

# Environmental Report 2021-2022

## Avon Fire & Rescue Service

### Introduction

Over the past year, Avon Fire & Rescue Service has focused on reducing its carbon emissions in support of the Service's commitment to achieve Net Zero carbon by 2030 as set out in the Environmental Strategy 2020-2030<sup>1</sup>. The Service has also demonstrated environmental leadership in the Fire & Rescue sector, notably through delivery of the £823,670 Public Sector Decarbonisation Scheme<sup>2</sup> (PSDS) grant.

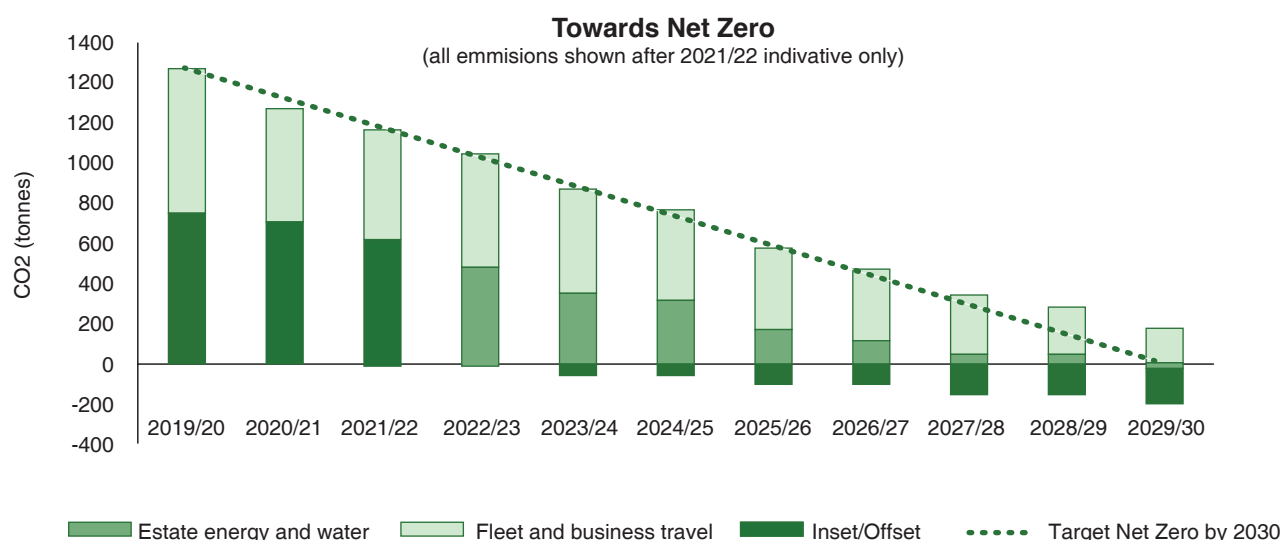
During 2021-22, AFRS continued to make significant environmental improvements and resource efficiencies, summarised in the Infographic which was also included in the Annual Accounts Report 2021-2022. This report provides further detail, and maps performance against the Strategy Aims and the annual Action Plan.

### Net Zero Carbon by 2030 - Commitment Progress

Performance Indicator	Target 2021/2022	Performance 2021/2022	Trend
Carbon Emissions reduction from 2019/2020 baseline towards Net Zero by 2030	20% reduction	21%	↑

A linear trajectory would be 10% reduction per year from 2019-2020, however in practice this will vary according to measures taken and technologies that are (or are not yet) available over the next 10 years. By the end of 2021-2022, we have achieved a 21% reduction against the corresponding 20% target, which gives us a robust basis for future years.

The graph below shows actual progress to 2021-2022, then an indicative trajectory up to 2030. This assumes that any remaining emissions would be 'netted' off using minimal offsets or insets (e.g. tree planting to sequester carbon or investment in on- or off-site renewables) to deal with unavoidable emissions, for example from diesel-fuelled fleet vehicles or essential air travel, which are not zero emission-capable by 2030.

