





Chief Fire Officer Statement



Mid and West Wales Fire and Rescue Service continually endeavours to have a positive impact on the landscape in which it serves and consider short, medium and long term actions to tackle the climate and nature issues.

The Service are committed to operate in a way where Fire Service activities have no detrimental effect on the environment and issues relating to climate change, nature recovery, resource depletion and pollution are of utmost importance.

Mid and West Wales Fire and Rescue Service have concentrated its corporate commitments to net zero in line with the Welsh Government targets for public sector organisations. Recognising the tight deadline to achieve this, the Service have developed a Carbon Reduction Road Map to work alongside the environmental objectives in the Service Community Risk Management Plan 2040 to continually improve on commitments and reduction targets year on year.

I believe Mid and West Wales Fire and Rescue Service are a leading Welsh Fire and Rescue Service in environmental issues, and I would like to thank all of the Service employees and stakeholders for their continued support and valued contribution to achieve our environmental sustainability goals.

Roger Thomas

Chief Fire Officer











Section 1 Introduction

This document signifies the Services 10th Annual Environmental Report and is published in line with the Green Dragon Environmental Management Standard (2016) requirements. The Report outlines the performance and achievements which Mid and West Wales Fire and Rescue Service (MAWWFRS) have accomplished as well as progress towards environmental objectives from the 2023/24 financial year in areas such as fleet, estate, biodiversity, waste and scope 1,2 and 3 emissions.

MAWWFRS covers almost two-thirds of Wales, covering 4,500 square miles of predominantly rural land. As such, the Service recognises how important the direct and indirect impacts Service activities have on the environment, carbon emissions from running a large fleet and estate and the direct impact on nature and climate. There are some key challenges facing the Fire and Rescue Service and all Welsh public sector organisations on the path to reaching net zero by 2030, as outlined by the Welsh Government Road Map.

The Service have outlined its commitments to reducing emissions in the Community Risk Management Plan 2040 which was published in early 2024. Objective 7 within the eight commitments in the Plan highlights the Service's environmental ambition to work in an 'environmentally friendly and sustainable way.' The full Community Risk Management Plan (CRMP) can be found on the external website.

Sustainability is about improving the quality of life in a way that does not cause irreversible damage to the environment or prevent future generations from being able to benefit from the good things we have become accustomed to.

The Service Carbon Reduction Road Map will be published in Summer 2024 which will outline what the Service endeavour to achieve to reach the target.

Corporate Commitments and Environmental Sustainability in the Service

The environment has been one of the Service's Corporate Commitments for the past number of years and continues to be regarded as an important area to work towards improving, in all aspects of the Service's activities. Adaption and mitigation, in relation to Climate Change, needs to be considered in all Service activities and plans and work towards this is captured within the objectives in the Service's CRMP.

The Service are aware that its operations influence the global and local environment and is committed to minimising the adverse impacts from activities and transition away from a reliance on fossil fuel.

The Well-being of Future Generation (Wales) Act 2015

The Service has aligned itself with the Well-Being of Future Generations (Wales) Act 2015, which places a legal responsibility on statutory organisations to actively consider the effect of their activities and how they could impact on future residents of the planet. The Service reports annually on its Strategic aims and commitments within the Service Improvement and Wellbeing Objectives Annual Assessment. This Report identifies how the Fire Service have contributed to the Well-being goals for the previous year as set out within the **Well-being of Future Generations (Wales) Act 2015.**

Environment (Wales) Act 2016 and Section 6 Duty Report

Under the <u>Section 6 Duty</u> of the Environment (Wales) Act 2016, public sector organisations have a duty to maintain and enhance biodiversity and promote the resilience of ecosystems.

As a requirement of the Duty, the Service published its first Section 6 Duty Report in 2020 to align with the financial year reporting. The Report outlined what the Service can do to protect and enhance biodiversity on Service land and through Fire and Rescue Service activities. In Spring 2023, a Monitoring Report was published to highlight Service achievements towards the objectives within the Action Plan as well as the Nature Recovery Action Plan Wales objectives.

The Service's second 3-year report, Nature Recovery Action Plan 2023-2026 was published alongside the monitoring report in Spring 2023 which highlights Service commitments to nature recovery and the climate emergency.

Welsh Government Net Zero targets

In 2021, Welsh Government published guidance for achieving neutral carbon emissions in the Welsh public sector by 2030. This encompassed a detailed net zero carbon emissions reporting approach for all Welsh public sector organisations to complete, to provide a baseline to work with moving forward. This reporting template will be used annually to monitor emissions and will be used to align data gathering for the Service's Annual Environmental Report.

