

## REPORT TO CABINET

Title: **CARBON MANAGEMENT PROGRAMME – INTRODUCTION OF SMART METERING**

Date: 25 June 2009

Member Reporting: Councillor Maxwell

Contact Officer(s): Terry Gould Head of Public Protection & Sustainability (01628 683501)

Wards affected: All

### 1. SUMMARY

1.1.1 The Royal Borough of Windsor & Maidenhead (RBWM) signed the Nottingham Declaration in January 2007 signalling our commitment to tackling climate change. In April 2008 we launched our Carbon Management Programme which is designed to reduce both our carbon emissions and costs through reducing energy consumption.

1.1.2 At its meeting on 24<sup>th</sup> April 2008 Cabinet agreed to adopt and implement the 5-year Strategy and Implementation Plan (SIP) focusing upon the Council's emissions of CO<sub>2</sub> arising from its own activities and operations. Areas included in the programme include corporate buildings, schools, street lighting, staff travel and waste production from schools and offices.

1.1.4 The SIP also considered the importance of embedding carbon management into the culture of the borough to ensure full integration with core business processes 'as a matter of routine'. A number of key areas were cited including:

- Risk management
- Corporate policy formulation and alignment
- Communications and training
- Finance and investment
- Data management i.e. capture, monitoring, reporting and evaluation
- Assigning responsibility to designated posts for delivery of the programme

The Sustainability Panel has taken on the role of Programme Board to provide a strategic oversight of the Carbon Management Programme. Progress updates have been submitted to each of the Panel's bi-monthly meetings.

1.1.5 The purpose of this Report is to:

Recommend to Cabinet:

- The installation of SMART metering and sub-metering technology throughout the council's buildings in order to drive down energy

consumption and reduce costs; and

- Assigning responsibility to nominated persons for managing, monitoring and reporting energy consumption target reductions throughout various service areas of the Council's operations.

## 2. RECOMMENDATION: That:

- i) The comments and recommendation of the Sustainability Panel meeting of 7<sup>th</sup> May 2009 as set out in Paragraph 5.1.1 of this Report be noted;**
- ii) The installation of SMART metering and sub-metering throughout Council buildings as set out in Paragraphs 3.1.1 to 3.1.10 be approved.**
- iii) The transfer of £30,000 from the Council's Development Fund to finance this initiative be approved.**

<b>What will be different for residents as a result of this decision?</b>
The borough's operational energy costs will decrease. The public will be able to access the energy consumption of individual council buildings on the internet and be able to submit suggestions for reduction.

## 3. SUPPORTING INFORMATION

### 3.1 Background

#### **Installation of SMART Metering**

- 3.1.1 Cabinet will recall that the SIP focuses upon embedding a low carbon culture into and across the organisation. One option for assisting this change process is the installation of SMART metering. Smart metering is a method of using automated technology to measure and monitor energy consumption. SMART metering and sub-metering enables the energy consumption in selected areas (e.g. floors or sections of a building) to be monitored, opening up the possibilities of identifying areas of excessive usage and potential for reductions and savings to be made.
- 3.1.2 Experience of other organisations support the claims that the installation of SMART metering can bring about indirect savings of typically 15% due to raised awareness and reacting to the diagnostic information provided by the technology.
- 3.1.3 Cabinet agreed on 24<sup>th</sup> April 2008 to the principle of embedding the SIP within the performance management regime to ensure that the Carbon Management Programme:
- Becomes an integral part of the Council's vision
  - Becomes translated into defined corporate objectives;
  - Helps individuals to understand their contribution to the carbon management programme;
  - Monitors and measures progress towards meeting the agreed carbon reduction targets and goals;

- Is operated transparently and is able to identify, challenge and report underperformance and take early remedial action to ensure the programme stays on track;
- Identifies, recognises and rewards areas where there is good performance and to share good practice throughout the organisation and with others;
- Contributes to the future corporate-wide communication strategy.

