

Subject: ANNUAL SUSTAINABILITY UPDATE 2011/12

Report of the County Fire Officer & Chief Executive

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PURPOSE OF THE REPORT

1. To request that Members note the contents of this report relating to 2011/12 performance against sustainability targets. This report is for information and discussion.

EXECUTIVE SUMMARY

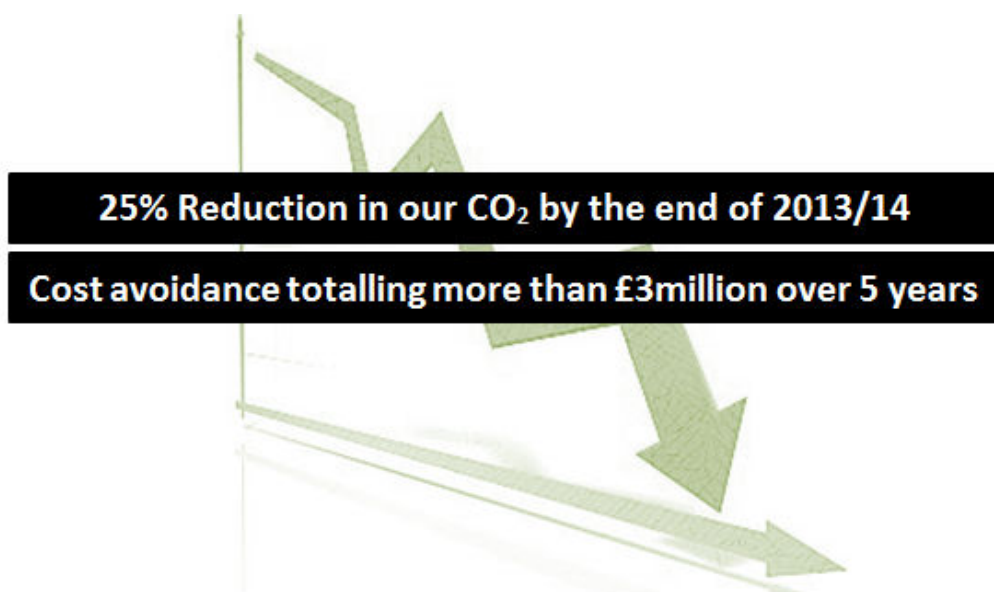
2. The Authority has committed to reduce carbon dioxide (CO₂) emissions by 25% from 2008/9 level by the 2013/14 – set out in Delivery Goal 17 of the Corporate Plan. To date we are broadly on target, resulting in cost avoidance savings of £3.09 million compared to having taken no action.
3. Sustainability activity over the last year has included substantial capital investment and the development of our Green Champions network.
4. Activities planned for the current year (2012/13) include implementing the final stages of our Environmental Management System to achieve external certification to ISO14001, the Green Hose Awards to find the Service's greenest station and further capital investments such as solar photovoltaic arrays at our largest sites.

INTRODUCTION/BACKGROUND

5. Members will recall from previous updates that international and national policy clearly sets out the legislative drive to reduce greenhouse gas emissions. In addition, the current backdrop of public sector spending reductions and fiscal restraint reinforce the economic benefits of a proactive approach to sustainability.
6. Development Goal 19 of our Corporate Plan is to:

Continue to implement our Sustainability Strategy, investing in green technology and behavior change programmes to reduce our direct and indirect impact on the environment.
7. The 5-year Sustainability Strategy endorsed by the Authority in October 2010 is being delivered and has been incorporated into directorate plans.

8. The Sustainability Strategy sets out one key 5-year target to reduce our CO₂ emissions by 25% from 2008/9 levels by 2013/14.