The term net zero carbon means achieving a balance between the carbon emitted into the atmosphere and the carbon removed from it. Net zero is used interchangeable with the term Carbon Neutral.

In March 2021, the Welsh Government set new targets for a 63% carbon reduction by 2030, an 89% reduction by 2040, and a 100% reduction by 2050. In addition, the Welsh Government set out a more challenging collective ambition for the Welsh public sector organisation to achieve net zero carbon by 2030 (the 2030 collective ambition).

As a public sector organisation, the Service are required by Welsh Government to report annually on its carbon zero emissions. These include emissions resulting from building, waste, fleet and supply chain.





Green Dragon 2016 Environmental Management Standard

To help us achieve our environmental objectives, the Service work towards the Green Dragon Environmental Standard (2016). The Standard aids and compliments our decision making and ensure continual environmental improvements year on year. The Standard ensures we incorporate and consider interested parties in the context of the organisation in terms of internal, external and social pressures.

The Green Dragon EMS is a voluntary obligation which awards accreditation to Organisations that are taking action to understand, monitor and control their impacts on the environment. In February 2023, the Service successfully maintained Level 5 accreditation in a 2-day external audit which reviewed compliance of legislation, environmental procedures and documents as well as site audits.

The successful accreditation shows that we are committed to managing the impact our activities have on the environment and shows we are aware and actively work towards reducing this impact. We understand and work within our environmental responsibilities and are committed to continually improving our footprint on the environment.

It provides externally verified assurance to our stakeholders and interested parties that our environmental practices, process and procedures are effective and compliant with all relevant legislation.

Further information on the Green Dragon accreditation can be found on their website



Environmental Management Review

A review of the Service Environmental Management System (EMS) is undertaken annually to ensure its continuing suitability, adequacy and effectiveness. Performance against objectives and targets or any problems associated with the EMS are discussed during the review, as well as the following issues:

- Actions outstanding from previous meetings.
- A review of performance.
- Non-conformity reports and Audit finding reports.
- A review of the achievements against current objectives and targets.
- Setting of objectives and targets.

- A review of the Environmental Policy, procedures and guidance.
- A review of environmental training needs.
- A review of the effectiveness of the environmental projects undertaken by the Service.

The management review addresses the possible need for changes to the environmental documents and ensures continued commitment and progress towards environmental improvement.

The waste hierarchy and sustainable procurement

It is important for the Service to avoid sending waste to landfill and re-use and recycle furniture and materials where possible. The Service use an external contractor to collect old furniture, who repair or upcycle if needed and re-distribute these to schools and community hubs. If the furniture cannot be re-used, all parts are recycled. Any project that is undertaken within the Service will recover and repurpose materials as standard.

The Service has a legal obligation to consider the waste hierarchy when handling waste. This hierarchy sets out, in order of priority, the waste management options to consider. It ranks the waste management options according to what is best for the environment and places emphasis on waste prevention before reuse and recycling and only after these options are considered should waste be disposed through landfill.

It is important for the Service to ensure that the whole life implications of each purchased item are considered (from cradle to grave). Sustainable procurement and environmental considerations are taken into account when specifying and purchasing all goods and services. Scope 3 emissions are captured, in part, within this Report as well as within the annual net zero reporting requirements to Welsh Government.

Aspects and Impacts

The Service have a number of environmental aspects and impacts related to everyday operations. To monitor these, a register was developed from considerations of the Service's activities and operations with the most significant impacts highlighted and addressed.

Environmental aspects are the elements of Fire and Rescue Service activities that could cause an impact on the environment.

The high-risk aspects include.

- Water pollution and site drainage.
- Energy consumption and CO2 production.
- Fleet vehicles and business travel.
- Potential pollution during Firefighting.

The criteria for the significant environmental aspects and impacts are determined by the following:

- Assessing the scale of the aspect and impact.
- Determining if the aspects are controlled by any legislation.
- Determining if the aspect poses a threat to corporate reputation.
- Determining if the aspect effect the carbon emissions of the organisation.

The Register is reviewed annually to ensure all aspects are still relevant and to include any new significant aspects and impacts if needed. The document is also included within the remit of the annual external Green Dragon verification audit to ensure compliance.





