

AGENDA ITEM

REPORT TO CABINET

11 JUNE 2009

**REPORT OF CORPORATE
MANAGEMENT TEAM**

CABINET DECISION

CARBON MANAGEMENT – STRATEGY & IMPLEMENTATION PLAN

SUMMARY

On 13th March 2008 Members of Cabinet were presented with the carbon management Strategy and Implementation Plan (SIP) which demonstrated how the Council could reduce its carbon emissions by 25% over five years. It showed that through the implementation of a series of projects significant savings could be made in both emissions and in financial terms. A key part of the programme is the ability to demonstrate that all of these measures will have a payback period of five years or less, making this an “invest to save” plan. It was resolved that this SIP would be the delivery mechanism for the programme and that annual progress reports be brought to cabinet.

This has realised savings estimated at £96,000 and 2,630 tonnes of carbon and equates to a 7% reduction in carbon emissions against the 2005/06 baseline position, meaning the programme is on track to meet the 25% target.

RECOMMENDATIONS

It is recommended that:

- 1 Members note the progress made in the delivery of the Carbon Management Strategy and Implementation Plan.
- 2 Members note the planned actions for 2009/10 to deliver the second year of the programme.

DETAIL

- 1 At the Cabinet meeting on 22 November 2007 it was agreed that there was a “case for action” based on two scenarios i.e. the business as usual versus the implementation of a series of measures to reduce our emissions by 25% over five years. The difference between the two scenarios showed that there was potential to make £4.2m savings aggregated over five years and to reduce emissions by around 23,000 tonnes.
- 2 Officers were tasked to produce a Strategy and Implementation Plan (SIP) that would enable these significant savings in financial terms as well as carbon emissions to be delivered. Subsequently on 13th March Cabinet noted the SIP as the delivery mechanism for the carbon management programme. This report sets out the progress made in the first year of the programme, the projects delivered, carbon and financial savings achieved and looks at the second year planned activities.
- 3 The SIP contains twenty three projects that have been through a process of prioritisation and risk assessment before being incorporated within the Strategy and Implementation Plan. Where possible, each project has a measurable output in terms of carbon and financial saving and a cost per tonne of carbon saved in order to make a value judgement

against each project. The resources needed to deliver these projects were also identified as well as the status of those resources i.e. in place or to be confirmed.

- 4 A target of 25% carbon saving by 2013 was adopted, based upon both the experience of other local authorities in previous phases of the programme and from the information supplied by members of the project team relating to actions that are planned or expected to happen over the next five years.
- 5 The scope of the project includes schools, leisure facilities, council administrative buildings, libraries, the fleet, business mileage, and street lighting. It does not include social housing managed by Tristar homes as there are separate programmes and drivers in place to deal with energy efficiency in social housing.

First Year Progress:

- 6 The table below summarise the situation on those SIP projects that have progressed during the past year. Work on the others is progressing into 2009/10.

Title	Explanation	Indicative Cost (£)	Cost Saving (£/yr)	CO2 Saving (Tonnes per year)	Short/ Medium/ Long Term	Pay Back Period (Years)	Progress
Pool Covers	<i>All leisure centre and school pools to have effective and appropriate pool covers, including liquid pool covers if feasible and cost effective.</i>	15,000	6,195	69	Short	2.4	Initial programme complete but pool shape and water treatment at Splash is currently preventing use of covers, including liquid, other options being looked at. Forum refurbishment will include covers.
Voltage Regulators	<i>Voltage regulators to be fitted to all appropriate plant systems, subject to satisfactory initial pilot scheme at Queensway house</i>	Maximum 280,000	Variable	547	Medium to Long	2 to 5	Trial installation at Queensway House showing savings. Next installations to be decided but likely to be a leisure facility and school.
Insulation Surveys and Action	<i>A survey of the insulation of all council properties, followed by appropriate action to increase insulation to recommended levels.</i>	150,000	34,000	1,538	Short	4.3	Insulation surveys largely complete resulting in orders placed for work on 18 buildings of which 6 completed.
IT Switch off (Admin Buildings)	<i>7 day timers on electrical equipment, activated energy settings on PCs, and remote shut down of PCs</i>	60,000	13,750	118	Short	4.4	Implemented. Reminder 'switch off' e-mail automatically generated for any PCs left on.
IT Switch off (Schools)	<i>7 day timers on electrical equipment, activated energy settings on PCs, and remote shut down of PCs</i>	98,000	20,000	172	Short	4.4	Implemented. Reminder 'switch off' e-mail automatically generated for any PCs left on.
Schools Carbon Reduction Officer	<i>Employ a member of staff to work specifically with schools and school children to educate and promote Carbon/energy saving.</i>	30,000	18,000	1,230	Short / Medium	1.66	Schools Carbon Reduction Officer, Victoria Welsh, appointed.

