

MAIDSTONE BOROUGH COUNCIL

CABINET

12 AUGUST 2009

**REPORT OF ASSISTANT DIRECTOR OF DEVELOPMENT AND
COMMUNITY STRATEGY**

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1. **CARBON FOOTPRINT 2008/09**

1.1 Issue for Decision

1.1.1 To note the Council's carbon footprint for 2008/09, and its progress towards the carbon reduction targets adopted in November 2008, and to consider actions to further reduce carbon emissions.

1.2 Recommendation of Assistant Director of Development and Community Strategy

1.2.1 That the reported figures for CO₂ emissions from the Council's operations during 2008/09 are noted as indicating a 3.48% increase from the previous year but a 10.16% decrease since the baseline year, 2006/07.

1.2.2 That a Carbon Reduction Action Plan is established, to reduce energy and fuel use in order to reduce costs and achieve at least 3% reduction in CO₂ emissions from Council operations.

1.2.3 That bids are put forward for the new Salix Energy Efficiency Loans Scheme, to fund some early actions on carbon reduction.

1.2.4 That it is noted that data used for this report comes from a variety of sources, and is mostly generated or collected for purposes other than carbon reporting.

1.3 Reasons for Recommendation

BACKGROUND

1.3.1 This report presents the Council's 2008/09 carbon footprint, compares it with the 2007/08 carbon footprint and examines it against the target of an annual 3% reduction in carbon emissions.

- 1.3.2 Three years of emissions data have been analysed in this way. Having done this, Maidstone Borough Council is ahead of many Kent authorities (some of which are only beginning the process) in measuring and managing its carbon footprint and in being prepared for NI 185. Appendix A provides a fuller picture of direction of travel over this 3 year period.
- 1.3.3 The original carbon footprint report, November 2008, was prepared using the NI 185 methodology. Data was gathered from all parts of the Council operations and input into the NI 185 spreadsheet toolkit (provided by DEFRA). The NI 185 baseline year is 2008/09. However data was collected relating to 2006/07 (the Baseline year) and 2007/08 to provide a comparison and a direction of travel, and to inform internal target setting.
- 1.3.4 Since then, understanding of the guidance on what is to be included and excluded from NI 185 calculations has improved, and the data set has changed.
- 1.3.5 In June 2009 Internal Audit reviewed the carbon footprint data, sampling the data for accuracy and assessing the assumptions and conclusions. While they concluded that the data is generally sound and adequate for performance management purposes, they recommended a realignment of the data reported internally with that reported externally, for NI 185, to avoid the confusion of having two slightly different carbon footprints running side by side.
- 1.3.6 Therefore this report amends the previous reported footprints to bring them more fully in line with improved guidance and understanding of National Indicator 185 methodology. The changes are small and, while they increase the previous CO₂ tonnage figures, they do not change the previous direction of travel. Neither do they require amendments to targets set by Members in November 2008.
- 1.3.7 The new data set removes certain buildings or sites from the stationary sources of carbon, such as buildings that are no longer owned or managed by the Council. It also includes certain sources of carbon that were missing from the original such as a number of vehicles used in delivering Council functions. These changes have been backdated to amend the baseline, in order to make comparisons meaningful. The following sections of this report are based on the new data set.

THE COUNCIL'S CARBON FOOTPRINT

- 1.3.8 Table 1: Carbon Emissions (tonnes)

		Annual Emissions		Comparison	
		2007/08	2008/09	Change	% Change
Buildings	<i>Examples:</i>				
	Mote Park Leisure Centre Gas	1,395.97	1,194.52	↓ -201.45	↓ -14.43%
	Mote Park Leisure Centre Electricity	271.01	184.87	↓ -86.13	↓ -31.78%
	Hazlitt Theatre Gas	135.93	120.59	↓ -15.35	↓ -11.29%
	Hazlitt Theatre Electricity	108.22	118.24	↑ 10.02	↑ 9.26%
	Maidstone Museum Gas	97.38	84.64	↓ -12.74	↓ -13.08%
	Maidstone Museum Electricity	87.20	82.99	↓ -4.20	↓ -4.82%
	Public Conveniences Electricity	67.94	69.41	↑ 1.47	↑ 2.16%
	Main Offices Gas	192.18	175.67	↓ -16.51	↓ -8.59%
	Main Offices Electricity	191.72	594.37	↑ 402.65	↑ 210.02%
	Total Emissions from electricity use	1,863.85	2,216.64	↑ 352.79	↑ 18.93%
Total Emissions from fossil fuel consumption	2,111.08	1,831.69	↓ -279.39	↓ -13.23%	
Total Emissions from buildings	3,974.40	4,048.33	↑ 73.94	↑ 1.86%	
Vehicles	<i>Examples:</i>				
	Waste Collection Service	975.23	1,092.71	↑ 117.48	↑ 12.05%
	Maidstone Borough Services	448.62	499.96	↑ 51.35	↑ 11.45%
	Pool Cars	2.62	3.19	↑ 0.57	↑ 21.62%
	Casual, Essential and Lease Car users	61.63	60.35	↓ -1.28	↓ -2.08%
	Total Emissions from service vehicle fleet	1,825.73	1,956.78	↑ 131.04	↑ 7.18%
Total Emissions from business travel	67.76	67.05	↓ -0.71	↓ -1.05%	
Total Emissions from vehicles	1,893.49	2,023.82	↑ 130.33	↑ 6.88%	
Total Emissions		5,867.89	6,072.16	↑ 204.27	↑ 3.48%