Section 2 Performance, Projects and Monitoring

Environmental Performance

As a Service, there is an aim to continually improve environmental performance and impact year on year in line with Service commitments and the Environmental Management System obligations. Monitoring is undertaken in areas of carbon emissions from Service fleet, estate, renewables, waste and nature recovery.

To improve commuting emissions and reduce unnecessary travel, the Service have established a flexible working policy and encourage the use of hybrid meetings and agile working. Regular monitoring of documents and activities help to scrutinise progress in performance and towards environmental targets on a monthly basis which highlights anomalies for consideration.

Estate and Scope emissions

The estate within MAWWFRS is made up of Fire Stations, workshops, offices and training locations. The generation and consumption of energy to run these buildings has a significant impact on the environment through the use of resources and carbon emissions. The electricity from the Service provider is produced from a renewable source and is split out in the following way:

REGO TYPE	% SPLIT
Biomass	29%
Biodegradable	3%
Landfill Gas	6%
Hydro	2%
Off-shore Wind	20%
Photovoltaic	15%
Wind	25%
Grand Total	100.00%

The Service gas and electricity consumption from the estate is monitored monthly through Automatic Meter Readers (AMRs) at all sites. The total figure includes the electricity used when charging the fleet of electric vehicles on Service premises

ENERGY	2019/20 (KWH)	2020/21 (KWH)	2021/22 (KWH)	2022/23 (KWH)	2023/24 (KWH)
Electricity	2,844,900	2,819,053	2,159,216	2,121,824	2,077,102
Gas	371,476	374,488	324,478	333,358	343,706
Oil (Litres)	36,574	67,656	35,563	22,742	15,217
Solar PV (kW)	13,902.31	20,419	28,953	25,665	Not available

^{*}Shown in kW apart from Oil, which is shown in Litres

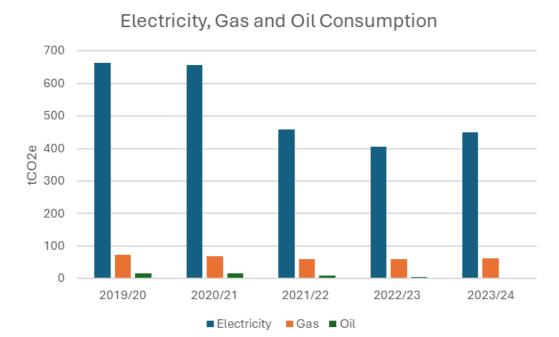
Conversion factors below are used to calculate Service emissions into CO2e figures. These figures can then be used to compare like for like on all fuel. The conversion factors from DEFRA change each year which can result in CO2e figures showing an increase, even though the actual consumption may have decreased as seen below in electricity figures for the last 2 years.

DEFRA CONVERSION FACTORS	2021/22	2022/23	2023/24
Gas	0.18316	0.18219	0.18256
Electric	0.21233	0.19121	0.20496
Oil	0.24677	0.24557	0.24557

TONNES CO ² e	2019/20	2020/21	2021/22	2022/23	2023/24
Electricity	663.15	657.23	458.47	405.4	425
Gas	73.4	68.8	59.4	60.7	62.7
Oil	17.4	16.6	8.7	5.5	3.7







Oil consumption has significantly reduced due to the decommission of a number of the heating oil tanks on Fire Station's. Only 2 Service locations, with 4 heating oil tanks remain which are currently on this method of heating.

As part of the Corporate Risk Station Audits, Energy monitoring is included as standard to work towards reducing consumption from Station level but also to highlight simple yet effective measure to be more efficient and reduce utilities. This could be something as simple as removing furniture and boxes from in front of radiators to closing doors when the heating is on.

Alongside this, energy posters are circulated Service wide to raise awareness of consumption and emissions from each Division.

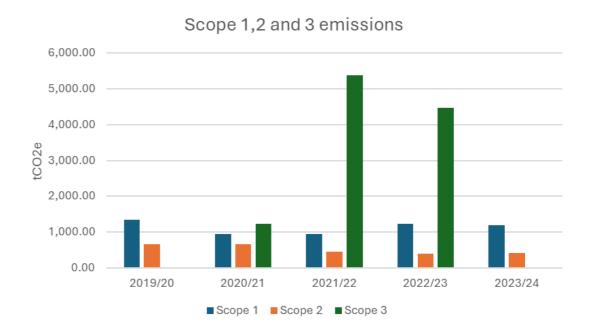
DIRECT EMISSIONS	INDIRECT EMISSIONS	INDIRECT EMISSIONS
SCOPE 1	SCOPE 2	SCOPE 3
 Fuel combustion Company vehicles Fugitive emissions 	Purchased electricity, heat and steam	 Purchased goods and services Business travel Enployee commuting Waste disposal Use of sold products Transportation and distribution (up and downstream) Investments Leased assets and franchises