Driver Training	<i>Training in Economical and Defensive driving</i>	20,000	91,390	235	Short / Medium	0.2	Initial driver training scheduled from April 2009 using proven Council scheme of 1to1 tuition that has been used by BP and Tristar Homes
Bio Diesel to 100% of Fleet Vehicles	<i>Roll out the use of biodiesel to 100% of fleet vehicles. Purchase 2 new fuel bunkers and monitoring system.</i>	33,000	201,847	852	Short	0.2	10% biodiesel mix achieved. For 2008/09 700,940 litres of 10% biodiesel used reducing conventional diesel to 267,718 litres
Review of Street Lighting	<i>Review the period of lighting and the effectiveness of the dimming trial and implement actions based on that review.</i>	268,308			Short / Medium	Variable	Dimming to be extended to non-residential routes. New photo-electric cells to be installed to reduce lighting times by one hour. 760 photo-cells fitted to date, project completion May 2009
Gradually Turn Down Heating to 19 degrees	<i>Gradually turn the heating down in all council admin buildings to 19 degrees C (comfortable working temperature).</i>	No cost	4000	74	Short		Complete

7 Case Studies

Rosebrook Primary School

This new build school incorporates ground source heat pumps to provide low carbon under floor heating at a lower running cost than gas boilers, natural ventilation to avoid the need for fans and air conditioning and 'sun pipes' to provide natural lighting into the darker parts of the building during daylight hours thus reducing the need for electric lights. The insulation level is 20% above current building regulation requirements and all materials used in the construction were rated "A" or "B" from the BRE Green Guide for construction materials.

Street Lighting

Work is currently underway to upgrade photocells in street lights to be more sensitive to lighting conditions. The result of this will be that the lights will switch on half an hour later and switch off half an hour earlier resulting in savings in electricity costs and carbon emissions.

Also controlled dimming of streetlights is being introduced to reduce light output from midnight to an hour before dawn. This also reduces electricity demand and carbon emissions.

Voltage Regulation

The electricity supply in the UK is set up to provide a greater maximum voltage than most systems require ensuring that the electricity supply operates within a specified tolerance band. Voltage regulation reduces the supply to 230volts and therefore saves on both electricity consumption and the associated carbon savings. A trial installation has been operating in Queensway House for about three months and is confirming that savings of at least 10% are being made. Further installations will be progressed in 2009/10.

Actions planned for 2009/10:

- 8 The SIP will continue to be delivered by progressing actions on the following:
- Forum and Splash refurbishment;
 - Continuation of maintenance programme to include window and boiler replacement;
 - Additional installation of voltage regulators;
 - Completion of insulation works with a focus on schools;
 - Roll out of driver training (Eco Driving) to all staff;
 - Continue to extend use of bio diesel and introduce electric vehicles;
 - Complete street light improvements;
 - Implement refreshed awareness campaign.

Additional projects identified:

- 9 To take forward the SIP and ensure progress to the 25% carbon reduction in five years new projects will be required. Those currently identified as additional to those in progress from 2008/09 are detailed below.
- 10 *Renewable Energy Strategy* – A strategy is to be developed by December 2009 to enable an increasing amount of the energy supply for the Council to be provided from renewable sources. These will include wind energy, solar energy, combined heat and power and the possible use of biomass fuel. The strategy will also include measures to reduce overall energy demand.
- 11 *Energy Audits* – following a review of current building energy consumption a programme of energy audits will be undertaken to identify opportunities for energy efficiency improvement. The focus will be towards the higher energy use properties making use of the Carbon Trust benchmarking data to determine those that exceed best practice consumption.
- 12 *Renewable Energy Supply* – There are opportunities already identified for wind turbine installation at two schools and further renewable supply options related to specific buildings will be identified and implementation plans drawn up.
- 13 *Other projects* – these will be identified as a result of the energy audits but will include a further exploration of intelligent lighting controls, housekeeping measures, other energy demand controls and possibly further insulation measures.

Additional Drivers:

- 14 Carbon Reduction Commitment will be introduced from 2011. This is a 'cap and trade' scheme applied to high energy users who are not part of the European Emissions Trading Scheme that targets energy intensive operators (eg process industry, power stations etc). Stockton-on-Tees will be part of the CRC as we consume over 6,000MWh of electricity on half hourly metering. The Council will be required to record annual CO₂ emissions from gas and electricity (not transport) from 2010/11 and purchase emission permits in advance from 2011 at a currently predicted price of £12 per tonne. On current data this will total around £350,000.
- 15 This money is returned but the actual value received will depend on the position Stockton-on-Tees Council achieves in a league table of participants, likely to be some 5,000 organisations comprising local authorities, health service, supermarkets and some industries.
- 16 The carbon management programme has provided good preparation for this scheme and the reporting regime is already largely in place through both the LACM reporting and for NI 185 reporting (National Indicator 185 – local authority emissions) which has been included within Stockton's Local Area Agreement.

