



Environment and Sustainability Strategy

2020 - 2025

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Environment and sustainability strategy

2020 to 2025

1 Foreword

This Strategy has been developed in line with the UK Government's 25 year environmental plan, which sets the goals for improving the environment within a generation and leaving it in a better state than when we found it. We all have a part to play in making Cheshire Fire and Rescue Service an environmentally friendly organisation. Increasing sustainability by minimising our use of resources, conserving energy and reducing waste should be at the core of our daily operating practices.

The objectives laid out in this Strategy are compiled in accordance with and are designed to work towards the national objective of achieving net zero emissions by 2050 which will, in part, only be possible by working collaboratively with partners.

The aim of this Strategy is to demonstrate the Service's commitment to minimising its impact on the environment and to provide a clear approach to the implementation of environmental best practice within the Service.

In order to achieve the Service's vision it will need to ensure that environmental and sustainability considerations are embedded into strategic decision-making, changes, planning activities and policy development throughout the Service.

2 Our Vision

Through innovation, empowerment and education of staff and implementation of environmental and sustainability best practice it is our vision that Cheshire Fire and Rescue Service will become one of the country's leading fire and rescue service practitioners in carbon emissions reduction. This will enable the Service to become a reference point for other Services around the country to put in measures to drive down their own emissions and also be a leading example to the communities of Cheshire.



3 Why reduce the Service's Carbon Footprint?

Regulatory and Moral Responsibility

Paris Agreement

Building on from the Climate Change Act 2008 the UK National Government targets have been updated by the agreements forged from the Paris Agreement 2015 to deliver net zero emissions by 2050.



The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC), dealing with greenhouse-gas-emissions mitigation.

The Agreement's long-term temperature goal is to keep the increase in global average temperature to well below 2°C (3.6°F) above pre-industrial levels; and to pursue efforts to limit the increase to 1.5°C (2.7°F), recognising that this would substantially reduce the risks and impacts of climate change.

The Paris deal is the world's first comprehensive climate agreement with 193 countries taking part. The United States of America is due to sign back up to the targets set by this Agreement in 2021.

Green Industrial Revolution - The Ten Point Plan

In November 2020 the Government produced a Ten Point Plan to tackle climate change as part of its 'Green Industrial Revolution'.

This plan highlights huge investment in offshore wind power generation (quadrupling capacity by 2030), carbon capture usage and storage and a huge increase in investment in Green Finance and for innovation and development of new technologies.

The plan also highlights an accelerated roadmap to zero emission vehicles (including ships and planes), as well as delivery of a number of nuclear power plants, greener buildings (homes, offices etc.) and a push towards helping people to more easily cycle and walk to where they need to go.



Steps will also be taken to better protect the natural environment through the creation of new national parks and areas of outstanding beauty. It is hoped that this will help safeguard landscapes and restore habitats for plants and animals with the aim of protecting and improving 30% of land by 2030.

More details can be found on the Government website.

2021 Environment Bill

The 2021 Environment Bill builds on all previous legislation and become the compliance guide for England from which future legislation will be introduced to drive the delivery of net zero targets.

The Bill provides details of targets, plans and policies for improving the natural environment; in relation to environmental protection; waste and resource efficiency; improving air quality; for the recall of products that fail to meet environmental standards; water; improving nature; and biodiversity. It should become law in 2021.

Corporate Social Responsibility

As well as key regulatory targets the Service, as a leading public organisation, also has a moral and social duty to lead by example and ensure it reduces its impact on the local environment.

In 2020 a voluntary Cheshire & Warrington Sub-regional Climate Change Pledge was created. Organisations have signed up to a common set of principles including implementing business cases for measuring and reducing energy use, costs and carbon emissions, reporting progress to the group and sharing best practice. Involvement in this is important as this will have a number of knock on benefits for the Service including improved public perception as a forward thinking and caring organisation.

Climate Change

Two international reports commissioned by the United Nations (2018 report from the IPCC1 and the report from the IPBES2) have provided clear evidence of climate change and its impacts. Companies and public organisations alike have since declared climate emergencies and have started to develop and deliver sustainable-targeted emissions abatement strategies. These reports, allied to the need to meet challenging national targets are the key drivers behind this strategy.