- 3.1.4 It is now proposed that these principles should be strengthened and taken a step further by assigning responsibilities to defined senior managers to drive through the desired changes and savings. To achieve this it is first necessary to provide those with such a responsibility with the technology and ability for monitoring, reporting and setting sustained energy reduction targets. The recommendation is to implement a rolling programme of installing SMART meters throughout 7 (no) of the main civic buildings, similar to the SMART metering pilot scheme recently installed in York House offices, Windsor in December 2008 to trial the technology. The unit costs quoted for the installation of Smart metering are generally £4K - £6K per site with on-going maintenance costs of £600 p.a. per site. Additional sub-metering e.g. various floors of individual buildings could also be considered as part of an extended programme, targeted to the heaviest users to achieve the biggest savings. The technology can accommodate this if required. A further £2K-3K per site should be allowed for any additional sub-metering requirement.
- 3.1.5 Sustainability Panel received several presentations relating to the introduction of the York House installation. Since the implementation of this pilot project in December 2008 a number of areas where energy consumption can be reduced have been identified e.g. the installation of more efficient energy control devices; better house keeping; re-setting controls and changes in behaviour by increasing staff awareness. **Appendix 1** summarises the energy use and downward trend since the installation of the pilot scheme in York House, showing the reduction in energy consumptions following targeted interventions. There is potential for further savings to be realised as identified energy efficiency measures are installed over the coming months. A reliable indication of the energy 'base load' during off-peak hours for York House has now been identified enabling targets to be set for reducing this base load over the coming months, thereby making cost savings.
- 3.1.6 Once installed, nominated senior officers would be trained how to use the web based software and charged with the responsibility for ensuring their own service area energy consumption is managed, target savings are set and regular performance reports are submitted.
- 3.1.7 Incentive schemes related to energy savings may be required, such as using the *RecycleBank Rewards* scheme as a recognition mechanism for the achievement of agreed targets.
- 3.1.8 Maximising reductions in energy wastage does require all stakeholders are made aware and engaged in the energy conservation process. It is anticipated the measures being proposed would achieve this desired outcome.
- 3.1.9 It is accepted fully that this is a bold and radical change to existing practises but it can be justified on the basis that it is deemed necessary if the organisation is to have any

realistic chance of delivering its aspirations relating to reducing wastage, meeting carbon and energy consumption reduction targets and exemplifying a low carbon culture.

3.1.10 There are a number of existing council processes that will be capable of facilitating the monitoring, evaluation and reporting of the outcomes of the SMART metering initiative. These include: monthly performance monitoring using the Balanced Scorecard approach; bi-monthly reporting to this Panel as the Programme Board for carbon management; regular reporting via team meetings and the project working group; financial monitoring; and personnel training and development programmes.

3.1.11 Members will recall that a Development Fund has been created to finance initiatives that, in the short to medium term, will reduce the cost of delivering services. This initiative, whilst in itself not delivering savings, will support an initiative which will enable officers to better understand patterns of energy consumption and as a result take steps to reduce energy costs. It seems appropriate therefore to draw monies from the Development Fund to finance this initiative.

#### 4. OPTIONS AVAILABLE AND RISK ASSESSMENT

##### 4.1 Options

	Option	Comments	Financial Implications
1	'Do nothing' i.e. The Council chooses not to endorse measures to implement SMART metering and assigning responsibility to named senior officers for achieving energy reduction targets. <b>Not recommended</b>	This option would significantly slow down progress with rolling out the CMP and reduce the opportunity for optimising reductions in energy savings and carbon emissions	<u>Revenue:</u> Unnecessary cost and revenue expenditure  <u>Capital:</u> None
2	Installation of SMART metering throughout main Council buildings with appropriate assignment of responsibility to senior managers to meet set target aspirations for CO <sub>2</sub> reduction as set out in Carbon Management Strategy & Implementation Plan (2008) <b>This is the Recommended option</b>	Endorsement and a commitment to SMART metering as a Carbon Management Programme initiative would facilitate significant energy savings and reduce carbon emissions.	<u>Revenue:</u> On-going annual maintenance costs for installation at 7(no.) key sites: £5000  <u>Capital:</u> Approximately £30,000 for (7no.) key sites to include hardware, some sub-metering, installation and training.

