Emissions reduction: 20 tonnes of CO₂</i> • <i>0.2% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £50,000.</i> • <i>Operational costs</i> • <i>Source of funding:</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones</i> <ul style="list-style-type: none"> ○ <i>start date: 24/6/2009</i> ○ <i>completion date (when it will deliver savings): 25/09/2009</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Roof replacement William Harley Building |
| Reference: | 5 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | To improve thermal efficiency of roof and reduce heat losses |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £ 8,900</i> • <i>Payback period: 5.62 years</i> • <i>CO₂ Emissions reduction: 22.5 tonnes of CO₂</i> • <i>0.2% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £150,000</i> • <i>Operational costs,</i> • <i>Source of funding:.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones</i> ○ <i>start date: 30/06/2009</i> ○ <i>completion date (when it will deliver savings): 30/9/2009</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lecture theatre upgrade, Campus wide |
| Reference: | 6 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection. Replace / upgrade air conditioning. Improve lecture theatre aesthetics |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £6,300</i> • <i>Payback period: 23.8 years</i> • <i>CO₂ Emissions reduction: 42 tonnes of CO₂</i> • <i>0.4% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £250,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones</i> ○ <i>start date: 25/09/2009</i> ○ <i>completion date (when it will deliver savings): 30/09/2009</i> ○ <i>interim deliverable / decision points]</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Old Student Union Demolition |
| Reference: | 7 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,500</i> • <i>Payback period: 10 years</i> • <i>CO₂ Emissions reduction: 1.5 tonnes of CO₂</i> • <i>0.01% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £275,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones</i> ○ <i>start date: 30/6/09</i> ○ <i>completion date (when it will deliver savings): 01/10/2009</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | 7 th Floor labs upgrade and refurbishment, George Moore Building |
| Reference: | 8 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Replace old plant items such as vacuum pump and AHU's. Heating and cooling zone controls including BMS controls upgrade. Installation of lighting controls, daylight harvesting and presence detection. Replace / upgrade air conditioning. Improve laboratory aesthetics. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,487</i> • <i>Payback period: 12.23 years</i> • <i>CO₂ Emissions reduction: 82 tonnes of CO₂</i> • <i>0.75% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £925,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones</i> ○ <i>start date: 24/6/2009</i> ○ <i>completion date (when it will deliver savings): 01/10/2009</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

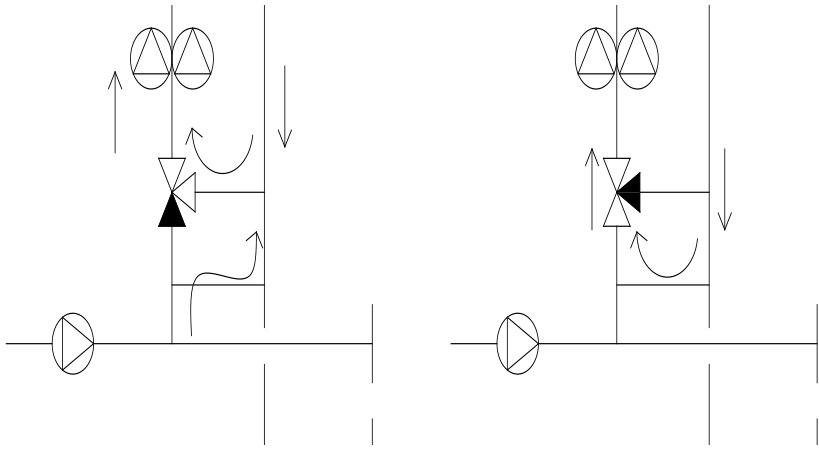
Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Window Replacement, George Moore Building |
| Reference: | 9 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Improve thermal efficiency of windows and building aesthetics |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £7,588</i> • <i>Payback period: 105.4 years</i> • <i>CO₂ Emissions reduction: 10.68 tonnes of CO₂</i> • <i>0.01% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £800,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones</i> <ul style="list-style-type: none"> ○ <i>start date: 20/9/10</i> ○ <i>completion date (when it will deliver savings): 19/9/2011</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Waste Management Including reduce, reuse and recycle |
| Reference: | 10 |
| Owner (person) | Therese Fraser |
| Department | Facilities Management Department |
| Description | |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £0</i> • <i>Payback period: 0 years</i> • <i>CO₂ Emissions reduction: 37.5 tonnes of CO₂</i> • <i>0.04% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £50,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones</i> ○ <i>start date: 26/6/2010</i> ○ <i>completion date (when it will deliver savings): 30/09/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|-----------------------|---|
| Project: | Pipework alterations in George Moore plantroom |
| Reference: | 11 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | <p>The hydraulics in the George Moore boiler house, which supply Charles Oakley building with heating water and are located in the separate pump room within the boiler house, are flawed in their design. Shown below is a graphical representation of their set up:</p>  <p>When the valve is on full re-circulation, it is intended that there is no water flow from the boiler flow, however there is no guarantee that water will not flow through the bypass pipe as shown above.</p> <p>When the valve is on full heating, there is no reason why water will not flow through the bypass circuit, making it a variable temperature circuit.</p> <p>The pipe network should be altered to ensure the water flows only where it is intended. This will ensure the system is not running at a higher temperature than is actually necessary, thus reducing energy wastage.</p> |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1,500</i> • <i>Payback period: 10 years</i> • <i>CO₂ Emissions reduction: 3.3 tonnes of CO₂</i> • <i>0.03% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £15,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> |