1.3.9 Table 1 shows the carbon footprint in 2008/09 and compares it with the previous year. The carbon footprint is expressed in terms of emissions (in tonnes) of carbon dioxide. The sources of CO₂ are divided between buildings and vehicles, and a number of examples are extracted for information.

1.3.10 The Council's carbon footprint in 2008/09 was 6072 tonnes of CO₂. 67% percent of emissions came from buildings with the remaining 33% from vehicles.

BUILDINGS

1.3.11 55% of emissions from buildings were due to electricity use and 45% from the consumption of gas and oil. The Council's main offices accounted for 22% of emissions from buildings (15% of total emissions).

1.3.12 The buildings that emitted the largest amount of CO₂ are shown in Table 2.

Table 2: Top CO₂ Emitters (buildings) 2008/09

Source of Emissions	CO₂ (Tonnes)
Mote Park Leisure Centre (Gas)	1,194.52
MBC Offices Maidstone House (Electricity)	498.36
King Street Multi Storey Car Park (Electricity)	147.40
Vinters Park Crematorium (Gas)	146.56
Hazlitt Theatre (Gas)	120.59

- 1.3.13 Total annual CO₂ emissions from buildings increased by 1.86% from last year. Emissions from fossil fuel consumption in buildings fell by 13.23% while emissions from electricity use increased by 18.93% compared to 2007/08.
- 1.3.14 A more detailed analysis shows that at Mote Park Leisure Centre (managed by Serco), emissions fell by 14% from grid electricity use and by 32% from gas use. The Hazlitt Theatre saw an 11% reduction from gas use but a 9% increase from electricity use. Carbon emissions from electricity use at public conveniences rose by 2%.
- 1.3.15 Much of the increase in emissions from buildings is related to main office accommodation. The effect of moving from the old set of offices (Tonbridge Road and London Road) in June 2008 has reduced emissions from those buildings by 235 tonnes compared to last year. However occupation of Maidstone House has added a further 498 tonnes of emissions from electricity use alone.
- 1.3.16 The over all impact is that carbon emissions from Council office accommodation has doubled from 384 tonnes in 2007/08 to 770 tonnes in 2008/09. The majority of this change is in electricity use, which has risen by 210%.
- 1.3.17 The Internal Audit review of the data concluded that: "Significant heating/cooling and lighting problems are being encountered within the Councils new head office accommodation which has had a major negative impact on planned efficiency saving assumptions. Professional advice is being taken to resolve the issues as a matter of urgency to ensure that deficiencies are resolved promptly and do not impact on 2009/10."

VEHICLES

- 1.3.18 97% of emissions from vehicles were from the service fleet, including the street cleansing and waste collection services, with only 3% due to business travel such as driving to make site visits.
- 1.3.19 The highest emitting vehicle sources of CO₂ are shown in table 3.

Table 3: Top CO₂ Emitters (vehicles) 2008/09

Source of Emissions	CO₂ (Tonnes)
Waste Collection Service	1,092.71
Maidstone Borough Services	499.96
Park & Ride Service	359.05

1.3.20 Total annual CO₂ emissions from Council vehicle use has increased by 6.88% from last year. Emissions from fleet vehicles increased by 7.18% while emissions from business travel decreased by 1.05% compared to 2007/08.

DEVELOPMENT OF AN ACTION PLAN

1.3.21 The buildings and vehicle uses that emit the most CO₂ are likely to be suitable for early action to reduce energy and fuel use. It is often in high energy and fuel use situations where simple low cost measures are best focussed, and where these measures can have the most effective impact, driving down CO₂ and costs.

