

CABINET ITEM COVERING SHEET PROFORMA

AGENDA ITEM

REPORT TO CABINET

27 NOVEMBER 2013

**REPORT OF CORPORATE
MANAGEMENT TEAM**

CABINET DECISION

Environment – Lead Cabinet Member – Councillor David Rose

CARBON MANAGEMENT – ANNUAL REPORT & 5 YEAR REVIEW

1. Summary

At the Cabinet meeting on 22 November 2007 Members noted that the Council had been accepted onto the Local Authority Carbon Management Programme and that there was a “case for action” with the associated reductions in carbon emissions and financial benefits. Following acceptance of the Strategy and Implementation Plan (SIP) work has progressed including making use of the Salix loan account and of other Salix loan schemes to fund a variety of energy efficiency improvements. The five year period of the Carbon Management Programme has now ended and this report provides details of the outcomes of this work and its planned continuation.

2. Recommendations

It is recommended that:

1. Members note the progress made in the delivery of the Carbon Management Strategy and Implementation Plan and the results of the five year programme of work.
2. Members note the impact of increased use of buildings, particularly schools, and adverse weather on carbon emissions and therefore the need to maintain momentum on identifying alternative energy supplies.
3. Members note the planned onward actions to continue progress in reducing carbon emissions and reducing energy costs to 2020/21 and beyond.

3. Reasons for the Recommendations/Decision(s)

1. As an organisation Stockton-on-Tees Borough Council is responsible through its activities, buildings and consumption of goods for producing 47,700 tonnes of CO₂ based upon financial year 2007-08.
2. Stockton Council has a Community leadership role to use resources wisely, setting an example to other businesses, stakeholders, partner organisations and the wider community.
3. There is a need to meet climate change-driven regulation governing the public sector such as the Energy Performance of Buildings Directive and the CRC Energy Efficiency Scheme. Participation in the carbon management programme puts the Council in a

position to meet these challenges and to stay ahead of the wave of regulatory pressures.

4. Members' Interests

Members (including co-opted Members with voting rights) should consider whether they have a personal interest in the item as defined in the Council's code of conduct (**paragraph 8**) and, if so, declare the existence and nature of that interest in accordance with paragraph 9 of the code.

Where a Member regards him/herself as having a personal interest in the item, he/she must then consider whether that interest is one which a member of the public, with knowledge of the relevant facts, would reasonably regard as so significant that it is likely to prejudice the Member's judgement of the public interest (**paragraphs 10 and 11 of the code of conduct**).

A Member with a prejudicial interest in any matter must withdraw from the room where the meeting considering the business is being held -

- in a case where the Member is attending a meeting (including a meeting of a select committee) but only for the purpose of making representations, answering questions or giving evidence, provided the public are also allowed to attend the meeting for the same purpose whether under statutory right or otherwise, immediately after making representations, answering questions or giving evidence as the case may be;
- in any other case, whenever it becomes apparent that the business is being considered at the meeting;

and must not exercise executive functions in relation to the matter and not seek improperly to influence the decision about the matter (**paragraph 12 of the Code**).

Further to the above, it should be noted that any Member attending a meeting of Cabinet, Select Committee etc; whether or not they are a Member of the Cabinet or Select Committee concerned, must declare any personal interest which they have in the business being considered at the meeting (unless the interest arises solely from the Member's membership of, or position of control or management on any other body to which the Member was appointed or nominated by the Council, or on any other body exercising functions of a public nature, when the interest only needs to be declared if and when the Member speaks on the matter), and if their interest is prejudicial, they must also leave the meeting room, subject to and in accordance with the provisions referred to above.

AGENDA ITEM

REPORT TO CABINET

27 NOVEMBER 2013

**REPORT OF CORPORATE
MANAGEMENT TEAM**

CABINET DECISION

CARBON MANAGEMENT – ANNUAL REPORT & 5 YEAR REVIEW

SUMMARY

At the Cabinet meeting on 22 November 2007 Members noted that the Council had been accepted onto the Local Authority Carbon Management Programme run by the Carbon Trust and that there was a “case for action” with the associated reductions in carbon emissions and financial benefits. Following acceptance of the Strategy and Implementation Plan (SIP) work has progressed including making use of the Salix loan account and of other Salix loan schemes to fund a variety of energy efficiency improvements. The five year period of the Carbon Management Programme has now ended and this report provides details of the outcomes of this work and its planned continuation.