| | |
|--------------------------|---|
| | <ul style="list-style-type: none"> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones</i> <ul style="list-style-type: none"> ○ <i>start date: tbc</i> ○ <i>completion date (when it will deliver savings): tbc</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting controls ARC |
| Reference: | 12 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,100</i> • <i>Payback period: 3.81 years</i> • <i>CO₂ Emissions reduction: 9.2 tonnes of CO₂</i> • <i>0.08% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost, e.g: £8,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones</i> <ul style="list-style-type: none"> ○ <i>start date: 1/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/09/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | BMS upgrade, Britannia Building |
| Reference: | 13 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy including boiler optimisation and compensated heating. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1,100</i> • <i>Payback period: 9.09 years</i> • <i>CO₂ Emissions reduction: 6.1 tonnes of CO₂</i> • <i>0.06% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £10,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones</i> <ul style="list-style-type: none"> ○ <i>start date: Not determined yet</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Lighting controls, Britannia Building |
| Reference: | 14 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,300</i> • <i>Payback period: 3.49 years</i> • <i>CO₂ Emissions reduction: 9.6 tonnes of CO₂</i> • <i>1% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £8,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones</i> <ul style="list-style-type: none"> ○ <i>start date: 01/08/2010</i> ○ <i>completion date (when it will deliver savings): 30/09/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | BMS upgrade Charles Oakley Building |
| Reference: | 15 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1,465</i> • <i>Payback period: 10.23 years</i> • <i>CO₂ Emissions reduction: 7.2 tonnes of CO₂</i> • <i>0.07% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: 15,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: Not determined yet</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting Controls, Charles Oakley Building |
| Reference: | 16 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,300</i> • <i>Payback period: 3.49 years</i> • <i>CO₂ Emissions reduction: 9.6 tonnes of CO₂</i> • <i>0.08% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £8,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 20/08/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting Controls, CPD Centre |
| Reference: | 17 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £990</i> • <i>Payback period: 8.08 years</i> • <i>CO₂ Emissions reduction: 5.7 tonnes of CO₂</i> • <i>0.05% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £8,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 1/07/2010</i> ○ <i>completion date (when it will deliver savings): 01/10/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Chiller replacement, George Moore Building |
| Reference: | 18 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | To comply with current F-gas regulations and improve efficiency of plant by including free cooling |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £15,890</i> • <i>Payback period: 10.1 years</i> • <i>CO₂ Emissions reduction: 122 tonnes of CO₂</i> • <i>1.1% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £160,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/10/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | BMS and control valve replacement, George Moore Building |
| Reference: | 19 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £6,697</i> • <i>Payback period: 10.1 years</i> • <i>CO₂ Emissions reduction: 9.4 tonnes of CO₂</i> • <i>0.08% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £20, 000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/10/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Chiller Replacement, Govan Mbeki |
| Reference: | 20 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | To comply with current F-gas regulations and improve efficiency of plant by including free cooling. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £4,200</i> • <i>Payback period: 4.76 years</i> • <i>CO₂ Emissions reduction: 11.3 tonnes of CO₂</i> • <i>0.1% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £10,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/10/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Split A/C replacement, Govan Mbeki |
| Reference: | 21 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | To comply with current F-gas regulations and improve efficiency of plant by use of more energy efficient equipment |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,593</i> • <i>Payback period: 3.87 years</i> • <i>CO₂ Emissions reduction: 6.8 tonnes of CO₂</i> • <i>0.06% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £10,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: Not determined yet</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | <i>Deferred due to Masterplan outcomes April 2010.</i> |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | BMS and control valve replacement, Hamish Wood |
| Reference: | 22 |
| Owner (person) | <i>Douglas Little</i> |
