

Environmental Report 2022-2023

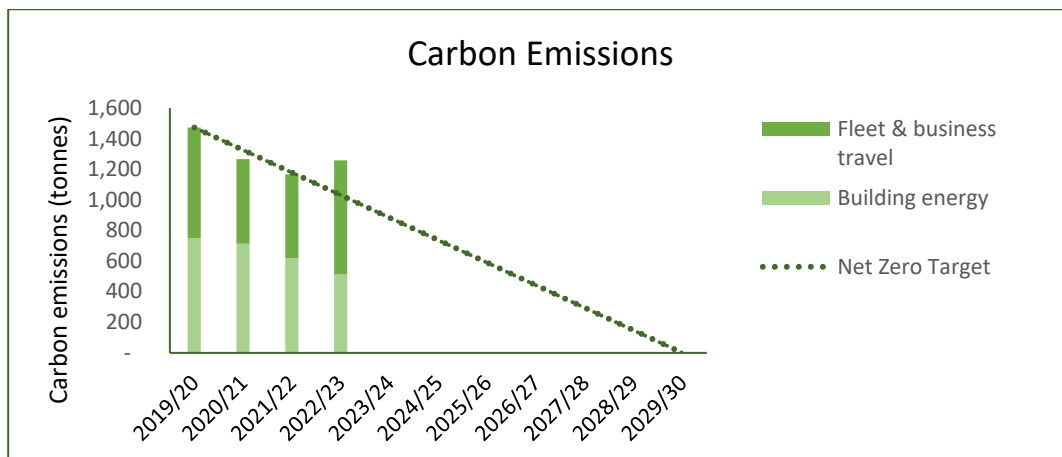
Introduction

During 2022-2023, the Service's environmental focus has been the development of an Environmental Management System and making environmental improvements across our activities and sites. This report provides detail about our environmental performance and tracks progress against the Strategic Aims set out in the Environmental Strategy 2020-2030. Highlights are summarised in the infographic provided at the end of this report and included in the Annual Accounts Report 2022-2023.

Net Zero Carbon by 2030 – Commitment Progress

Performance Indicator	Target 2022/2023	Performance 2022/2023	Trend
Carbon Emissions reduction from 2019/2020 baseline towards Net Zero by 2030	30% reduction	15%	↓

By the end of 2022-2023 emissions were off target, achieving a 15% reduction against the corresponding 30% target. A linear trajectory would be 10% reduction per year from 2019-2020, however in practice we know performance will vary over each of the next 10 years according to frequency and types of incidents, measures taken and technologies that are (or are not yet) available.



Whilst carbon emissions from energy consumption in our buildings continues to decrease in line with the Net Zero target, the emissions associated with our fleet have increased in the last year; with the current split being 40% energy: 60% fleet and travel. Reasons for this mixed picture are summarised as follows:

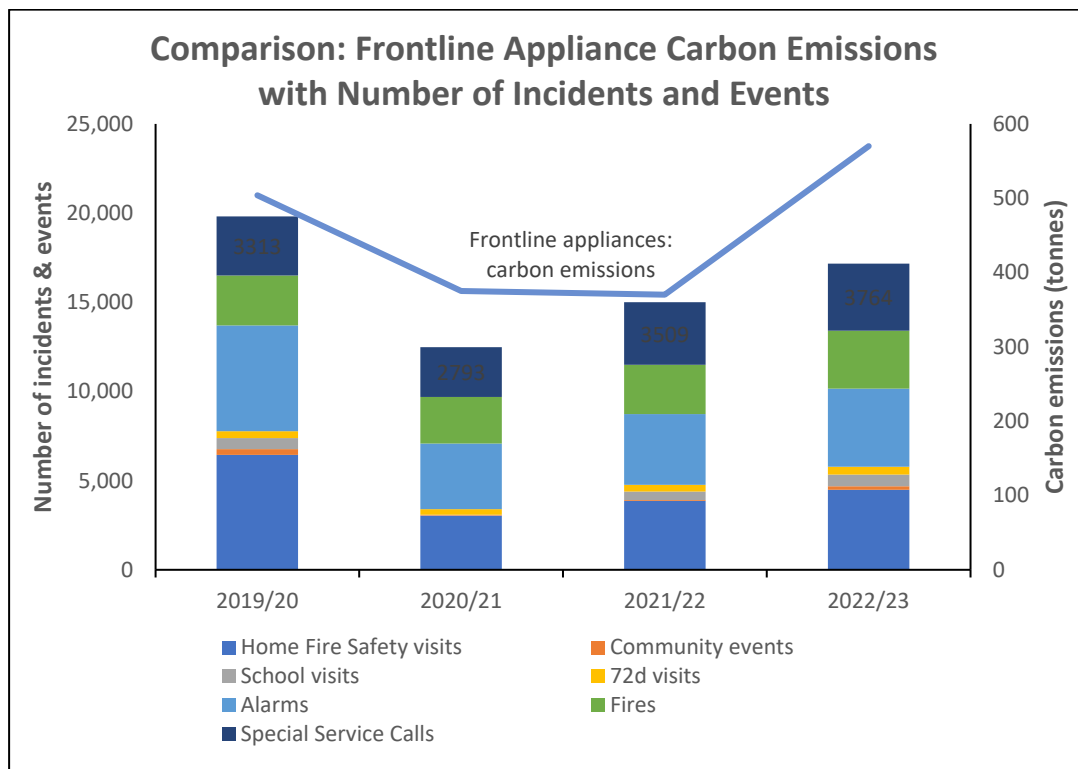
Building energy:

- Energy and carbon savings are now being fully realised from the renewable and low carbon technology projects installed in 2021 and 2022 across the estate.

- Energy at a national level continues to become less carbon intensive as more mains electricity is generated from renewables; also contributing to our reduced carbon emissions.

Fleet & business travel:

- Business travel and ancillary fleet emissions (e.g. technical service vans, flexi-duty officer cars) have continued to decrease due to hybrid working and more electric vehicles in the fleet.
- Over the past year there has been significant increase in frontline fleet emissions due in part to the upturn in Response attendance to alarms and fires, and Protection and Prevention work such as home fire safety and educational visits, and operational risk site inspections (known as 72d's) - shown in the graph below. This increase has been compounded by additional vehicle movements and mileage, caused by for example:
 - higher number of grass/wildfires in summer 2022 requiring multiple water relays
 - more cross-border support such as supporting Gloucester Fire & Rescue Service for grass fires, and attendance in Norfolk for a major incident
 - more appliances attending electric vehicle fires or if the vehicle type is unknown
 - more appliances sent to high-rise/multiple occupancy alarms and fires
 - more crews going on standby, back to pre-Covid levels



This underlines some of the challenges for an emergency service to achieve carbon emission reductions, particularly as the sector is some way from being able to incorporate low emission frontline appliances into fleets at scale, due to limited technologies and budget implications. A consideration for the Service is therefore to what extent we will offset excess or unavoidable emissions using schemes such as tree planting to sequester carbon or investment in renewables.

Demonstrating Environmental Leadership in the Fire & Rescue sector – Commitment Progress

The Service has continued to demonstrate environmental leadership in the sector over the past year, such as being pro-active in managing and reducing potential risks associated with the use of fluorinated firefighting foams ahead of legislative changes. [See 4. Environmental Protection in Operations for detail]

Environmental Performance

Other achievements against each of the Environmental Strategy's Strategic Aims include:

1. Efficient & effective estate:

- Building completion of Avonmouth Fire Station, including solar photovoltaics (PV), Air Source Heat Pumps and energy-efficient design, now consuming 50% less energy than the old Avonmouth station.
- Average energy performance rating of our buildings is currently C, on a scale of A to G with A being the most efficient and G the least.
- Improved efficiency of our buildings and generating more of our own electricity has mitigated over £50,000 as energy prices continued to increase.
- Biodiversity initiatives have included a 'No Mow May' approach across the estate, bird boxes built and installed by fire-fighters at Hicks Gate, hedgerow planting at Kingswood and Pill Fire Stations in partnership with charitable groups.
- Alongside digitisation of the Service, our Transformation team has run a print-less campaign, achieving 14% reduction since last year.
- Pollution prevention measures taken include the estate-wide installation of spill kits and on-going drainage works to facilitate trade effluent consent applications.