RECOMMENDATIONS

It is recommended that:

1. Members note the progress made in the delivery of the Carbon Management Strategy and Implementation Plan and the results of the five year programme of work.
2. Members note the impact of increased use of buildings, particularly schools, and adverse weather on carbon emissions and therefore the need to maintain momentum on identifying alternative energy supplies.
3. Members note the planned onward actions to continue progress in reducing carbon emissions and reducing energy costs to 2020/21.

DETAIL

Background

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 12,000 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 2008 Cabinet noted the SIP as the delivery mechanism for the carbon management programme. This report sets out the progress made in the five years the programme has been running, the projects delivered, carbon and financial savings achieved and looks at the planned activities to continue the carbon

reduction process. 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.

3. 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 were expected to happen over the next five years. The scope of the project included schools, leisure facilities, council administrative buildings, libraries, the fleet, business mileage, and street lighting. It did not include social housing which was then managed by Tristar homes as there are separate programmes and drivers in place to deal with energy efficiency in social housing.
4. The first year of the carbon management programme focussed on some 'quick wins' resulting in a 7% carbon reduction which was reported to Cabinet in 2009. As the programme moved into its second year, it became clear that achieving the projected carbon savings would be challenging, particularly in an environment where there is a constant upward pressure on electricity consumption, for example increased use of ICT and increased opening hours of schools and Council buildings. Coupled with that we had the uncertainty over the future of some of our schools under the Building Schools for the Future Programme which restricted energy efficiency investment in existing schools.
5. Despite this the carbon management programme achieved carbon savings for 2009-10 of 14.5% from the baseline, demonstrating a continued trend to achieving the Council's target of a 25% reduction by 2013. The trend has reduced slightly but continued resulting in savings of 16% from the baseline for the 2010/11 financial year from the original 2006/07 baseline whilst for 2011/12 a reduction of 19% from the baseline was recorded.
6. During 2012/13 there were a number of changes to Council assets that were expected to contribute to reduced carbon emissions. However, the unusually cold weather through most of the period along with continued increase in use of school buildings have resulted in a significant increase in energy use and carbon emissions. This increase is around 8% over the previous year.
7. It is possible to 'adjust' gas consumption figures to provide data related to a twenty year average of weather conditions. Applying this yields a reduction in emissions of around 0.5% over the previous year confirming that the major factor in increasing actual emissions has been the extended period of cold weather requiring additional heating of buildings compared to a typical year.
8. A more detailed analysis of the gas and electricity meter data provides a further perspective on the reasons for the limit to reductions in carbon emissions. In the three years from April 2010 to March 2013 electricity consumption in schools has increased by 5.6% and gas consumption by 20.9%. Whilst the increase in gas consumption may be partially explained by the impact of the period's extensive cold spell the electricity increase confirms that use of school buildings had significantly increased.
9. The figures for core council buildings on the other hand demonstrate, over the same three year period, the direct impact of energy efficiency measures and of building rationalisation. Between April 2010 and March 2013 electricity in these buildings has reduced by 10.1% and gas consumption has reduced by 24.7%, the latter despite the increased demands on heating from the protracted cold period.
10. The Council has made good use of the Salix fund during the programme to support the following:

- Building insulation improvements (Blenheim House, Allensway Centre, Yarm library, Billingham Forum, Rosedale Residential, Lanark Close Care Home, Elmwood Community Centre, Vulcan Way, Roseberry Library, Princess Avenue Care Home, Parkside Care Home, Municipal Buildings, Hartburn Lodge, Kingsway House draught proofing).
- Voltage Optimisation (Queensway House, Eggescliffe Comprehensive School, Municipal Buildings, Bishopsgarth Comprehensive School, Conyers Comprehensive School).
- Improved controls (Billingham Forum pumps, drives & controls, Splash Fuel Stretcher.
- Street Light dimming and improved controls.

Without this work it may be safely assumed that energy consumption and carbon emissions would have shown a substantial rise.