1.3.22 It is not just high energy users that should be tackled. Indeed some, such as Mote Park Leisure Centre, may already be examples of very good energy management practices. However, other buildings may be using more energy than necessary, regardless of their over all usage. DEFRA provides benchmarks of energy use per m², which describe typical energy use in certain building types. Any properties that exceed the benchmark for that type of building will be flagged up red in the NI 185 spreadsheet. This provides an indication of buildings where staff behaviour, operation control and technical issues may be tackled to reduce emissions.

1.3.23 Examples of buildings highlighted in this way are shown in Table 4.

Table 4: Buildings exceeding DEFRA energy use benchmarks 2008/09

Source of Emissions	kWh	
	Actual	Benchmark
Cobtree Golf Course Club House	211,948	22,059
Penenden Heath Pavilion	15,001	7,359
Senacre Community Hall	22,285	19,734
Shepway Green Pavilion	4,259	3,993
Fant Hall	8,443	7,755
MBC Armstrong Road Depot	109,744	37,440
MBC Offices Maidstone House	952,886	776,988
Old Palace Gardens Information Office	9,761	8,820
Town Hall	120,022	90,576
King Street Multi Storey Car Park	281,844	135,360

- 1.3.24 However, DEFRA's benchmark criteria are not fine enough to make this comparison robust. Instead it simply indicates where further investigation and action should be directed.
- 1.3.25 From previous carbon footprint data, a number of sections and buildings have been identified as high priority for carbon reduction activity. The latest data (presented here) doesn't change this list (tables 2, 3 & 4) except for adding Maidstone House.
- 1.3.26 A Carbon Reduction Action Plan will prioritise these areas and then implement environmental audits to identify physical (such as old/faulty technology) and behavioural (such as improved/environmental driving techniques training) opportunities to make changes. These changes will take the form of Environmental Management Plans and Operational Controls.
- 1.3.27 Due, in part, to the requirement for reporting NI 185 to Government this year, resources have not been sufficient, as yet, to undertake this more detailed work on specific sites and sections. The Carbon Reduction Action Plan is the next step, now that the data has been reviewed by Internal Audit and internal and external reporting of the carbon footprint are aligned. The Plan will be supported, with external expertise, by the Energy Saving Trust Local Authority One-to-One Support Programme.

PERFORMANCE AGAINST TARGETS

- 1.3.28 In November 2008 Cabinet set annual 3% carbon reduction targets, aiming for a 20% reduction by 2016 and 30% by 2021.
- 1.3.29 Based on the revised baseline data set the target tonnages of CO₂ have been amended. Table 5 shows the targets, based on a 3% reduction from the baseline, compared to the actual emissions.

Table 5: Target CO₂ emissions (from baseline).

Year	Tonnes of CO ₂	
	Target	Actual
Baseline 2006/07	6759	6759
2007/08	6556	5868
2008/09	6359	6072

- 1.3.30 As can be seen, despite failing to achieve the 3% annual reduction this year, the previous year's over achievement means the Council has met the original target tonnage for 2008/09 of 6359 tonnes.

- 1.3.31 While the over achievement in 2007/08 means that the 20% and 30% targets are still achievable without changing the annual targets, action is required swiftly to manage emissions downwards in order to avoid the risk of a further increase next year.
- 1.3.32 Targets are based on a 3% reduction from the previous year, rather than cumulative reductions from the baseline. In this way years of increased emissions can occasionally be accommodated within the over all reduction plan. There will be times when increase is unavoidable.
- 1.3.33 An example is the initial problems with Maidstone House. If these problems are solved the anomalies in recorded CO₂ emissions caused should correct themselves, and this will impact favourably on reduction targets next year. In addition the impact of occupying all buildings (old and new) over the handover period will be removed next year.
- 1.3.34 As it is a newly refurbished building, an "expected norm" of energy use in Maidstone House is only available by utilising DEFRA's benchmark data within the NI 185 toolkit. This can be seen in Table 4, above. If carbon emissions from buildings are recalculated, with Maidstone House at the benchmark figure, a reduction of 0.48% from 2007/08 is seen, as opposed to the 1.86% increase shown.
- 1.3.35 As environmental data is now being systematically recorded, patterns in energy consumption and greenhouse gas emissions can be plotted against changes in operations. In this way unavoidable increases can be explained, and avoidable increases can be identified and tackled through environmental management programmes, training, and operational controls.
- 1.3.36 It is therefore recommended that a Carbon Reduction Action Plan is established, and reported to Cabinet for approval as part of the next planned 6 monthly Carbon Report in November 2009. This will establish, in the first instance, the action necessary to achieve the low and no cost quick wins identified from high emitting services, vehicles and buildings, such as education, behaviour change and policy. It will also highlight opportunities for longer term actions that may require investment, such as replacement of inefficient boilers, increased insulation, or renewable technologies.
- 1.3.37 A number of projects are already in place that will show a improvement in the Council's carbon emissions next year. Problems experienced at Maidstone House are currently being resolved. The planned new Depot includes energy efficient measures, such as solar hot water and improved insulation. These actions, plus projects to be

established under the Salix scheme (see below) should reduce CO₂ emissions.