	2019/20	2020/21	2021/22	2022/23	2023/24
Scope 1	1,339.3	952.6	945.6	1,228.6	1,197.3
Scope 2	663.15	657.2	458.4	405.4	425
Scope 3	Unknown	1,239.4	5,369.8	4,476.8	5,694.6

^{*}Shown in tCO²e

Scope 3 emissions usually equate to approximately 80% of any organisation's emissions. As a Service, these have only been monitored for the last couple of years. The figure is expected to increase, due to more advanced, thorough and accurate monitoring techniques being utilised.







Service Fleet

There are approximately 350 vehicles within the Fire Service fleet which ranges from pool cars, specialist vehicles to co-responder and fire engines. They are fuelled by various means, including electric, diesel and hydrotreated vegetable oil (HVO).

As a Service, it is recognised that emissions from fleet is one of the biggest emitters of carbon, next to the estate. It is important to transition away from fossil fuel to run the fleet of vehicles to align with the Welsh Government target of becoming net zero by 2030. This has been captured in both the Services Community Risk Management Plan and Carbon Reduction Road Map.



To enable the Services growing fleet of ULEV vehicles, there has been a steady increase in the installation of electric charging points at Service locations. There are currently 30 locations, with a total of 55 charging points across the Service area, which includes a mixture of 7kW twin chargers to rapid chargers.

The tables below show statistics from the ULEV and Fossil fuelled vehicles. The first table highlights mileage covered by electric and fossil fuelled vehicles, the second table highlights litres consumed and CO2 emissions from Service vehicles.

FLEET MILEAGE	2019/20	2020/21	2021/22	2022/23	2023/24
Electric vehicles	N/A	802	113,676	163,721	148,413
Fossil fuel vehicles	N/A	1,360,288	1,453,578	1,957,211	1,911,481

FLEET CONSUMPTION	2019/20	2020/21	2021/22	2022/23	2023/24
Diesel (litres)	481,310	340,622	349,300	461,159	456,204
HVO (litres)	N/A	N/A	N/A	N/A	18,300
kW from EVs	N/A	N/A	N/A	56,314	46,203

FLEET CONSUMPTION	2019/20	2020/21	2021/22	2022/23	2023/24
Diesel (litres)	1,248.5	867.2	877.5	1,162.4	1,130.9

^{*}Shown in Tonnes of CO² equivalent

The Defra conversion factors below are used to calculate Service emissions from fuel into CO2 equivalent figures. These figures can then be used to compare like for like on all fuel.

DEFRA CONVERSION FACTORS	2021/22	2022/23	2023/24
Diesel	2.51233	2.52058	2.47887

The Service has offset **35,270 kgs** of CO² by using electric vehicles compared to diesel vehicles in the last financial year.

Monitoring of the amount electricity specifically used to charge the fleet of electric vehicles on Service premises was not established until 2022. A back-office system has been set up to be able to extract this information to use to monitor EV usage. This figure is included within the Service total electricity consumption. Although there are means for Service EVs to be charged outside of Service locations, this does not happen regularly.

The use of HVO fuel as a replacement to diesel in Fire and Rescue Service appliances has been on trial since Spring 2023. The use of this as an alternative to diesel can potentially save an estimated 2 tonnes of CO2 per 1,000 litres of fuel consumed.





Waste and recycling

From April 2024, new legislation from Welsh Government requires all public sector organisations to further separate out waste to include the additional waste streams below:

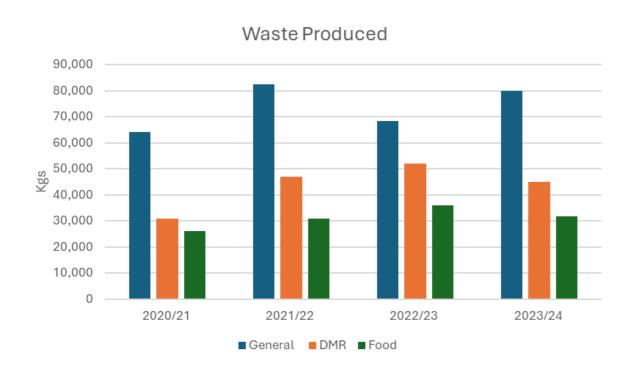
- Food, (only if over 5kg per week).
- · Paper and card.
- Glass, (only if over 5kg per week).
- Metals, plastics and cartons.
- General.