## 5. CONSULTATIONS CARRIED OUT

- 5.1.1 This principles contained within a short form version of this report were discussed by the Sustainability Panel at its meeting of the 7<sup>th</sup> May 2009. The draft Minute of that meeting records the following:

***“That the Panel recommended to Cabinet that consideration be given to the installation of SMART metering and sub-metering throughout Council buildings as set out in Paragraphs 3.1.1 to 3.1.9.”***

6. **COMMENTS FROM THE OVERVIEW AND SCRUTINY PANEL** – The observations and/or recommendations of the Planning & Environment Overview & Scrutiny Panel scheduled for the 17<sup>th</sup> June 2009 will be included in this report.

## 7. IMPLICATIONS

The following implications have been addressed where indicated below.

Financial	Legal	Human Rights Act	Planning	Sustainable Development	Diversity & Equality
✓	N/A	N/A	N/A	✓	✓

### Background Papers:

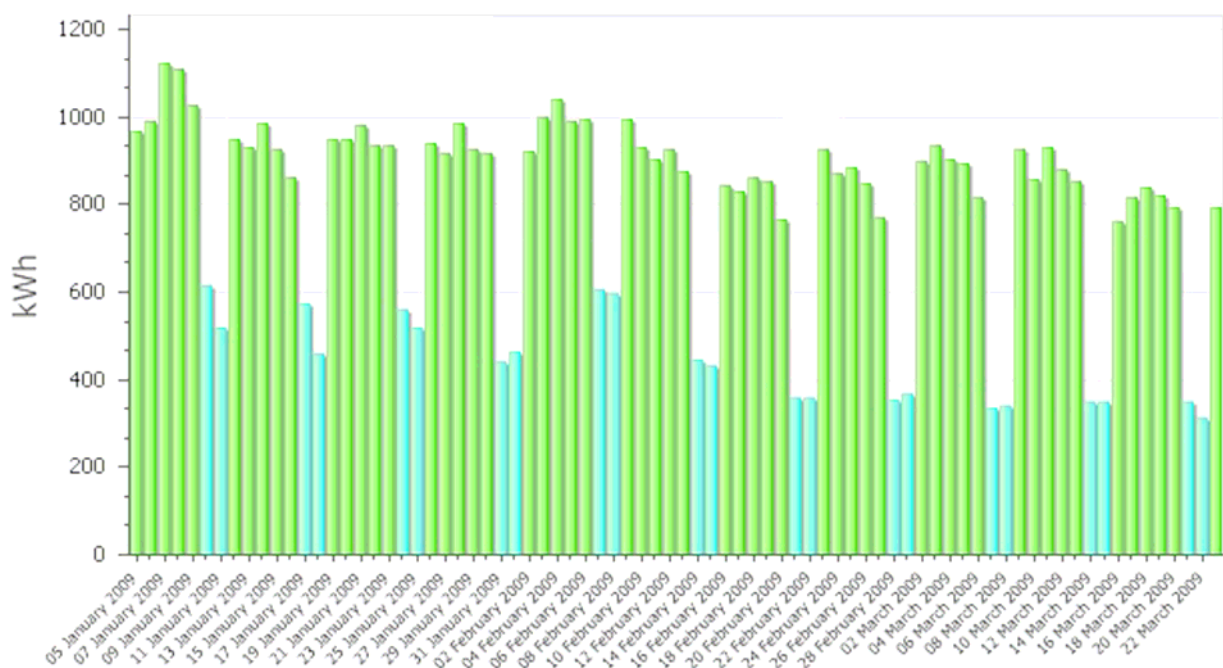
- RBWM Carbon Management Programme: Strategy & Implementation Plan 2008
- Application for Salix Funding
- RBWM Carbon Management Programme Annual Submission to Carbon Trust 2008/09