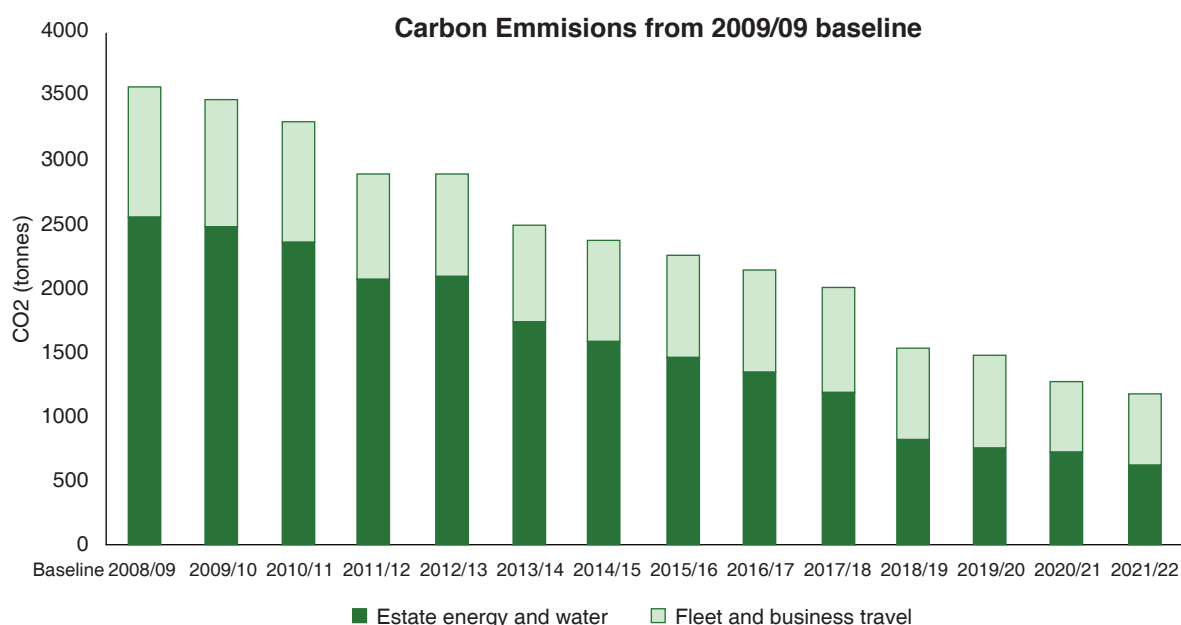


<sup>1</sup> <https://www.avonfire.gov.uk/documents/category/234-environment>  
<https://www.gov.uk/government/publications/public-sector-decarbonisation-scheme-psds>

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## Avon Fire & Rescue Service

The additional graph below also shows the longer-term progress being made, with a 67% reduction in emissions since 2008/09.



Carbon reductions during 2021-2022 have been largely due to:

- Continued roll-out of energy efficiency measures, installation of renewable and low carbon technologies, and the rebuild of Avonmouth Fire Station
- introduction of more electric vehicles onto the fleet and the continued impact of COVID-19 on incident frequency and type.
- Energy at a national level has become less carbon intensive as the UK increases the proportion of mains electricity from renewables; therefore the carbon factor we use in our calculations has changed, also reducing our carbon footprint.

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

Good progress has also been made on this commitment including:

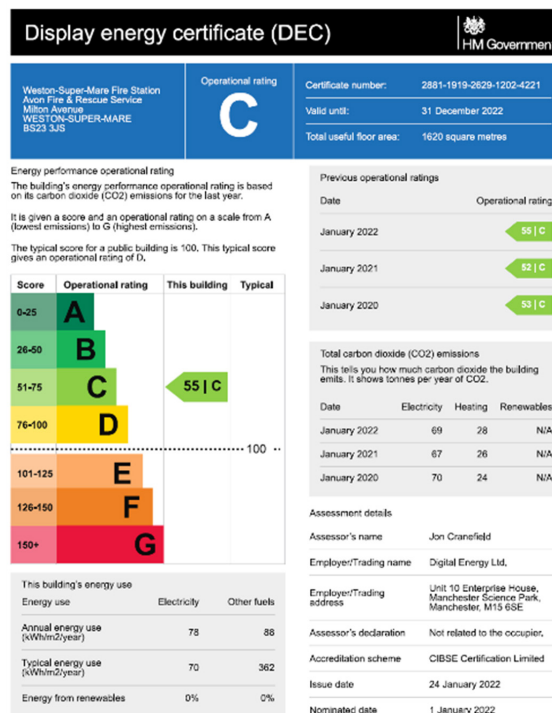
- Successful delivery of energy efficiency, renewable energy and low carbon technology projects across 12 AFRS buildings, funded by the PSDS-grant to reduce energy demand & transition from fossil-fuelled heating systems.
- AFRS were showcased as a Climate Leader by the Cabinet Office in the run up to COP26 climate conference in Glasgow during November 2021.
- Winners of the national Clean Energy Awards for our PSDS grant-funded low carbon & renewable energy installations.
- Key involvement by AFRS Procurement & Environment officers in the development of the new NFCC Framework Agreement for Emergency Response Vehicles (Pumping Appliances, Aerials and Special Vehicles).

## Environmental Performance

Other key achievements include:

### 1. Efficient & effective estate:

- The continued roll-out of energy efficiency measures including insulation, LED lighting and upgraded heating controls.
- Completion of Phase 1 of the Avonmouth Fire Station rebuild in November 2021. By the end of March 2022, carbon emissions associated with the station's energy consumption had reduced by 47% compared with the previous year pre-build.
- The average energy performance rating of our buildings is currently a 'C' rating (Display Energy Certificate) with the example of Weston Fire Station shown.
- The improved efficiency of our buildings and generating more of our own electricity has helped to partially mitigate the significant increase in energy prices during 2021-2022.
- The development of a Heat Decarbonisation Plan (for 9 AFRS buildings) which will help to drive further energy reductions
- Taking the lead from South Glos Council, AFRS implemented a 'No Mow May' initiative across all sites to encourage pollinators by allowing plants and wildflowers to flourish.



### 2. Renewable energy:

- The proportion of AFRS sites' electricity demand met by on-site renewable sources is 11%, and due to increase further once the newly installed systems have been operational for a full year. This is equivalent to the electrical demand from 55 homes. All remaining electricity provision from the grid, is from 100% renewable sources.
- In 2021-2022, the Service installed:
  - 6 more solar PV systems, tripling our existing electricity-generating capacity and bringing the total to 12 sites with solar PV systems.
  - An additional solar thermal system at Southmead to pre-heat water
  - 3 battery storage systems at Nailsea, Nova Way and Lansdown so the Service can maximise the use of solar PV generated on those sites, as well as minimising the use of grid-supplied electricity during peak tariff periods
  - 4 Air Source Heat Pumps systems at Avonmouth, Bedminster, Southmead & Lansdown, to decarbonise heating by minimising or removing the need for fossil-fuels in the buildings
- Work is underway by Bristol City Council to connect Temple Fire Station into the city's low-carbon District Heating Scheme, due for completion early 2022-2023.

