MERSEYSIDE FIRE AND RESCUE AUTHORITY

PERFORMANCE REPORT TO THE

PERFORMANCE AND SCRUTINY COMMITTEE

19 MAY 2016

SUBJECT:	**ANNUAL ENVIRONMENTAL PERFORMANCE REPORT**	
REPORT NUMBER:	**CFO/032/16**	
APPENDICES:	**APPENDIX A:**	**MONTHLY ENERGY CONSUMPTION**
	APPENDIX B:	**DISPLAY ENERGY CERTIFICATION**
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Purpose of Report

1. To request that Members consider the annual environmental performance for Merseyside Fire and Rescue Authority owned properties.

Introduction and Background

2. Merseyside Fire & Rescue Service (MFRS) have been monitoring Environmental Performance Data since 2006

3. There are six Local Performance Indicators (LPI) reported monthly to the Performance Management Group. These targets are presented as 'intensities' (e.g. energy in Kilowatt hour (kwh) per square metre, waste in Kilogramme (kg) per person):

    a. LPI 93 Electricity - The total electricity used, measured in kwh, divided by the floor space of all MFRS buildings.
    b. LPI 94 Gas – The total gas used, measured in cubic metres, divided by the floor space of all MFRS buildings.
    c. LPI 95 Water – The total water used, measured in cubic metres, divided by the number of staff located in the building.
    d. LPI 96 Waste – The total waste produced, measured in kg, divided by the number of staff located in the building.
    e. LPI 97 – Carbon output of all buildings reported as kg of Carbon Dioxide (CO2) per square metre
    f. LP1 99 - Proportion of high risk (category 1 & 2) environmental incidents

4. These targets allow for benchmarking comparisons to be made between each building based against the last three years data on a monthly basis which in turn allows for the monitoring and control of energy consumption. Appendix A shows the monthly consumption for gas, water and electricity for each building. The table below shows the annual consumption of each utility and waste produced, in the last two years.

		14/15	15/16	Difference +/-	Total Annual cost 15/16	Costs Recovered	% Recovered
Electricity	Kwh	4,778,629	5,020,744	5.06%	£641,617.00	£166,000.00	25.80%
Gas	m3	511,234	482,653	-5.59%	£189,551.00	£15,000.00	8%
Water	m3	24,718	23,534	-4.79%	£187,450.00	£29,500.00	15%
Waste	Tonne	178	145	-18.58%	n/a	n/a	

Table 1 – annual consumption

Electricity

5. Table 1 shows electricity consumption has increased by 5.06% from the previous year. This increase is mainly due to the completion and full occupancy of Service Headquarters building and Joint Control Centre (JCC).

6. The increase in consumption has been minimised by
   a. Changing external lighting across all non PFI stations to more efficient LED lights
   b. Installation of presence detector sensors in offices and external training areas
   c. Installation of sub metering in JCC
   d. Targeted programme of 'switching off' lighting in unoccupied rooms.
   e. Completion of the solar photo voltaic panels at JCC – which has been registered and we now receive Feed in Tariff payments.

7. Some £166k which is equivalent to 25% of the annual electricity costs have been recovered from tenants through collaboration and sharing of space across our property portfolio.

8. Further projects have been identified to reduce electricity consumption including replacement of all internal lights to LED type in four of our older key station locations – Bromborough, Kirkby, Old Swan and Speke. This is predicted to achieve a reduction in consumption by 320,000 kwh which equates to an approximate £20k annual cost saving with a payback within four years. The scheme will be funded via the SALIX matched funded capital budget.

Gas

9. Table 1 shows gas consumption has reduced by 5.59 % from the previous year. This is principally due to the removal of the gas fired central heating system within the office areas of the Service Headquarters (SHQ) building following the recent refurbishment.

10. Gas consumption has been further reduced by;

    a. Better control of the Building Management System by the newly appointed Facilities Management (FM) contractor.
    b. Installation of insulation and refurbishment of window seals as part of the SHQ refurbishment

11. Some £15k which is equivalent to 8% of the annual gas costs have been recovered through collaboration and sharing of space across our property portfolio.

Water

12. Table 1 shows water consumption has reduced by 4.79% from previous year.

13. This reduction has been achieved by actively monitoring the monthly consumption data allowing for early detection of leaks and any abnormal high levels of consumption.

    a. Heswall – Leak found behind toilet cistern
    b. Training and Development Academy – Leak on underground water hydrant main
    c. Toxteth – Leak behind urinals
    d. St Helens – Leak within boiler room found and repaired

14. The rain water harvesting systems installed at PFI stations have encountered various problems since installation but are now consistently working. It is anticipated further savings will be achieved from this system over the coming 12 months and will be closely monitored.

15. Some £29.5k which is equivalent to 15% of the annual water costs, have been recovered though collaboration and sharing of space across our property portfolio.

Waste

16. Waste has seen a significant 18% reduction on last year's figures. This equates to a reduction of 33 tonnes of waste compared to the previous year's 178 tonnes generated.

17. Waste figures are based on the weight generated per person in the organisation. Whilst the majority of the savings is directly related to the reduction is staff numbers, savings have also been achieved by;

    a. The new FM contractor closely monitoring waste and working closely with our waste collection company to minimise number of collections
    b. Reduction in paper towels usage.
    c. Review of cleaning materials and reduction in chemicals used on site

Carbon

18. Overall the carbon output of our buildings has increased by 3%, to 89kg/CO2/m2/year. This figure is still well below the 100kg/CO2/m2/year indicative figure expected for the type of buildings within the estate.

19. Over 85 % of MFRS buildings achieve an energy efficient rating of D and above which is better than the typical rating for building of this nature. Appendix B shows the Display Energy Certificate rating for each building that requires certification.