- 17 Carbon permits may be traded in that surpluses can be sold and shortfalls covered by purchase with the price set by the market conditions of the time.
- 18 A further and more detailed report on CRC will be provided on a future occasion as more detailed information becomes available.

Awareness and Education:

- 19 The re-launched Carbon Management Communication Strategy and Action Plan for 2008-10 has been published under the branding 'Small Steps Big Strides'. New leaflets will be produced and issued to staff and schools and four roadshows will be held for Council staff to keep the message of carbon reduction alive.
- 20 The Schools Climate Change Officer is actively involved in this with work at secondary school level linked to Eco Schools programmes whilst for primary schools a handbook under the title 'Hot Shot Climate Co²p will be published and include quizzes and games as well as providing useful information. This will result in the young people taking the message back into the home with consequent positive impact on carbon emissions.

Resources:

- 21 The Carbon Management Programme is monitored by an effective Carbon Management Team that meets bi-monthly to review progress. Members of the team are also directly involved in delivery of carbon reductions through project delivery and through management of activities.
- 22 The Carbon Reduction Officer oversees the Carbon Management Programme, manages the budget and provides reports on carbon emissions and progress.

Salix Ring Fenced Fund Scheme – update:

- 23 Salix is an independent, publicly funded company that provides interest-free match funding grant to the public sector to invest in energy efficiency measures and technologies that will reduce carbon emissions.
- 24 Local Authorities participating in the carbon management programme can apply for a grant of up to £250,000, which is the amount that Stockton applied for and has been awarded.
- 25 Projects funded through this route must meet certain criteria:
 - Maximum 5 year payback period and £100/ tonne CO₂ lifetime basis, for energy efficiency projects;
 - Or maximum 7.5 year payback period for projects with lifetime £/ tonne CO₂ equal or less than £50 for approved energy efficiency and renewable projects.
- 26 The fund must be dedicated to implementing energy efficiency and renewable energy projects through interest free internal "loans". The loans are then repaid to the fund over a period agreed with the carbon reduction programme using a minimum of 75% of the annual savings – the balance being retained by the project host e.g. a School. Once the project loan has been repaid to the fund the project recipient will continue to benefit from the ongoing energy savings. As repayments are recycled back into the fund they become available for re-investment, hence creating a self-sustaining fund.
- 27 Projects that have benefited from this fund include the street lighting dimming and photocell replacement, insulation and voltage reduction installations.

FINANCIAL IMPLICATIONS

- 28 The energy efficiency budget created from £250k of capital and revenue resources from Stockton has been matched by an equal amount to create the £500k budget which is being operated on the Salix revolving loan principles.

LEGAL IMPLICATIONS

- 29 Participation in the carbon management programme enables the council to meet its obligations in a number of regulatory areas such as the energy labelling of buildings, and the proposed carbon reduction commitment.

RISK ASSESSMENT

- 30 **Carbon Management – Strategy and Implementation Plan** is categorised as low to medium risk. Existing management systems and daily routine activities are sufficient to control and reduce risk.

SUSTAINABLE COMMUNITY STRATEGY IMPLICATIONS

Economic Regeneration and Transport

- 31 Through networking and sharing best practice this programme can help businesses to a reduction in energy costs thereby improving their viability and sustainability.

Safer Communities

- 32 This programme can help to reduce the fear of crime through efficient use of energy in street lighting.

Children and Young People

- 33 School travel planning can help to reduce health inequalities for children within the Borough.

Health and Wellbeing

- 34 The programme may contribute to a reduction in road congestion and help to bring about a reduction in road traffic related air pollution.

Environment and Housing

- 35 This will improve the efficiency of energy use within the Borough.

Supporting Themes

- 36 This is an operational report with no direct impact on the supporting themes of Stronger Communities, Older Adults and Arts, Leisure and Culture.

EQUALITIES IMPACT ASSESSMENT

- 37 The equalities impact assessment will be carried out during the delivery of the carbon management strategy and implementation plan.

CONSULTATION INCLUDING WARD/COUNCILLORS

- 38 Consultation is ongoing with Tristar Homes and Tees Active in respect of the implications on their respective business. Both organisations have welcomed this initiative.
- 39 Consultation with trade unions will take place on the issues that staff may have concerns with such as travel plan policy implementation and working environments.

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Background Papers

None.

Ward(s) and Ward Councillors:

Not ward specific.

Property

Endorses the principles covered in the Asset Management Plan especially the asset management section 3.14.

The principle of the revolving interest free internal loan utilising capital and supported by match funding from the Salix finance company maximises the use of limited resources and creates a sustainable fund for long term energy efficiency investments.