# Environmental Report 2021-2022

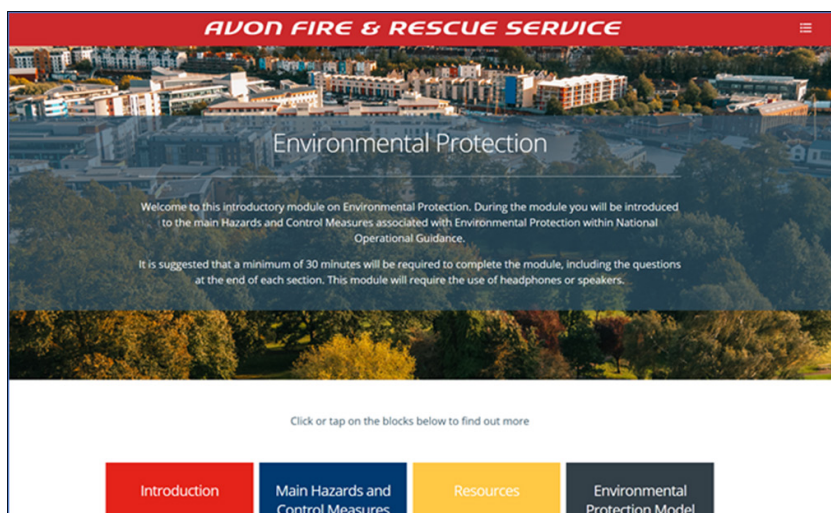
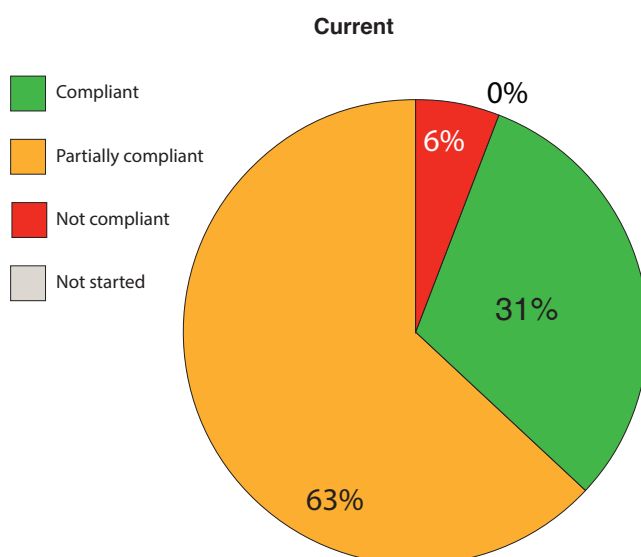
## Avon Fire & Rescue Service

### 3. Cleaner transport & travel

- 12 electric vehicles are now on the AFRS fleet, including CFS vans, FDO, station and pool cars [2 Nissan NV200, 6 Kia E-Nero and 4 Toyota Hi-Ace].
- So far, 50% of all AFRS buildings have EV charge-points. There are 16 dual socket charging posts, meaning 32 sockets are available. Charge-points are zero tariff for all AFRS fleet vehicles, accessed via an RFID fob, and available at cost for staff or visitor charging.
- An electric vehicle salary sacrifice scheme has been introduced which is available for all staff.
- The Cycle to Work scheme limit has been increased to £3,500, facilitating the purchase of electric bikes by staff.

### 4. Environmental Protection in Operations

- A work programme was established in 2021 to make improvements in our operational procedures, training and equipment in order to meet Environmental Protection best practice standards, as set out in the National Operational Guidance. 94% actions are now fully or partially compliant.
- Actions completed in 2021-2022 include:
  - Incorporating ecologically sensitive areas (Sites of Special Scientific Interest) as a new mapping layer on every fire appliance MDT, so that crews know when they are attending incidents in or near to SSSIs and can make appropriate tactical considerations.
  - Development of new environmental protection training for all operational staff



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## 5. Sustainable Procurement in Practice

- The Public Sector Flexible Framework continues to be used as a self-assessment mechanism and to determine the necessary actions for embedding sustainable procurement. It encompasses Policy, Process, Suppliers, People and Monitoring, from a Foundation Level 1 to Leadership Level 5 for each aspect. AFRS is currently between Levels 1-3.
- All the Supplies & Procurement team, along with the Environmental Officer, attended a day-long bespoke training workshop on Sustainable Procurement in March 2022.

## 6. Environmental Management

- An AFRS-developed Net Zero tool provides an on-going mechanism to calculate projected carbon emission reductions from fleet and estates project measures. Early into each financial year, identified and confirmed measures for that year are added to the tool so we can determine if we are on track to achieve our annual 10% carbon reduction target.
- An additional member of the Environmental team was recruited with a key focus to develop an Environmental Management System, aiming for ISO14001 certification in 2023-2024.
- AFRS has engaged in a range of networking & partnerships including:
  - Member of Climate Leaders group (Bristol Green Capital Partnership) & guest speaker at their inaugural Climate Action Breakfast
  - Involvement with S. Glos Local Strategic Partnership on Climate Change
  - Collaboration with Bristol City Council to connect Temple to District Heating Network
  - With N. Somerset and Bristol City Councils regarding Carbon Literacy training
  - Active member of Emergency Services and NFCC Environmental working groups

For further progress information, see the Strategic Aims and Action Plan Reviews.