- 1.3.38 More detail of the direction of travel over the three years of this data collection is provided in Appendix A.

THE SALIX ENERGY EFFICIENCY LOANS SCHEME

- 1.3.39 In the 2009 Budget Government made £51.5m of loan funding for energy efficiency measures available to the public sector. The Energy Efficiency Loans Scheme allows public sector bodies to apply for an interest free loan to finance 100% of the costs of energy saving projects, repayments to be paid from the savings made in energy costs.
- 1.3.40 Environmental Audits and specialist consultancy may be required in order to produce successful bids that will show real energy efficiency, and therefore cost and carbon saving, gains. The costs of these services can also be included in the Scheme.
- 1.3.41 Officers are putting together a number of potential bids, including projects at the Hazlitt Theatre, Cobtree Golf Course Club House, Whatman Park Public Conveniences, and extending the Museum project. Options will go before Corporate Management Team, with a view to applying to the Scheme in September 2009.

DATA LIMITATIONS

- 1.3.42 The limitations of using the collected data to establish a carbon footprint have been explained in previous reports. Much of the data used in this report has not been recorded for this purpose and in some cases data has had to be estimated.
- 1.3.43 However Internal Audit, in their June 2009 review, concluded that the data is "generally sound and adequate" for performance management purposes. Internal Audit's guidance on interpreting the NI 185 guidance on what is to be included and excluded from the footprint, has been taken, and the footprint has been brought in line with NI 185 reporting.

1.4 Alternative Action and why not Recommended

- 1.4.1 The Council could decide not to devise a Carbon Reduction Action Plan. However, such an approach is very unlikely to achieve its stated aims of carbon reduction in this way. A robust plan is needed to ensure carbon reduction actions are appropriate and results are measurable

1.5 Impact on Corporate Objectives

1.5.1 This decision is directly related to achieving the following Key Objective from the current Strategic Plan:

"Reduce energy, water and material consumption in Council-owned properties and improve energy efficiency across the borough through Development Plan Documents and the use of other initiatives including private sector housing grants. The Council will also encourage these activities through appropriate partnerships."

1.6 Risk Management

1.6.1 The risk of not achieving reductions in the Council's carbon emissions has been identified. This will be managed by developing, implementing and maintaining a robust Carbon Reduction Action Plan, within which carbon reduction activity will be coordinated.

1.6.2 A reputation risk has been identified as being associated with not achieving carbon reduction. This risk is being managed by maintaining a systematic and evidence based approach to carbon reduction target setting, basing decisions on robust data and best practice, and setting challenging and measurable targets.

1.7 Other Implications

Financial	x
Staffing	
Legal	
Equality Impact Needs Assessment	
Environmental/Sustainable Development	x
Community Safety	
Human Rights Act	
Procurement	
Asset Management	

1.7.1 Financial: Energy saving actions, arising from this decision, are likely to lead to financial savings. However, environmental audits of sites

and services may require funding and some carbon reduction activities may need investment.

1.7.2 Environmental/Sustainable Development: This decision will increase the council's ability to deliver improved environmental performance from its own operations. In continuing to get its own house in order it can become a community leader in Climate Change adaptation and mitigation.

1.8 Background Documents

1.8.1 Record of Decision of the Cabinet, dated 12th November 2008, "Reducing The Council's Carbon Footprint"
http://www.digitalmaidstone.co.uk/pdf/081112_rod_cab_carbonfootprint.pdf

1.8.2 Record of Decision of the Cabinet, dated 11th February 2009, "Review of the Environmental Sustainability of the Waste Collection Service"
http://www.digitalmaidstone.co.uk/pdf/090211_cab_rod_sustain_waste.pdf

NO REPORT WILL BE ACCEPTED WITHOUT THIS BOX BEING COMPLETED

Is this a Key Decision? Yes No

Is this an Urgent Key Decision? Yes No

Reason for Urgency