9. In addition to reducing our impact upon the environment, the strategy targets cost avoidance of £3.09million by 2015 – this is a cumulative saving made up of savings already realised plus future predicted savings compared to future costs if no action was taken.
10. During 2011/12 the Authority was publicly recognised as a national leader in the field of sustainability and presented with a number of awards:

EDIE Award for Environmental Excellence	(1 st Place – Best Public Sector Initiative)
Business in the Community Ways2Work Award	(1 st Place – National Example of Excellence)
North West Carbon Positive Award	(1 st Place – Regional Winner)
People and the Environment Awards	(1 st Place – Public Sector)
CLASP North West Climate Leaders Award	(1 st Place – Sustainable Behaviours)
Energy Saving Trust Fleet Hero Awards	(2 nd Place – Fleet Leadership)

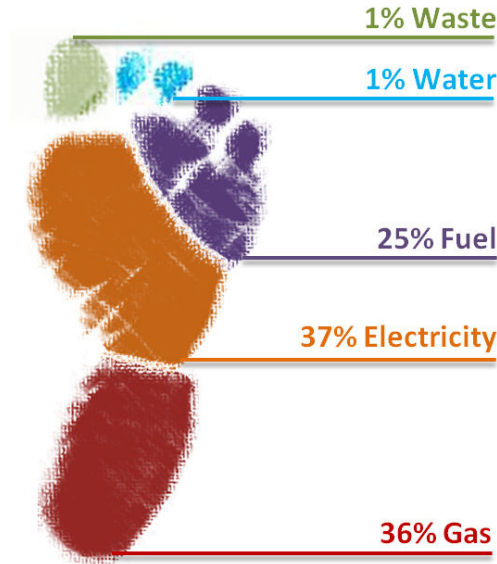
LOCAL CONTEXT

11. In 2011 the Greater Manchester Climate Strategy was approved and published setting out four goals to be achieved by 2020:
- A rapid transition to a low carbon economy
 - Collective carbon emissions reduced by 48% by 2020
 - Preparation and active adaptation to a rapidly changing climate
 - 'Carbon literacy' embedded into the culture of our organisations, lifestyles and behaviours.
12. Our Sustainability Strategy is complementary to the wider Greater Manchester Strategy goals. Members are requested to note that we continue to work with the Environment Commission Thematic Groups and other regional partners to deliver our three agreed aims of:
- Reducing our carbon footprint
 - Adapting to climate change
 - Promoting sustainable behaviours, both within our organisation and in the communities that we serve.

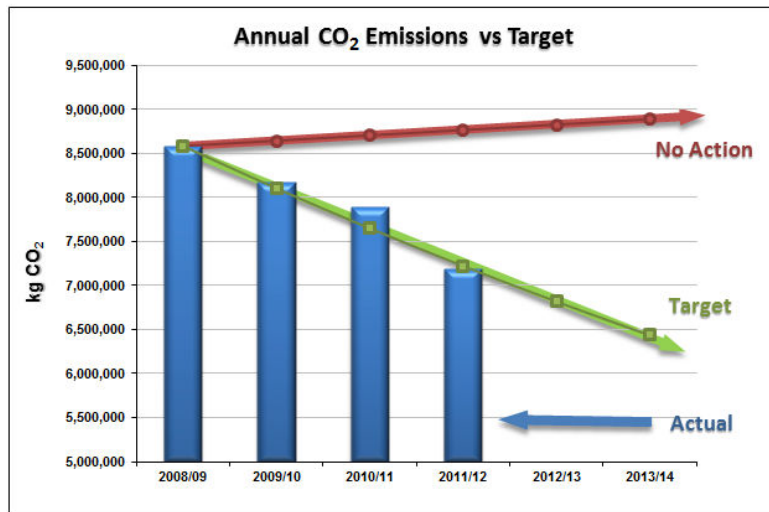
13. The Director of Finance and Technical Services Represents the Authority on the Chief Officers Group which supports the Environment Commission.