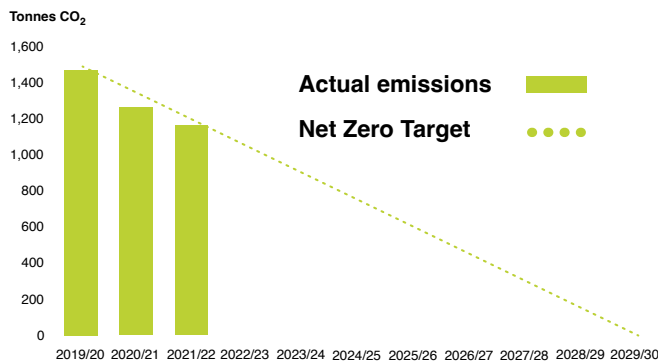
# Environmental performance

## Avon Fire & Rescue Service 2022

# 20.8%

### reduction in carbon emissions

Carbon emissions on track towards our Net Zero by 2030 goal: By 2021/22 we've reduced our carbon emissions by 20.8% against the target of 20% (compared to 2019/20)



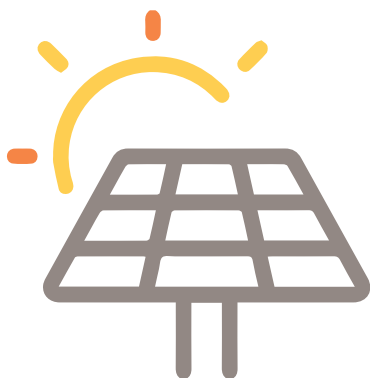
# 12

Electric vehicles now on the Avon Fire & Rescue Service fleet, with 2 Community Fire Safety vans and 10 station and pool cars.

Ecologically sensitive areas (Sites of Special Scientific Interest) incorporated as a new mapping layer on MDTs.

# 97

SSSIs mapped

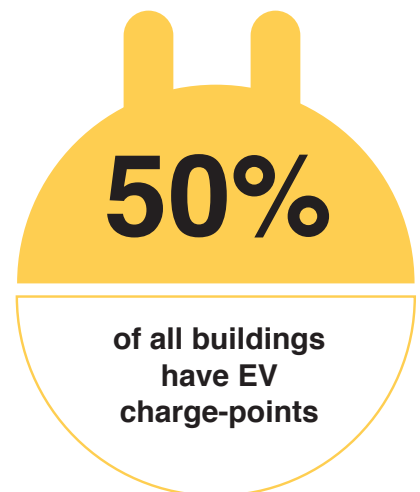


All buildings supplied by 100% renewable electricity

**'No Mow May'**  
implemented across our sites

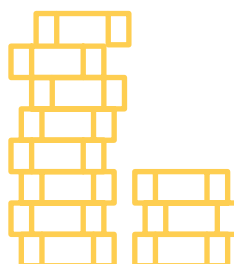


**Winners**  
of the national Clean Energy Awards for our grant-funded low carbon & renewable energy installations



# 77%

of staff have completed the Environment Matters e-learning module



# £823,670

Public Sector Decarbonisation Scheme funding: for 9 solar PV, 3 Air Source Heat Pump and 3 battery storage systems, plus energy efficiency measures such as insulation and LED lighting.