2. Renewable energy:

- The proportion of electricity demand met by on-site renewable sources is 11%, which is due to increase further once recently installed battery and solar PV systems have been fully optimised. This is equivalent to the electrical demand from 55 homes.
- Supply with 100% renewable electricity and 100% green gas¹ in 2022-2023
- All heating at Temple Fire Station is now supplied by the Bristol District Heating Scheme, a lower carbon heat source, following connection and commissioning in early 2022-2023.
- Sites with solar PV systems previously eligible for the Feed in Tariff generated an income of just under £12,000 for AF&RS in 2022-2023.

3. Cleaner transport & travel:

- The fleet now has 25 electric vehicles, making up 30% of the ancillary fleet, including Community Fire Safety vans, officer response cars, station and pool cars.

¹ Although AF&RS is currently supplied by 100% renewable electricity and 100% green gas, the Greenhouse Gas Protocol states that this cannot be reported as zero emissions unless we buy direct from generator (through market mechanisms called PPAs – Power Purchase Agreements) or hold the renewable certificates for those units of energy.

- 2 Rosenbauer electric fire engines were on demonstration at fire stations in July 2022.
- Electric vehicle charge points have been installed at all sites, including a 150kW rapid charger at Nova Way Technical Centre.
- More sustainable travel initiatives have been introduced for staff, with new cycle storage at Southmead Fire Station and access to a free bike maintenance service (Dr Bike) through Travelwest. A Service-wide Travel Plan and Policy are in development for non-emergency business travel, underpinned by a sustainable travel hierarchy, prioritising travel choices that are low carbon and least polluting.

4. Environmental protection in Operations:

- The Service is committed to replacing all fluorinated firefighting foams with fluorine-free foams, in recognition of their harm to humans and other animals and ahead of legislative change. This was completed for the mobile fleet in 2022, involving decontamination of every fire appliance, sample monitoring throughout the process, compliant disposal of remaining old stock and re-filling with the new type of foam. The next phase is to replace bulk foam alongside industry partners.
- Environmental Protection best practice at incident response has been integrated into the Service's operational assurance policy and processes.



5. Sustainable Procurement in practice:

- The Public Sector Flexible Framework continues to be used as a self-assessment mechanism to identify the actions required to embed sustainable procurement. It encompasses Policy, Process, Suppliers, People and Monitoring, each scored on a scale of Foundation Level 1 to Leadership Level 5. AF&RS is currently between Levels 1-3 for each aspect.
- The Supplies & Procurement team, along with the Environmental Officer, attended a day-long bespoke training workshop on Sustainable Procurement in May 2022.
- Impact assessments are required prior to procurement tenders being undertaken, which help integrate environmental risks and opportunities pre-procurement.

6. Ambitious environmental management:

- Significant progress has been made in the development of an Environmental Management System (EMS), now 86% complete and aligned to the internationally recognised standard ISO 14001. This is a structured approach to manage all our environmental risks and opportunities effectively and in compliance with legislation. Key elements of the EMS include:
 - An Environmental Compliance Register detailing all applicable legislation and regulations and relevant control measures
 - The establishment of an EMS Management review committee made up of senior managers, with an introductory ½ day workshop held in March 2023
 - Environmental audits of 11 sites undertaken in 2022-2023, with any non-conformances logged and actioned. Overall outcomes were satisfactory with a few areas of non-conformance, such as incorrect chemical storage and poor energy behaviours.
- A new environmental Corporate Risk, CR21, has been added to the Corporate Risk Register, which addresses the Service's legal compliance, pollution prevention and Net Zero Carbon commitment by 2030.