TOTAL CARBON FOOTPRINT & PROGRESS AGAINST TARGET

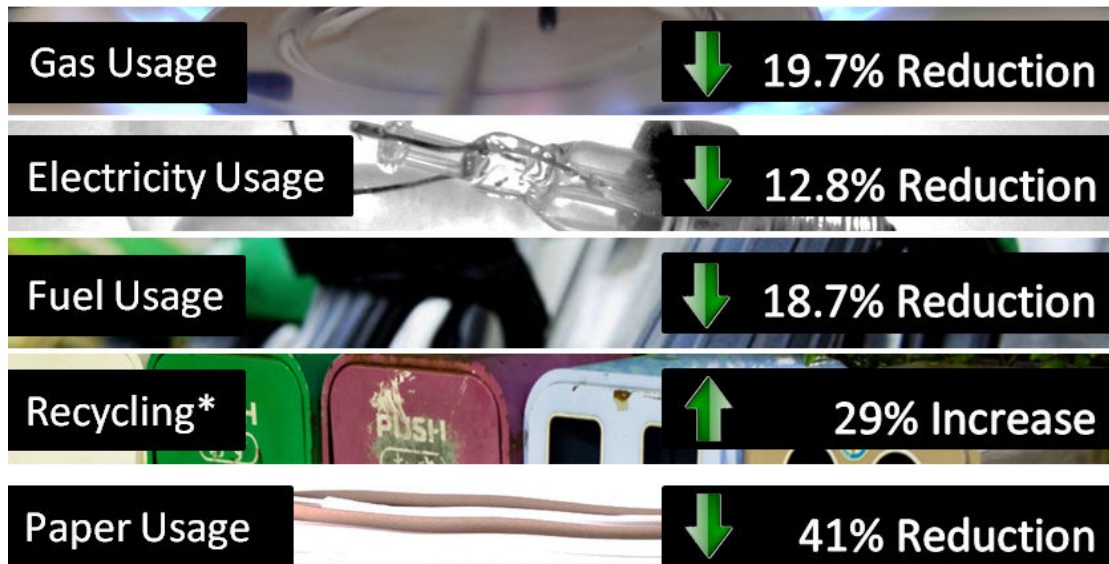
14. The sources of the greenhouse gas emissions that make up the Service’s carbon footprint are described by the illustration below:



15. The following chart shows a steady reduction in the Service’s total CO₂ emissions (carbon footprint) for each year since our 2008 baseline. It is clear that this trajectory should meet the 25% reduction target. The chart also describes a projection of how emissions might have increased if no action had been taken to tackle them, based on data provided by the Carbon Trust who track organisational performance on carbon emissions.



16. Although the total carbon footprint is on target, when this is broken down by resource type, the picture is mixed. The target reduction for each of gas, electricity and fuel should be approximately 16% on a linear basis.



*Recycled = diverted from landfill through recycling and energy recovery

17. Gas use appears to be well ahead of target; however some account should be taken for a very mild 2011/12 winter. Electricity is slightly behind target (it should have reduced by 16%). Fuel (diesel) use has comfortably exceeded target.

	Measure	2009/10	2010/11	2011/12	% Change year on year
Electricity	kWh	5,951,632	5,406,617	5,172,459	↓4.3%
	£	£706,031	£568,458	£480,480	
Gas	kWh	15,499,087	16,286,969	13,557,390	↓17%
	£	£450,044	£385,571	£407,641	
Diesel	Litres	777,005	727,176	668,917	↓8%
	£	£730,024	£765,930	£802,817	
Water	m3	37,975	32,823	33,560	↑ 2.2%
	£	£278,314	£251,202	£248,089	
Waste	%	55	71	84	↑13%
	Recycled*				
Paper	£	£46,068	£60,695	£82,627	
	Reams	8600	6490	5930	↓9%
	£	£18,872.70	£15,653.10	£16,477.40	

KEY SUSTAINABILITY INITIATIVES 2011/12

18. **Capital investments** - Projects undertaken over 2011/12 include:
 - a. £192K invested in Voltage Optimisation systems (which reduce incoming voltage from 240v to 220v and make around 10% energy savings) on fifteen priority sites by the end 2011/12. Third party independent analysis of savings has been completed for nine sites representing £120K of the total investment. Average reduction in electricity consumption is 11.6%, saving £28,940 annually, meaning the payback period is 4.2 years and is guaranteed.
 - b. Investment in specifying fuel efficient fleet replacements has compounded the savings resulting from other initiatives saving 50,318 litres of diesel or £58,663 (excluding VAT), helping reduce the impact of diesel price increases.
 - c. Refurbishments at Manchester Central and Blackley have included high efficiency boilers and solar thermal arrays, which has reduced gas use at these sites by an estimated 10%. Movement sensors now control the lights reducing power consumed by up to 40%.
 - d. Smaller refurbishments through the Asset Management Strategy have included more efficient lighting solutions such as LED, saving over 60% of electricity in those offices.