**Environmental Strategy 2020-2030: Strategic Aims**  
**REVIEW 2021-2022**

Key Principle / Strategic Aim	Progress	Status
<b>1. An efficient &amp; effective estate</b>		
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. 7,825 m3 water consumption. Same as previous year.	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. Re-scheduled for	Planned
All AF&RS new build projects from 2020 to be Net Zero carbon in operation	Embedded in Bath & Weston Briefs	On track
<b>2. Renewable energy generation</b>		
20% AF&RS' energy demand to be met from on-site generation by 2025	5.5% generated from solar PV & solar thermal systems (up from 4% last year)	On track
Continued mains supply of 100% renewable electricity and 100% green gas	100% electricity; new supplier unable to provide green gas.	In progress
<b>3. Cleaner transport &amp; travel</b>		
Estate-wide electric vehicle infrastructure network by 2023	Phase 1 (50% sites) complete; Phase 2 (remaining sites) scheduled 2022/23	On track
Over 30% of fleet vehicles to be low/ultra-low emissions by 2026	12 electric vehicles on fleet: 7%	On track
<b>4. Best practice in environmental protection</b>		
100% alignment with Environmental Protection NatOG by 2022/23	Work programme in progress	On track
<b>5. Sustainable procurement in practice</b>		
Integrate sustainability risks and opportunities into all contracts by 2025	Work programme in progress, based on self-assessment Public Sector Flexible Framework	On track
<b>6. Ambitious environmental management</b>		
Environmental Management System in place and certified to ISO14001 by 2022	Environmental Officer appointed. Rescheduled to certification in 2023/24	In progress



**Environmental Strategy 2020-2030: Action Plan**  
**REVIEW 2021-2022**

Key Principle / Project	Description	Progress	Status
<b>1. An efficient &amp; effective estate</b>			
Energy audits	Continue in-depth energy audits of energy-intensive sites	Partially complete as part of the PSDS grant (Heat Decarbonisation Plan)	2022/23
On-going energy efficiency programme	Continue energy efficiency measures as part of PSDS-funded project	All PSDS-funded improvements completed incl. LED lighting upgrade Yate; complete double glazing refit at Lansdown & Yate; maximised all insulation measures at 7 O/C stations	In progress
Water management	Install data loggers at remaining sites & target identified reductions	Now installed and a number of reductions identified and actioned	Complete
Water management	Trade effluent consent works @ non-compliant sites	On-going liaison with Wessex Water to determine appropriate measures for all remaining sites where a consent for trade effluent is required for legal compliance. A major programme of works is currently under development.	In progress
Waste reduction	Single-use plastic audit to identify opportunities to eliminate & reduce	Rescheduled to 2023/24 due to other priorities	2023/24
Biodiversity & Wellbeing spaces	Develop Wellbeing Spaces: Hicks Gate, Radstock, Temple, Bath & Lansdown	All sites complete, in progress or subject to plans being agreed	In progress
Biodiversity & Wellbeing spaces	Develop Biodiversity action plan	Measures progressed incl: Incorporation of ecologically sensitive areas (notably Sites of Special Scientific Interest) as a mapping layer on MDTs with the identification of appropriate response tactics; No Mow May policy for AF&RS sites.	2022/23
New builds	Develop Sustainability Outcomes for Bath & Weston [as part of Project Briefs]	Sustainability Briefs incorporating objectives for Net Zero Carbon in operation, reduced embodied carbon in construction, BREEAM Outstanding and Display Energy Certificate rating A have been embedded within the wider Briefs for both new builds.	Complete
<b>2. Renewable energy generation</b>			
Feasibility study	Estate-wide feasibility study for additional renewable generation capacity	Feasibility study undertaken for 5 of the Service's more energy-intensive sites as part of the PSDS grant application. Feasibility of remaining opportunities to be undertaken.	2022/23
Decarbonisation	Install additional renewables identified in feasibility study	Install at 5 sites funded by PSDS grant & Avonmouth new build; Contract in place for renewable energy and low carbon technology projects	2022/23
Decarbonisation	Replacement of oil-boiler with ASHP at Lansdown (off-gas)	Funded by PSDS	Complete
Decarbonisation	Connection & supply for Temple from BCC district-heating network	Works underway by Bristol City Council	In progress
Decarbonisation	Integrate renewables into all new builds and major refurbishments	Embedded in Environmental & Estates Strategies	Complete
Off-site renewables	Assess feasibility of future Power Purchase Agreements	On-going discussions with Bristol City Council (BCC) Energy Services to enter into a PPA using BCC & other locally generated renewable electricity, once existing electricity contract ends (2021).	2022//23
<b>3. Cleaner transport &amp; travel</b>			
Sustainable travel	Develop travel policy based on travel hierarchy	Work package in place by Transformation team	In progress
Sustainable travel	ECU policy including emission standards	Revised policy consulted on & due for approval	In progress
Sustainable travel	Introduce EV salary sacrifice scheme for staff	In place	Complete
Sustainable travel	Support sustainable travel schemes	Annual Travelwest survey; promotion of Better by Bike initiatives e.g. e-bike trails, emergency bike kits on stations.	On-going
Sustainable travel	Capture emissions data from pre-booked transport in carbon reporting	Was on hold pending appointment of Environmental Officer. Rescheduled 2022/23	2022/23
Transition to low emission fleet	Feasibility study for electric vehicle charging infrastructure	Phase 1 installs complete; Phase 2 scheduled Q1/Q2 2022/23	Complete