11. Carbon emission reductions are monitored annually by means of metered data for building gas and electricity use, fuels used by the Council's vehicle fleet and the annual business mileage claims. These data provide the statutory council greenhouse gas emissions report that is posted on the Stockton-on-Tees Borough Council web site and notified to DECC. Subject to audit carbon emissions reduction over the five year programme is 20% but would have been nearer to 23% if 2012/13 temperatures had been closer to the twenty year average.

Progress:

12. The table below summarises the situation on the original SIP projects and new activities that are contributing to the programme objectives.

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 prevented use of covers. Forum refurbishment included 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	Complete at all viable sites showing average 13% reduction
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	Complete where practicable. Asbestos risk currently precludes access to some building areas such as lofts.
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	Complete. 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	Complete except in some secondary schools where local ICT responsibility applies. Reminder 'switch off' e-mail automatically generated for any PCs left on.
Driver Training	<i>Training in Economical and Defensive driving</i>	20,000	91,390	235	Short / Medium	0.2	Complete. Eco Driver programme delivered to at least 300 staff.
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	Complete. 10% biodiesel mix achieved. Bunkered supply now in use.
Electric Vehicles	<i>Consider use of electric vehicles</i>		At 5,000 miles per annum and above cost savings against displaced business mileage.				Complete. 6 electric pool cars in use displacing business mileage and charged from Council PV electricity.
Street Lighting control improvements	<i>Dimming and improved photocell programme.</i>	268,308			Short / Medium	Variable	Dimming and improved photocells installed. Work continues with LED street light trial anticipated
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	4,000	74	Short		Complete
Billingham Forum Refurbishment	<i>Insulation to roof and walls, variable speed motors and drives, building energy management system, CHP, lighting</i>	639,349	101,936	593	Medium	5	Complete

13. Automatic Meter Readers apply to all gas meters and all but minor consumption electricity meters improving billing accuracy and monitoring.
14. An initial PV installation project has delivered 170kW of solar electricity generation capacity with panels mounted on the roofs of Municipal Buildings & Central Library, Kingsway House, Queensway House, Bayheath House and Ideal House. Payback of this capital investment will be around 9 years as a result of quarterly Fed in Tariff payments for 20 years and displaced grid electricity.
15. A pre-feasibility study into district heating utilising process heat from a major industrial site near Billingham has been conducted. Analysis of the outcome of this study will inform the development of a business case to take forward the development of a new district heating scheme serving major heat demands in Billingham and around Stockton-on-Tees town centre and Portrack Lane.
16. The CRC Energy Efficiency Scheme has required Stockton-on-Tees Borough Council to purchase carbon allowances to cover building energy related emissions of carbon dioxide for 2011/12 and 2012/13. However, from April 2014 when phase two of the scheme opens, schools will be excluded and this will take the qualifying annual consumption below the

CRC threshold. Thus the last carbon allowances to purchase will be for 2013/14 and the Council will no longer be liable for CRC carbon allowance purchase.

17. Following the CSI scrutiny committee on energy supply further initiatives will be pursued to reduce the Council's dependency on mains natural gas and grid electricity with the aim of both reducing carbon emissions and securing stable pricing for long term sustainable energy supplies.
18. The CSI Energy Supply Scrutiny Committee agreed the Action Plan appended to this report.

Forward Plan

19. The following projected carbon reductions have been considered and agreed by the Carbon Management Team and utilise a 2011/12 baseline:

Year	Annual Reduction	Cumulative Reduction
2013/14	-2.2%	-7.1%
2014/15	-2.0%	-11.2%
2015/16	-2.0%	-13.1%
2016/17	-3.0%	-16.0%
2017/18	-3.0%	-20.9%
2018/19	-2.0%	-24.3%
2019/20	-2.5%	-26.6%
2020/21	-3.5%	-31.2%

20. The above projections assume progress on specific projects including large scale PV by 2014/15, district heating by 2016/17, energy from waste (with direct correlation between waste and energy supply) from 2020/21 and a progressive move to LED street lighting over the period.

Awareness and Education:

21. Support is provided to schools for energy efficiency improvements and for renewable energy supply, usually solar PV. This provides a visible manifestation of the Council's commitment to carbon reduction within communities.