## APPENDIX 1: SMART Metering – Summary Results For York House, Windsor

### Daily Unit Report: Electricity Consumption

Report Created Using Daily Data for Main Electricity Meter

Report Generated for Data between 05/01/2009 and 23/03/2009



#### Actual

Lowest Unit: 313.60 kWh

Highest Unit: 1,120.20 kWh

Average Unit: 778.31 kWh

Total CO<sub>2</sub>e Emitted: 32,600.30 kgCO<sub>2</sub>e

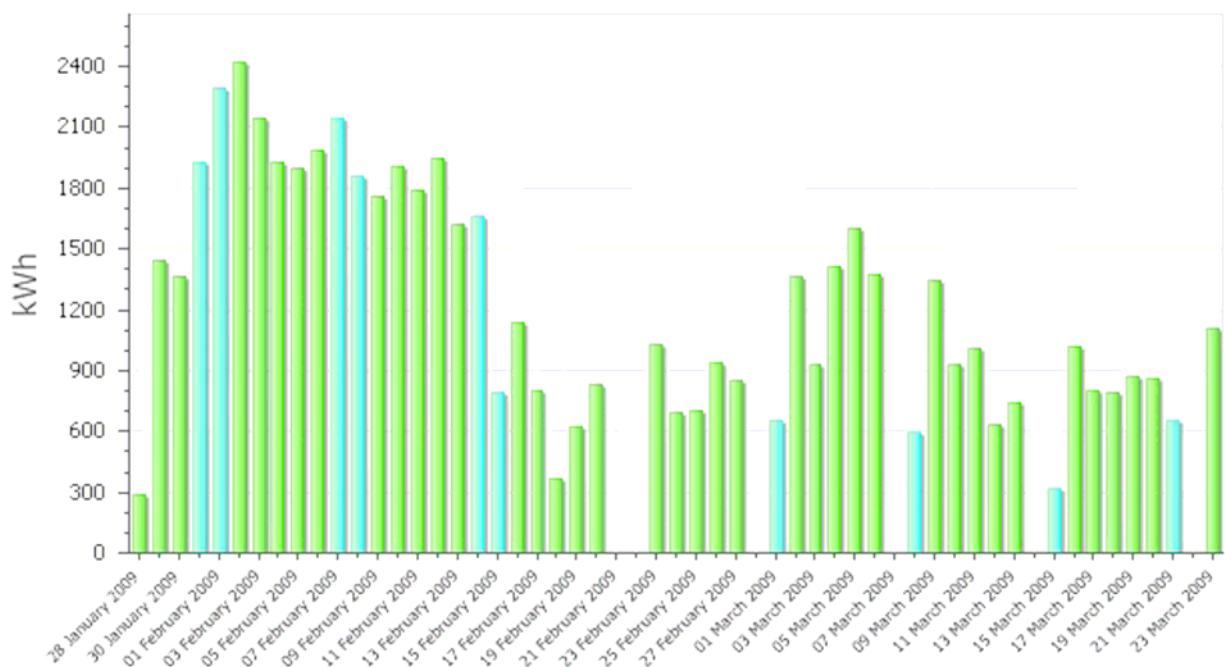
Total Cost: £4,959.86

Total Units: 60,708.20 kWh

## Daily Unit Report: Gas Consumption

Report Created Using Daily Data for Main Natural Gas Meter

Report Generated for Data between 05/01/2009 and 23/03/2009



### Actual

Total Units: 60,121.05 kWh

Total Cost: £1,232.76

Total CO2e Emitted: 11,122.39 kgCO2e

Average Unit: 1,093.11 kWh

Highest Unit: 2,416.61 kWh

Lowest Unit: 0.00 kWh