Waste from Fire Stations is accurately recorded by external waste contractors at the time of collections, which allows for detailed statistics to be monitored monthly Service wide. The waste contractors recover 99% of Service waste through recycling, composting and recovery, which leaves just 1% remining to be sent to landfill.

WASTE - TONNES	2020/21	2021/22	2022/23	2023/24
General	64,038	82,549	68,482	79,976
DMR	31,032	47,060	52,076	44,917
Food	26,257	31,078	35,967	31,864

^{*}Shown in tonnes

Increase in general waste is due to skips hire on some Stations for disposal of additional waste from projects or large scale purchases.



Single use plastic bottles

Current figures in single use plastic bottles have increased by 11% on 2022/23 and by almost 70% on the initial implementation year 2020/21.

This could be explained due to 2020/21, was during lockdown so you would expect figures to be low it has highlighted that although there was a change in culture initially, orders being placed by Divisions and Departments need to be monitored more closely at a local level. Further information on the increase in statistics and awareness needs to be circulated as well as scrutiny of orders placed, to see a decrease on these figures for the next financial year.

	2019/20	2020/21	2021/22	2022/23	2023/24
Number of SUP bottles purchased per year	62,632	30,312	34,776	46,104	51,240
Number of reusable bottles issues	0	1,408	175	114	221

Workshop Waste

Workshop waste is collected and monitored separately to the main waste contract as it can contain more hazardous items such as oil and vehicle batteries. Figures for this waste stream year on year can be seen below.

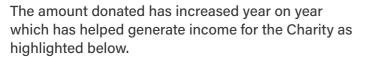
	2019/20	2020/21	2021/22	2022/23	2023/24
Scrap Metal (Tonnes)	5.3	6.83	16.6	11.4	7.06
Absorbent Waste (Kgs)	321	200	312	330	283
Oil Filters (Kgs)	1,335	384	576	480	384
Engine Oil (Litres)	5,390	2,041	1,701	2,120	1,362





Firefighters Charity

There are 40 Stations which have Firefighter Charity clothes bins located on across the Service area. These bins help support the Firefighter Charity by collecting clothes from communities to help divert textile waste away from landfill by either re-selling, re-using or recycling items.





YEAR	KGS OF CLOTHING	INCOME GENERATED
2023/24	184,732	£39,295
2022/23	164,810	£35,097
2021/22	151,311	£28,437
2020/21	125,038	£14,945

Service Projects

Nature recovery on Stations

In September 2023 the Service successfully applied for Local Places for Nature funding in conjunction with Keep Wales Tidy.

The funding helped to develop the unused area of grass to the side of Pontarddulais Fire Station to create a wildflower garden, to encourage pollinators and wildlife to site. With help from the Keep Wales Tidy Project lead, work was completed on the Fire Station garden with help from students from the local Pontardulais Primary school.





Following on from the success of the Pontarddulais Station garden development, a further four Stations successfully applied for funding to develop green spaces, including Haverfordwest, Port Talbot, Seven Sisters and Glynneath Fire Stations. Work on these will progress throughout the Summer of 2024.





This funding was a big step towards encouraging wildlife to Fire Stations where previously there was none. Table below shows the limited green space on Service sites.

PERCENTAGE OF GREEN SPACE	NUMBER OF STATIONS
5% or less of green space	37
5-39%	16
40%	4







#DawnsGlaw

Operation Dawns Glaw is a multi-agency taskforce of specialists from key agencies across Wales who are committed to reduce and where possible, eliminate the impact of grass fires across Wales. Whilst the initial focus was on reducing incidents on antisocial behaviour and arson, more recent work has concentrated on assisting farmers and landowners in ensuring the safe execution of their land management plans, as well as raising awareness of the consequences of accidental fires within the countryside as a result of increased tourism.

The Arson Reduction Team and Farming Liaison Officer within MAWWFRS offer support and guidance, which is free, to farmers, graziers and landowners who wish to carry out controlled burning as part of the land management. The Liaison Officer can assist in creating a 'burn plan' and discuss burn techniques, fire breaks or bulk fuel delivery.