Resources:

22. The Carbon Management Programme will continue with targets set and agreed to 2020/21 by which time a further 30% reduction in carbon emissions is projected. The Programme will continue to be monitored by the Carbon Management Team meeting bi-monthly. Members of the team are also directly involved in delivery of carbon reductions through project delivery and through management of activities.
23. The Carbon Reduction Officer oversees the Carbon Management Programme, manages the budget and provides reports on carbon emissions and progress as well as completing all compliance issues such as reports and information for the CRC Energy Efficiency Scheme.

FINANCIAL IMPLICATIONS

24. 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. Total spend to date on carbon reduction projects from this source has been £755,228k.

25. From time to time Salix provide separate pay as you save loan schemes under the SEELS branding. A total of £1,148,521 has been secured under pay as you save arrangements to cover elements of the Billingham forum refurbishment, lighting and boiler controls at other leisure facilities and a major upgrade of street lighting.
26. It is not possible to determine overall financial savings to the Council from this activity since the results are affected by fluctuating energy prices, changes in the Council asset base, the vagaries of utility billing and payments that aren't perfectly aligned with the financial year and changes in building use. The results of the programme are therefore best considered against total energy used and the associated carbon emissions.

LEGAL IMPLICATIONS

27. 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, Green House Gas reporting and the CRC Energy Efficiency Scheme, noting that the latter obligation will end following purchase of carbon allowances to cover 2013/14 emissions in July 2014.

RISK ASSESSMENT

28. Carbon Management – Strategy and Implementation Plan is categorised as low to medium risk. Existing management systems, adapted to meet the additional requirements of the CRC Energy Efficiency Commitment and daily routine activities are sufficient to control and reduce risk.

SUSTAINABLE COMMUNITY STRATEGY IMPLICATIONS

Economic Regeneration and Transport

29. 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

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

Children and Young People

31. School travel planning can help to reduce health inequalities for children within the Borough by encouraging modes of active travel such as cycling and walking.

Health and Wellbeing

32. The programme may contribute to a reduction in road congestion and help to bring about a reduction in road traffic related air pollution. Use of electric vehicles can also reduce the impact of noise and vibration on local communities from vehicles.

Environment and Housing

33. This will improve the efficiency of energy use within the Borough and facilitate compliance with the targets associated with the Covenant of Mayors.

Supporting Themes

34. 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

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

CONSULTATION INCLUDING WARD/COUNCILLORS

36. 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.

Name of Contact Officer: Richard McGuckin
Post Title: Head of Technical Services
Telephone No. 01642 527028
Email Address: Richard.mcguckin@stockton.gov.uk

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.

Appendix: CSI Scrutiny Committee Action Plan – Review of Energy Supply

No.	Recommendation	Proposed Actions/Progress	Success Measures	Responsibility	Date
1	The Committee recommend the promotion of using photovoltaic cells wherever possible on Council owned properties and elsewhere.	Further PV installation opportunities to be identified and progressed if financially viable.	Annual PV generation and FIT income data	Stephen Calvert	31/3/14
2	The Committee recommend that the updated Sustainable Construction Policy reflect all advances in renewable energy technology to ensure buildings are as energy efficient as possible while delivering value for money.	Review and revise Sustainable Construction Policy	Issue of revised policy	Neil Ellison	31/3/14
3	The Committee recommend that whenever possible officers/Members use the electric cars that have been leased to Stockton Council.	Monitor electric car usage and report quarterly to management	>5,000 miles per car per year	Neil Ellison	31/3/14
4	The Committee recommend that Stockton Council ensure the cost of operation of pool cars is fully offset by reduction in business mileage.	Quarterly review of business mileage	Year on year reduction of business mileage claims	<i>Andrew Mearns</i>	31/3/14
5	The Committee recommend that initiatives such as Energy Service Companies to aid future energy supply for the Council are considered regarding their positive contribution to meeting the Council's objective on future energy supply.	Energy supply options to include explanation of pros and cons of approaches advised.	Identification of options for provision of schemes for alternative energy supply.	Stephen Calvert	31/3/16

No.	Recommendation	Proposed Actions/Progress	Success Measures	Responsibility	Date
6	The Committee recommend that Stockton Council do not commit to a specific course of action thereby allowing the flexibility to work alone or with others to best benefit from renewable energy.	Ongoing energy supply plans to take an open view towards the mix of technologies and energy providers to secure best value sustainable energy supply.	Identification of energy supply options less reliant on grid electricity and gas.	Stephen Calvert	31/3/16