| Department | <i>Facilities Management Department</i> |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £800</i> • <i>Payback period: 5 years</i> • <i>CO₂ Emissions reduction: 1.2 tonnes of CO₂</i> • <i>0.01% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £4,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/10/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting controls, Hamish Wood |
| Reference: | 23 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,300</i> • <i>Payback period: 3.49 years</i> • <i>CO₂ Emissions reduction: 9.6 tonnes of CO₂</i> • <i>0.08% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £8,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/09/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | BMS and control valve replacement Milton Street |
| Reference: | 24 |
| Owner (person) | <i>Douglas Little</i> |
| Department | <i>Facilities Management Department</i> |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £654</i> • <i>Payback period: 3.06 years</i> • <i>CO₂ Emissions reduction: 0.8 tonnes of CO₂</i> • <i>0.01% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £2,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/09/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting Controls, Milton Street |
| Reference: | 25 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,300</i> • <i>Payback period: 3.49 years</i> • <i>CO₂ Emissions reduction: 9.6 tonnes of CO₂</i> • <i>0.08% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £80,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/029/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting Controls, Saltire Building |
| Reference: | 26 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £4,800</i> • <i>Payback period: 4.16 years</i> • <i>CO₂ Emissions reduction: 19.7 tonnes of CO₂</i> • <i>0.2% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £20,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/10/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting Controls, William Harley Building |
| Reference: | 27 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,300</i> • <i>Payback period: 3.49 years</i> • <i>CO₂ Emissions reduction: 9.6 tonnes of CO₂</i> • <i>0.08% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £5,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/7/2010</i> ○ <i>completion date (when it will deliver savings): 30/10/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | BMS and control valve replacement, William Harley Building |
| Reference: | 28 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1,200</i> • <i>Payback period: 6.6 years</i> • <i>CO₂ Emissions reduction: 5.8 tonnes of CO₂</i> • <i>0.05% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £8,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2010</i> ○ <i>completion date (when it will deliver savings): 30/09/2010</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Awareness Campaign |
| Reference: | 29 |
| Owner (person) | Jim McQueen |
| Department | Facilities Management Department |
| Description | <ul style="list-style-type: none"> • <i>Poster Campaign</i> • <i>Weekly e-letter</i> • <i>Monthly magazine</i> • <i>Update designated web site</i> • <i>Bi-annual Environment Days</i> |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings:</i> • <i>Payback period:</i> • <i>CO₂ Emissions reduction:</i> • <i>4% of target</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £3,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 20/09/2010</i> ○ <i>completion date (when it will deliver savings): 19/09/2011</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Terminate Heartbeat |
| Reference: | 30 |
| Owner (person) | Ray Murphy |
| Department | Information Services |
| Description | <i>Heartbeat is software which powers on all computers in a lab when one computer is accessed. Switching this software off allows for just one computer to switch on independently of the others, thus saving in CO2 emissions</i> |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £89,583</i> • <i>Payback period:</i> • <i>CO₂ Emissions reduction 1069.1 tonnes of CO₂</i> • <i>48.81% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: 0</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/08/09</i> ○ <i>completion date (when it will deliver savings): 31/07/10</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Ventilation upgrade, ARC |
| Reference: | 31 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | AHU's to be replaced to include heat recovery and VSD motors controlled by BMS controls for more efficient operation. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1,456</i> • <i>Payback period: 13.73 years</i> • <i>CO₂ Emissions reduction: 4.4 tonnes of CO₂</i> • <i>0.04% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £20,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 01/7/2012</i> ○ <i>completion date (when it will deliver savings): 30/09/2012</i> ○ <i>interim deliverable / decision points</i> <p><i>[you could also lay these out as a milestone chart for ease and clarity]</i></p> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting Controls ARC |
| Reference: | 32 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,100</i> • <i>Payback period: 5.71 years</i> • <i>CO₂ Emissions reduction: 9.2 tonnes of CO₂</i> • <i>0.08% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £90,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 01/07/2012</i> ○ <i>completion date (when it will deliver savings): 30/09/2012</i> ○ <i>interim deliverable / decision points]</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Ventilation upgrade, Charles Oakley |