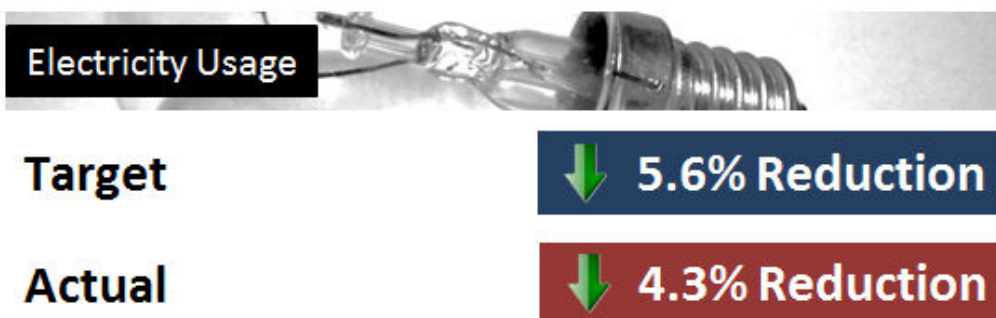
19. **Environmental Champions** - The network of Environmental Champions (who are directly engaged in reducing the Service's environmental impact) has grown to 120, with at least one at each station. Champions are now carrying out routine inspections to ensure their site fully complies with all environmental legislation and are a key part of our management system.

20. **GreenIdeas**- The Green Ideas scheme for staff suggestions has resulted in investment in initiatives such as kitchen gardens, rainwater harvesting and mini wind turbine feasibility studies and on-site bee hives at several fire stations as part of our wider contribution to biodiversity conservation.

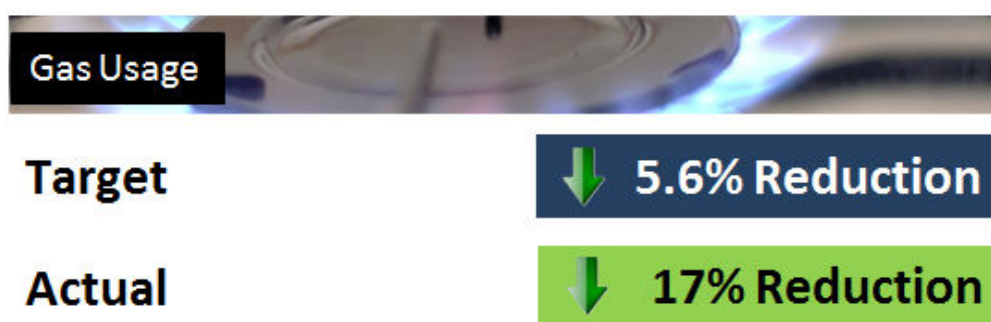
21. **Bike Month**- included:
 - a. 68 Dr. Bike cycle maintenance classes open to the community at fire stations and attended by 532 people.
 - b. The popular Cycle to Work scheme now has more than 30% of employees now taking part by buying a bike for commuting – the highest uptake across fire services.

2011/12 SUSTAINABILITY PERFORMANCE

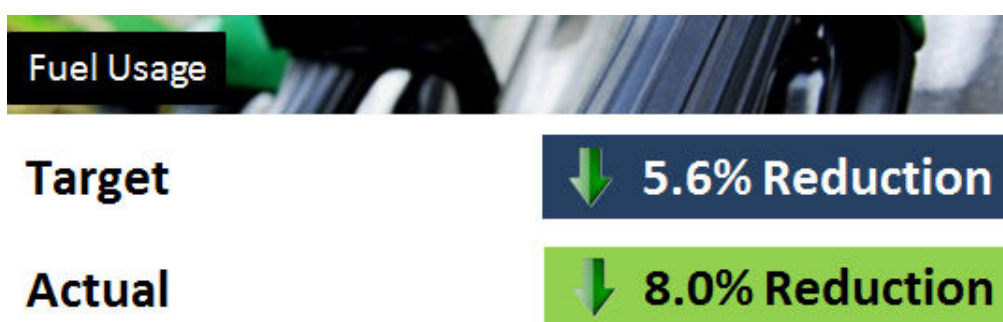
22. This section shows performance for 2011/12 against the previous year for each key performance indicator.