Wildflower areas

There are a number of areas across the Service where the Grounds Maintenance team have taken the opportunity to encourage pollinators to sites by sowing areas of wildflower seeds. This help to create bee lines between different areas and helps to bring biodiversity to Stations.









Measuring and monitoring

Active monitoring of performance of environmental data is essential to ensure improvements and cost saving can be recognised.

There are a number of methods in place to measure and report on Service resource and activities either monthly or quarterly. These include:

- Green Dragon Environmental Management System
- Utilities Gas, electricity, Heating oil
- Waste Management General, DMR and Food
- Fuel to support fleet diesel and HVO
- Supply Chain Procurement
- Community Risk Management Plan 2040
- Carbon Reduction Road Map





Environmental Training and Compliance obligations

MAWWFRS have created a bespoke environmental e-learning package for the Fire and Rescue Service, to raise awareness of key environmental areas, issues and procedures and Plans.

The Service maintain awareness of environmental issues through a variety of ways including awareness posters, internal communications on the Service intranet and awareness campaigns.

All relevant environmental legislation is monitored through an online legal register, which covers all activities and operations of the Service and ensures that the Service is legally compliant. This enables the Service to identify and categorise applicable legislation easily and efficiently. The register covers areas including noise, air, water, waste, land, biodiversity and climate.





Section 3 Environmental objectives and outcomes for the year 2023/24

	OBJECTIVE	OUTCOME
EO1	Provide environmental awareness training to encourage proactive measures to reduce Service wide Carbon emissions and support a change of culture.	Environmental awareness e-learning training rolled out to and has been completed by a third of all members of staff. Environmental awareness campaigns circulated internally. Waste and Energy Posters circulated quarterly to all Divisions with statistics.
EO2	Through the use of automated meter reading technology, monitor, review and analyse emissions from our estate. Share data to educate and reduce emissions by 2% on 2021/22 baseline year.	Utility posters circulated to all Divisions to raise awareness of emissions at each Fire Station. Gas emissions have increased by 5.7% on baseline year due to the change over from heating oil to gas on a number of Service locations. Electricity emissions have reduced by 3.8% on baseline year. Specific Energy Audits have been developed alongside Environmental Audits, to highlight areas where energy can be reduced.
EO3	Nature Recovery Action Plan 2023-26 – encourage collaborative working with partner organisations and community groups and include within the NRAP	NRAP published on external website in Summer 2023 and sent to Welsh Government. Keep Wales Tidy/Local Places for Nature funding was obtained for the development of a wildflower garden for Pontardulais Station which was completed in March 2024 in collaboration with a local Primary School. A further 4 sites have been approved for funding which are due to start work in April 2024. Wildflower areas sewn into areas at Service Headquarters, Carmarthen site.

	OBJECTIVE	OUTCOME
EO4	Decrease food waste on Stations by 2% on 2021/22 baseline year.	Food waste increased by 2.4% on baseline year and decreased by 12% on previous year. Awareness has been raised on Stations to reduce this figure.
EO5	Gather baseline data for water consumption on selected sites and review current ways of working to influence change.	Water consumption statistics monitored on 13 sites where meters have allowed.
EO6	Develop and consult on a decarbonisation plan for the Service by 2025.	Carbon Reduction Road Map 2024-2030 has been written. Consultation was completed with relevant stakeholders. Governance is underway with the aim to publish the completed Road Map by Summer 2024.

Environmental Objectives for the year ahead 2023/24

OBJECTIVE 1

To increase the use of electric pool vehicles, evaluate and develop a culture of car sharing and sustainable travel.

OBJECTIVE 3

To encourage Stations to work towards NRAP objectives and feed into the Monitoring Report on progress.

OBJECTIVE 2

To scrutinise the ordering and use of Single Use Plastic bottles within Response and Training Departments, to figures to decrease by 10% on 2023/24 baseline.

OBJECTIVE 4

Raise awareness of the Carbon Reduction Road Map and encourage responsibility on Stations for carbon emissions.

A SUSTAINABILITY AND ENVIRONMENTAL **ANNUAL REPORT** 2023 / 2024



Gwasanaeth Tân ac Achub Canolbarth a Gorllewin Cymru

> Mid and West Wales Fire and Rescue Service





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Ein Negeseuon Diogelwch

Our Safety

EIN GWELEDIGAETH

l ddarparu'r gwasanaeth gorau posibl i gymunedau Canolbarth a Gorllewin Cymru.

OUR VISION

To deliver the best possible service for the communities of Mid and West Wales.