| Reference: | 33 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Existing AHU's reached end of life. New AHU's to be re designed due to end user different requirements. To be fitted with VSD's |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £9,893</i> • <i>Payback period: 5.71 years</i> • <i>CO₂ Emissions reduction: 73 tonnes of CO₂</i> • <i>0.67% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £90,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 20/06/2012</i> ○ <i>completion date (when it will deliver savings): 30/09/2012</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Chiller Replacement, CPD Centre |
| Reference: | 34 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Replace chillers at end of life. To comply with current F-gas regulations and improve efficiency of plant by use of more energy efficient equipment. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £12,600</i> • <i>Payback period: 6.35 years</i> • <i>CO₂ Emissions reduction: 94 tonnes of CO₂</i> • <i>0.86% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £12,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 30/6/2013</i> ○ <i>completion date (when it will deliver savings): 30/09/2013</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Boiler Replacement, CPD Centre |
| Reference: | 35 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Boilers reached end of life, obsolete not supported by manufacturer. To be replaced by high efficiency condensing boilers. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £11,700</i> • <i>Payback period: 7.7 years</i> • <i>CO₂ Emissions reduction: 91 tonnes of CO₂</i> • <i>0.83% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £90,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: Not Determined yet</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | BMS and control valve replacement, George Moore Building |
| Reference: | 36 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £3,697</i> • <i>Payback period: 5.4 years</i> • <i>CO₂ Emissions reduction: 9.4 tonnes of CO₂</i> • <i>0.09% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £30,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 01/07/2013</i> ○ <i>completion date (when it will deliver savings): 30/09/2013</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting Controls George Moore Building |
| Reference: | 37 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,700</i> • <i>Payback period: 4.44 years</i> • <i>CO₂ Emissions reduction: 9.6 tonnes of CO₂</i> • <i>0.09% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £12,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 01/07/2013</i> ○ <i>completion date (when it will deliver savings): 30/09/2013</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Boiler replacement, Govan Mbeki |
| Reference: | 38 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Boilers reached end of life, obsolete not supported by manufacturer. To be replaced by high efficiency condensing boilers. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £9,380</i> • <i>Payback period: 8.52 years</i> • <i>CO₂ Emissions reduction: 71 tonnes of CO₂</i> • <i>0.65% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost, e.g. the initial cost of implementing the project</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: Not determined</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | <i>Deferred until outcome of masterplan process April 2010</i> |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | BMS and control valve replacement, Govan Mbeki |
| Reference: | 39 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £4,545</i> • <i>Payback period: 6.6 years</i> • <i>CO₂ Emissions reduction: 15.2 tonnes of CO₂</i> • <i>0.14% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £30,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2014</i> ○ <i>completion date (when it will deliver savings): 30/09/2014</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Split A/C replacement, Govan Mbeki |
| Reference: | 40 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | To comply with current F-gas regulations and improve efficiency of plant by use of more energy efficient equipment.. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1,337</i> • <i>Payback period: 3.74 years</i> • <i>CO₂ Emissions reduction: 3.4 tonnes of CO₂</i> • <i>0.03% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £5,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2012</i> ○ <i>completion date (when it will deliver savings): 30/10/2012</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Boiler Replacement, Hamish Wood |
| Reference: | 41 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Boilers reached end of life, obsolete not supported by manufacturer. To be replaced by high efficiency condensing boilers. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £8,270</i> • <i>Payback period: 7.25 years</i> • <i>CO₂ Emissions reduction: 64 tonnes of CO₂</i> • <i>0.6% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £370,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: Deferred</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | <i>Deferred due to Masterplan outcomes in April 2010</i> |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | BMS and control valve replacement, Hamish Wood |