- Over £4,000 income was generated from the use of the Environment Matters e-learning module by other Fire & Rescue Services, originally developed by AF&RS and London Fire Brigade.
- The Service has engaged in a range of networking & partnerships including:
 - Participant in the South Gloucestershire Climate & Nature Emergency subgroup
 - Connection of Temple Fire Station to Bristol City Council's District Heating Network
 - Active members of Emergency Services and NFCC Environmental working groups
 - AF&RS has signed up to the Emergency Services Environment Charter
 - Partnership with the Forest of Avon Trust
 - Member of the Bristol Green Capital Partnership's Climate Leaders group

Environmental Strategy 2020-2030: Strategic Aims

Review 2022-2023

Key Principle / Strategic Aim	Progress	Status
1. An efficient & effective estate		
Average Display Energy Certificate (DEC) rating of our estate to be B by 2030 (from C in 2020)	Average DEC rating C (58) – improved by 3 scale points from 2020/21	On track
Meet industry best practice benchmarks at all sites by 2025 (for water consumption)	Industry benchmarks not yet published. 7,269 m3 water consumption, 7% saving vs 21/22	On track
Zero waste to landfill by 2025 (across all waste streams)	Aim embedded in main waste contract. No general waste going to landfill.	On track
To develop an organisational Biodiversity Strategy & action plan by 2023	Some measures taken e.g. No Mow May; site plans to be integrated into Grounds Maintenance contract	Planned
All AF&RS new build projects from 2020 to be Net Zero carbon in operation	Embedded in Bath & Weston Briefs	Achieved
2. Renewable energy generation		
20% AF&RS' energy demand to be met from on-site generation by 2025	11% AF&RS energy generated from solar PV & solar thermal systems (up from 5.5% last year)	On track
Continued mains supply of 100% renewable electricity and 100% green gas	100% renewable electricity & green gas.	Achieved
3. Cleaner transport & travel		
Estate-wide electric vehicle infrastructure network by 2023	Install at all sites complete	Complete
Over 30% of fleet vehicles to be low/ultra-low emissions by 2026	25 electric vehicles on fleet: 17%	On track
4. Best practice in environmental protection		
100% alignment with Environmental Protection NatOG by 2022/23	Complete	Complete
5. Sustainable procurement in practice		
Integrate sustainability risks and opportunities into all contracts by 2025	Work programme in progress, based on self-assessment Public Sector Flexible Framework	On track
6. Ambitious environmental management		
Environmental Management System in place and certified to ISO14001 by 2022	EMS to be launched in April 2023. Aim for certification 2023/2024	In progress

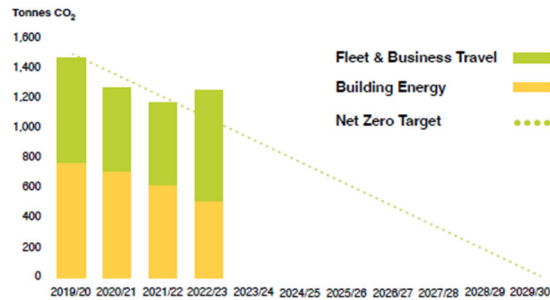
Environmental performance

Avon Fire & Rescue Service 2023

15%

reduction in carbon emissions

We've reduced our carbon emissions by 15% since the baseline 2019/20 - towards our Net Zero by 2030 goal.



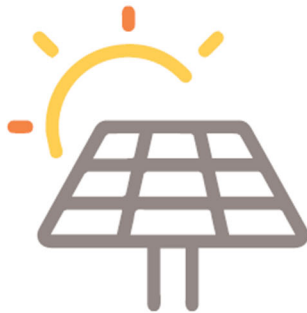
25

electric vehicles on the Avon Fire & Rescue Service fleet, including officer response cars



Replacement of fire-fighting foams with fluorine-free foam

This is less toxic and less environmentally-damaging



All buildings supplied by 100% renewable electricity & green gas



Spill kits for pollution prevention installed at all sites

14%

reduction in printing since last year



100%

of our sites have Electric Vehicle Charge Points



Temple Fire Station now heated by the Bristol district heat network

Environmental Management System in place

Aligned to internationally recognised standard ISO14001



Hedgerow planted at Kingswood Fire Station - in partnership with Forest of Avon Trust