Key Principle / Project	Description	Progress	Status
Transition to low emission fleet	Keep abreast of developments for low emissions fire appliances	On-going dialogue with manufacturers & other FRS	On-going
Transition to low emission fleet	Assess low emissions vehicles for fleet replacement	A further 10 electric vehicles on Ancillary Fleet	On-going
Fleet efficiency	Install telematics in fleet vehicles	Telematics installed in all ancillary fleet vehicles / frontline	Complete
Clean Air Zones	Monitor & address CAZ requirements: Bath & Bristol	On-going dialogue with B&NES and Bristol CC. Emergency Services/B&NES MOU in place; staff communications; tactical fleet replacements	On-going
<b>4. Best practice in environmental protection</b>			
NOG compliance	Work programme for Environmental Protection NOGs compliance	Programme in progress: 94% actions partially or fully compliant	In progress
Environmental management	Update AFRS/Environment Agency MOU & working group	Unable to progress without EA input.	Stalled/In progress
Fire-fighting foam procurement	Establish working group for research & procurement of fluorine-free foam	Rescheduled to 2022/23 due to other priorities	2022/23
<b>5. Sustainable procurement in practice</b>			
Steps to sustainable procurement	Establish self-assessment mechanism	Self-assessed using Public Sector Flexible Framework. Currently on Level 1/2 of 5 in most areas. Action plan in place.	Complete
Steps to sustainable procurement	Identify training needs and suitable modules	Sustainable procurement training for Procurement Team in March 2022	Complete
Steps to sustainable procurement	Procurement mapping exercise	Template in place following training. To be undertaken 2022/23 along with other Flexible Framework actions	2022/23
<b>6. Ambitious environmental management</b>			
Management & governance	Continue to develop ISO 14001-compliant EMS	Gap analysis to determine work programme underway	In progress
Management & governance	Review & update Environmental Policy	Completed & approved	Complete
Management & governance	Carbon literacy training: all snr mgt & AFA	Rescheduled to 2022/23 due to PSDS grant work	2022/23
Management & governance	Integrate environmental & climate change criteria into decision-making	Draft Combined Impact Assessment in place; to be rolled out by Transformation team	In progress
Training & behaviour change	Continue to roll out Environment Matters e-learning	77% staff have completed the module	On-going
Networking & collaboration	Partner with local authorities on net zero initiatives, procurements etc	A range of networking and partnerships arrangements are in place as reported	On-going
Networking & collaboration	Continue involvement in FRS energy competition	Agreed to discontinue initiative due to new NFCC working groups/initiatives	Complete
Networking & collaboration	Involvement with UKFRS in COP 26 (2021)	Showcased by Cabinet Office in run up to COP26. No attendance due to other priorities	Complete
Networking & collaboration	Call for divestment of LGPS pensions	In communication with Avon Pension Scheme	On-going
Net Zero	Strategic feasibility study to map out the route to achieving net zero by 2030	Net Zero Route tool updated with new projects & plans as they come on-stream	Complete
Net Zero	Review Carbon Calculation Methodology	Undertaken as part of Net Zero Route map Work started to establish a Scope 3 carbon footprint for indirect activities, such as employee commuting and procured goods	On-going