| Reference: | 42 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1,200</i> • <i>Payback period: 5 years</i> • <i>CO₂ Emissions reduction: 5.8 tonnes of CO₂</i> • <i>0.05% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £6,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 30/6/2013</i> ○ <i>completion date (when it will deliver savings): 30/09/2013</i> ○ <i>interim deliverable / decision points</i> <p><i>[you could also lay these out as a milestone chart for ease and clarity]</i></p> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Lighting controls, Hamish Wood |
| Reference: | 43 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £6,665</i> • <i>Payback period: 4.5 years</i> • <i>CO₂ Emissions reduction: 10.2 tonnes of CO₂</i> • <i>0.1% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £12,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 15/06/2013</i> ○ <i>completion date (when it will deliver savings): 30/09/2013</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Window Replacement, Milton Street |
| Reference: | 44 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Improve thermal efficiency of windows and building aesthetics |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1,889</i> • <i>Payback period: 79.4 years</i> • <i>CO₂ Emissions reduction: 6.2 tonnes of CO₂</i> • <i>0.05% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £150,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/04/2013</i> ○ <i>completion date (when it will deliver savings): 30/08/2014</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | BMS and control valve replacement, Milton Street |
| Reference: | 45 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £654</i> • <i>Payback period: 3.06 years</i> • <i>CO₂ Emissions reduction: 0.8 tonnes of CO₂</i> • <i>0.01% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £3,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/07/2013</i> ○ <i>completion date (when it will deliver savings): 30/09/2013</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Lighting Controls, Milton Street |
| Reference: | 46 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,665</i> • <i>Payback period: 4.5 years</i> • <i>CO₂ Emissions reduction: 10.2 tonnes of CO₂</i> • <i>0.1% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £12,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 30/06/2013</i> ○ <i>completion date (when it will deliver savings): 30/09/2013</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Lighting Controls, Saltire Centre |
| Reference: | 47 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £4,800</i> • <i>Payback period: 6.25 years</i> • <i>CO₂ Emissions reduction: 19.7 tonnes of CO₂</i> • <i>0.2% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £30,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: 01/06/2013</i> ○ <i>completion date (when it will deliver savings): 30/08/2013</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Lighting Controls, William Harley Building |
| Reference: | 48 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Installation of lighting controls, daylight harvesting and presence detection |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £2,665</i> • <i>Payback period: 4.5 years</i> • <i>CO₂ Emissions reduction: 10.2 tonnes of CO₂</i> • <i>0.1% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £120,00</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 30/06/2014</i> ○ <i>completion date (when it will deliver savings): 30/09/2014</i> ○ <i>interim deliverable / decision points</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | BMS and control valve replacement, William Harley Building |
| Reference: | 49 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Upgrade controllers and reconfigure controls strategy. Replacement of obsolete controllers. Fit zone valves and set up controls to provide zone control. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £1853</i> • <i>Payback period: 8.1 years</i> • <i>CO₂ Emissions reduction: 5.2 tonnes of CO₂</i> • <i>0.5% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £15,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: 30/06/2014</i> ○ <i>completion date (when it will deliver savings): 30/09/2014</i> ○ <i>interim deliverable / decision points]</i> |
| Notes | |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Boiler replacement, ARC |
| Reference: | 50 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Boilers reached end of life, obsolete not supported by manufacturer. To be replaced by high efficiency condensing boilers. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £10,650</i> • <i>Payback period: 69 years</i> • <i>CO₂ Emissions reduction: 78 tonnes of CO₂</i> • <i>0.7% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £50,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: Deferred</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | <i>Deferred until Masterplan outcomes April 2010</i> |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Boiler replacement, Britannia Building |
| Reference: | 51 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Boilers reached end of life, obsolete not supported by manufacturer. To be replaced by high efficiency condensing boilers. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £8.270</i> • <i>Payback period: 7.25 years</i> • <i>CO₂ Emissions reduction: 64 tonnes of CO₂</i> • <i>0.6% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £60,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: Deferred</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | <i>Deferred until Masterplan outcomes April 2010</i> |