20. The Training and Development Academy, Marine Fire & Rescue Station and the SHQ building exceed the typical energy efficient values. These buildings are specialist in nature and further surveys are being conducted to explore opportunities to reduce energy consumption further at these sites.

Environmental Incidents

21. MFRS records and measures the number of environmental incidents which occur on our properties. These have four categories of which only categories 1 and 2 are serious and may, if not dealt with appropriately, result in a pollution or breach of legislation. No category 1 or 2 environment incidents were reported in the last year.

22. The new FM contractor Bouygues have established an Environmental Management Plan , which adopts a range of standards as tools to manage potential environmental impacts, covering

    a. Aspects and impact assessment
    b. Waste objectives
    c. Energy objectives
    d. Legal compliance / risk control
    e. Pollution incident response plan
    f. Internal audits

23. The recording and monitoring of environmental incidents is within the new facilities job recording system ‘Maximo’ which is reported monthly

Fuel

24. The diesel usage for 2015/16 was 383,948 Litres with a split of 73% from bunkered tanks and 27% from forecourt using fuel cards. This is a 9% increase from the 348,144 litres used in 2012/13. The increase is due to less appliances covering the Merseyside area so there is increased movement due to standby moves required at key locations. Additionally the Search and Rescue Team (SRT) deploy out of area regularly (for example over 6 months at the Bosley Mill incident in Cheshire). The Service reclaim diesel costs from Fire Support Network users, SRT deployments and the Marine Unit.

25. The petrol usage for 2015/16 was 2,794 litres all of which was obtained from Petrol stations. This is a 6% increase from 2012/13 (1,799 litres). The reason for the increase is the Marine Unit reserve boat which is petrol driven. The SRT have also had deployments to floods which requires petrol for the boats. The Service reclaim petrol costs from SRT deployments and the Marine Unit.

26. In 2016/17 station diesel tanks will be upgraded to automated recording. This will provide an instant access centrally on stock levels to re-order fuel and record all activity of all vehicles. Automating the system will prevent human error and save time. The data can then be analysed by vehicle to assess performance and environmental impact.

27. New spill kits have been issued to all diesel tank locations. This kit provides better absorbent materials and also includes an Ad blue kits for new appliances. All operational staff and Facilities contractors are trained to deal with spills

Vehicles

28. All new light goods vehicles are fitted with Euro 6 emission compliant engines with Ad-blu additive systems for selective catalytic reduction.

29. All new vans and cars purchased have Euro 6 emission compliant systems. This will reduce the carbon footprint of the vehicle fleet and reduce fuel usage due to a more economic and efficient performance engines. The Service have replaced twenty 05 registration Renault Clio cars at 62mpg and Co2 at 120 g/km, for twenty new Hyundai i30 cars at 75mpg and Co2 94 g/km.

30. The Service have trialled various small electric powered vehicles. This year one small van will be purchased for use by transport workshop/ops equipment. This will be used and assessed over a 12 month period as to its use, reliability, cost and environment impact on MFRS. During this time Officers will also look into the viability of extending the infrastructure to enable the extension of electric vehicle usage within MFRS.

Construction works

31. An initial assessment shows the proposed new fire station at Prescot has been designed to achieve a BREEAM rating of ‘very good’. BREEAM is a construction standard that allows a cost effective means of bringing sustainable

value to developments, allowing designers and occupiers to use natural resources more efficiently. The intention is for all MFRA new build projects to achieve a minimum of 'very good'

32. A number of Key Performance Indicators have been agreed with the contractor as part of the North West Construction Hub framework to monitor and control construction activities during the build phase of any new station:

    a. Waste reduction – to assess the amount of waste removed from site per £100k and the amount of waste diverted from landfill in tonnes.
    b. Carbon Reduction – to assess CO2 emissions during the construction phase.

Equality and Diversity Implications

33. An Equality Impact Assessment will be undertaken if any individual project highlighted in this report is implemented.

Staff Implications

34. Environmental performance is monitored within the Estates Department and updated via the portal for each location. Staff implications will be identified for any individual project as necessary.

Legal Implications

35. The Authority has a duty to comply with Environmental Legislation; the environmental performance report provides evidence of compliance.

Financial Implications & Value for Money

36. All utility costs have been contained within the approved financial budget.

37. Any Individual projects identified within the report will be reported on separately for financial approval. SALIX funded projects are required to achieve a minimum of five year payback in order to comply with funding criteria.

Risk Management, Health & Safety, and Environmental Implications

38. Performance management of utilities / waste generated and fuel consumption helps manage the impact of environmental risks to the Authority.

39. Individual Projects such as the external LED replacement programme underwent a full risk assessment, method statement and permit to work process.

Contribution to Our Mission: *Safer Stronger Communities – Safe Effective Firefighters*

40. Respecting our environment by protecting and managing the impact of our activities that have a potential to cause an impact on the environment.

Recommendation

41. That Members;

a) Consider the Annual Environmental performance of Merseyside Fire and Rescue Property

BACKGROUND PAPERS

GLOSSARY OF TERMS

BREEAM	Building Research Establishment Environmental Assessment Methodology
CO2	Carbon Dioxide
FM	Facilities Management
JCC	Joint Control Centre
KG	Kilogramme
KWH	Kilo Watt Hour
LED	Light Emitting Diode
LPI	Local Performance Indicator
M2	Square metres
M3	Cubic metres
MFRA	Merseyside Fire and Rescue Authority
MFRS	Merseyside Fire and Rescue Service
PFI	Private Finance Initiative
SHQ	(Fire) Service Headquarters
TDA	Training & Development Academy