23. There is a large reduction in consumption year on year (accurate to within half an hour using new remote meters). This is significantly better than target. This reflects the installation of 15 voltage optimization units, lighting upgrades and motion sensor retrofits across the estate.



24. The gas usage shows a dramatic decrease versus the previous year, which is mostly attributable to a very cold snap in 2010/11 followed by a very mild winter. It is important to take a view over the medium term as prevailing weather conditions can distort the gas usage. Gas prices have increased by 24% during 2011/12 which included a 9.8% increase with effect from June 2011.



25. There has been a significant reduction in diesel usage which reflects reduced incidents, investments in fuel efficient vehicles and technologies, fuel efficient policies and driver training. Whilst diesel prices have increased by 25%, improved efficiency has enabled costs to come in less than £1,000 over the £800,000 budget.

26. Water usage has reduced with the metered water costs reducing over the previous 3 years. The overall costs have reduced by £30K, despite rates increasing by 9.8% since 2009/10.



2010/11

71% recycled

2011/12



84% recycled

27. We have dramatically increased the waste diverted from landfill by specifying a waste contract including off-site segregation for recycling and recovery for refuse derived fuel.



2010/11

11,301 tonnes CO₂

2011/12



10,297 tonnes CO₂

28. This indicator gives an idea of the amount of greenhouse gas emissions avoided by preventing fires that would have otherwise release carbon dioxide into the atmosphere. The Service has previously undertaken world-leading research to calculate the carbon footprint of fires in the built environment. This research has allowed us to demonstrate the considerable environmental benefit of the Authority's focus on fire prevention and associated decline in incidents. Over the past year alone, the reduced number of fires corresponds to a reduction in Greater Manchester's carbon footprint of over 1,000 tonnes CO₂.

2012/13 KEY SUSTAINABILITY INITIATIVES

29. **Environmental Management** –The Service is currently implementing the internationally recognised Environmental Management System (ISO14001) at all sites, with certification due in November 2012. This independently assessed system will provide even greater scrutiny and governance of our key environmental risks and ensure that we meet ever-increasing legal obligations. Further it will help to prioritise actions so that we maximise the economic and environmental benefits of delivering the Authority's strategy.
30. **Capital Projects** –The allocated budget for invest-to-save sustainability projects is £375K. The projects identified for 2012/13 include:
- a. £48K for further Voltage Optimisation at 10 sites with payback of 7 years
 - b. c. £250K for Solar Photovoltaic arrays at 3 sites (Fire Service HQ, Leigh Technical Service Centre, Training & Development Centre) with payback of 8 years. The business case is currently

being finalized with tenders scheduled for publication in late September and installation by the end of the calendar year.

- c. £16K for Boiler Valve Insulation at 5 sites with payback of 1.5 years
 - d. £20K for LED Lighting at several sites payback of approx. 6 years
31. **Green Hose Awards** – The Big Green Launch was held in June attended by 50 Environmental Champions. It was used to launch the Green Hose Awards which is an internal competition to find our greenest station. The scheme runs until December 2012 and two stations have already achieved a Gold Award.
32. **Energy Management** – Almost all sites now have automatic metering for gas and electricity. This means that the meters record consumption every 30 mins and are read remotely by phone line. This improved accuracy and frequency of data means that over the next year an IT system can be introduced to automatically verify utility bills, communicate consumption to station managers, identify areas where we can make further energy savings and check the performance of energy efficiency investments.

RECOMMENDATIONS

33. Members are requested to note:
- i) The progress towards meeting the target of reducing resource use by 25% by end 2013/14.
 - ii) The key sustainability initiatives planned for 2012/13 in order to remain on target for a 25% reduction in resource consumption and a £3.09 million saving in associated costs by 2014.
 - iii) The non-financial information included in this paper will be used for external publication including websites and press releases.

STEVE McGUIRK
COUNTY FIRE OFFICER
& CHIEF EXECUTIVE

There are no background papers to this report within the meaning of Section 100D of the Local Government Act 1972.

S. McGuirk
(Proper Officer)
23.08.12