Annex B: Definition of Projects

| | |
|--------------------------|--|
| Project: | Boiler Replacement, George Moore Building |
| Reference: | 52 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Boilers reached end of life, obsolete not supported by manufacturer. To be replaced by high efficiency condensing boilers. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £16,540</i> • <i>Payback period: 9.01 years</i> • <i>CO₂ Emissions reduction: 132 tonnes of CO₂</i> • <i>1.2% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £150,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> ○ <i>Milestones / key dates</i> ○ <i>start date: Deferred</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> <p><i>[you could also lay these out as a milestone chart for ease and clarity]</i></p> |
| Notes | <i>Deferred until Masterplan outcomes April 2010</i> |

Annex B: Definition of Projects

| | |
|--------------------------|---|
| Project: | Boiler Replacement, William Harley Building |
| Reference: | 53 |
| Owner (person) | Douglas Little |
| Department | Facilities Management Department |
| Description | Boilers reached end of life, obsolete not supported by manufacturer. To be replaced by high efficiency condensing boilers. |
| Benefits | <ul style="list-style-type: none"> • <i>Financial savings: £5,650</i> • <i>Payback period: 7.07 years</i> • <i>CO₂ Emissions reduction: 50.5 tonnes of CO₂</i> • <i>0.46% of target – the percentage of your CO₂ saving target will this project annually contribute</i> |
| Funding | <ul style="list-style-type: none"> • <i>Project cost: £40,000</i> • <i>Operational costs, e.g. annual maintenance or running costs</i> • <i>Source of funding: internal, external, investment criteria to be met etc.</i> • <i>Say how /when decision on funding will be made</i> |
| Resources | <ul style="list-style-type: none"> • <i>Additional resource (e.g. people) requirements to enable delivery and where these will come from</i> • <i>If this project will be delivered within current resources, say so</i> |
| Ensuring Success | <ul style="list-style-type: none"> • <i>Key success factors, or things that will need to happen for this project to succeed</i> • <i>Principal risks: technical, financial (eg what happens if the project is insufficiently resourced), etc.</i> |
| Measuring Success | <ul style="list-style-type: none"> • <i>Metrics for displaying performance or achievement</i> • <i>When success will be measured / evaluated</i> |
| Timing | <ul style="list-style-type: none"> • <i>Milestones / key dates</i> <ul style="list-style-type: none"> ○ <i>start date: Deferred</i> ○ <i>completion date (when it will deliver savings): dd/mm/yyyy</i> ○ <i>interim deliverable / decision points</i> |
| Notes | <i>Deferred until Masterplan outcomes April 2010</i> |

Annex C - Stakeholder Communications Plan

| Individual or Group | Influence | Impact | Their interest or issues | Their information needs or messages | Means of Communication |
|------------------------------|-----------|--------|--|-------------------------------------|--|
| Executive Board | H | M | Strategic support Budgets & funding Future strategic goals Reputation/profile of institution | Progress towards goals | Face to face progress reports |
| Deans & Heads of Departments | M | M | Budgets Staff numbers Space utilisation | Progress towards goals | Face to face progress reports |
| Finance | H | M | Financial planning Procurement & contracts | Progress towards goals | Departmental communications |
| Facilities Management | H | H | Estates Strategy Running costs Capital implications New build / refurb | Progress towards goals | Departmental communications |
| Staff | M | M | Comfortable working environment Cost & ease of travel Job security Growing environmental concerns | Progress towards goals | Caledonian/Caledonian Connected, Awareness days and Departmental/ School meetings Website |
| Students | H | H | University's customer Expectations Growing environmental awareness Comfortable study environment | Progress towards goals | Induction, Printed materials, awareness days Website Students Association newsletter |



working with



| | | | | | |
|-------------------------|---|---|--------------------------------------|--|-----------------------------|
| Contractors & Suppliers | M | H | Retain contract Added cost burden | | Contract tenders / meetings |
| Media & Press | M | H | Corporate image | | Press releases |
| Community | L | M | Travel congestion Corporate image | | Press releases |

Influence: the person or groups level of influence on the successful outcome of the project - High (H), Medium (M) or Low (L)

Impact: the level of impact that the project will have on the person or group - High (H), Medium (M) or Low (L)