4 Our Journey so far

Changing Operations

Emergency services have seen a marked change in types of operational response to meet the impact of climate change over recent years. Increases in the likelihood of extreme weather events, such as significant rainfall, heatwaves and prolonged dry weather have led to widespread flooding and increases in scale and regularity of fires involving grass, heath and moorland.

This can lead to large-scale incidents that require significant resources over an extended period. This Strategy acknowledges the need for the Service to work towards having the right resources and equipment in the right places to help tackle the impact of the changing environment.

Money

Whilst a number of the initiatives required to drive down emissions will have some considerable upfront costs, reducing emissions will ultimately save the Service money in terms of reduced energy and fuel bills. This is especially important as energy costs continue to rise.



In 2009 Cheshire Fire and Rescue Service was accepted onto the Local Authority Carbon Management Programme and produced a Carbon Management Plan which identified the Fire Service carbon footprint. A target objective was set to reduce Carbon Emissions by 40% by 2020, set against a 2009 baseline. This was successfully achieved and the service reported a carbon emissions reduction of 41% on its April 2019 to March 2020 Carbon Report.

How did we do?

Table 1: Carbon Emissions 2010 - 2020

Year (April – March)	Carbon Emissions (Tonnes CO ₂ e)	Variation %
2010/11	2,862	-3.6%
2011/12	2,734	-7.9%
2012/13	2,479	-16.5%
2013/14	No Data	No Data
2014/15	No Data	No Data
2016/17	2,164	-27%
2017/18	2,057	-31%
2018/19	2,056	-31%
2019/20	1,850	-41%

Over the last 9 years the Service has seen a significant reduction in its emissions (41% against the 2009 benchmark). This calculation includes the first full year's data for the new fire station and safety centre at Lymm and is a significant achievement as it shows that the rest of the initiatives in place have mitigated the increase in emissions from Lymm. Furthermore, even with 2 other new stations delivered and operational in the last 2/3 years at Penketh and Powey Lane, emissions have reduced which

shows that some of the key initiatives developed from the Environment Strategy 2014 - 2020 have delivered long term performance savings and sustainable solutions.

The major initiatives driving this performance are:

- The Biomass Heating at Headquarters allied to the Thermal Water Heating (introduced in 2015)
- Introduction of the Electric Vehicle Fleet (2015)
- Installation of Solar PV at 7 sites
- Targeted boiler and lighting upgrades to remove oil as a heating fuel and introduce LED lighting in key locations

Details of other targets and achievements

Fleet

The introduction of a small fleet of electric vehicles and part charging infrastructure had a major effect on emissions performance. Elements of environmental training were introduced into the new driver training courses in 2019 to further improve driving styles.

Waste and Recycling

In 2017 recycling performance for general municipal waste streams trended around 35% for the estate as a whole. A new two tier waste system was introduced and doubled the recycling performance across the estate.

Recently, industrial waste infrastructure improvements in the region has meant that the Service reports a 99.9% diversion from land-fill. The Service's internal recycling performance remains high.

Paper usage

All bulletins and internal communications are now completed electronically including 'The Green' weekly communication and monthly Alert newsletter. This has resulted in a major reduction in printing and together with an increased focus on print levels around the Service has reduced consumption and expenditure.



5 Targets for 2025

Looking forward to 2050, in order for the Service to meet net zero emissions it will need to reduce and mitigate emissions by a further 1,754 tonnes CO₂e. To put this into perspective during the period 2009 to 2019, the Service has reduced emissions by 1,218 tonnes CO₂e. This shows the challenge that lies ahead for the organisation.

In order to keep on track the Service will monitor emissions from year to year and will look towards reducing emissions by 300 tonnes CO₂e by 2025. The Service will of course look to surpass this target if possible.

The aspiration is that all non-blue-light vehicles will be electric powered by 2025.

If technology and innovation allows, it would then be an aim to include all response vehicles by 2030. This does allow a contingency period of five years on the national target objective of no diesel/petrol cars sales from 2035.

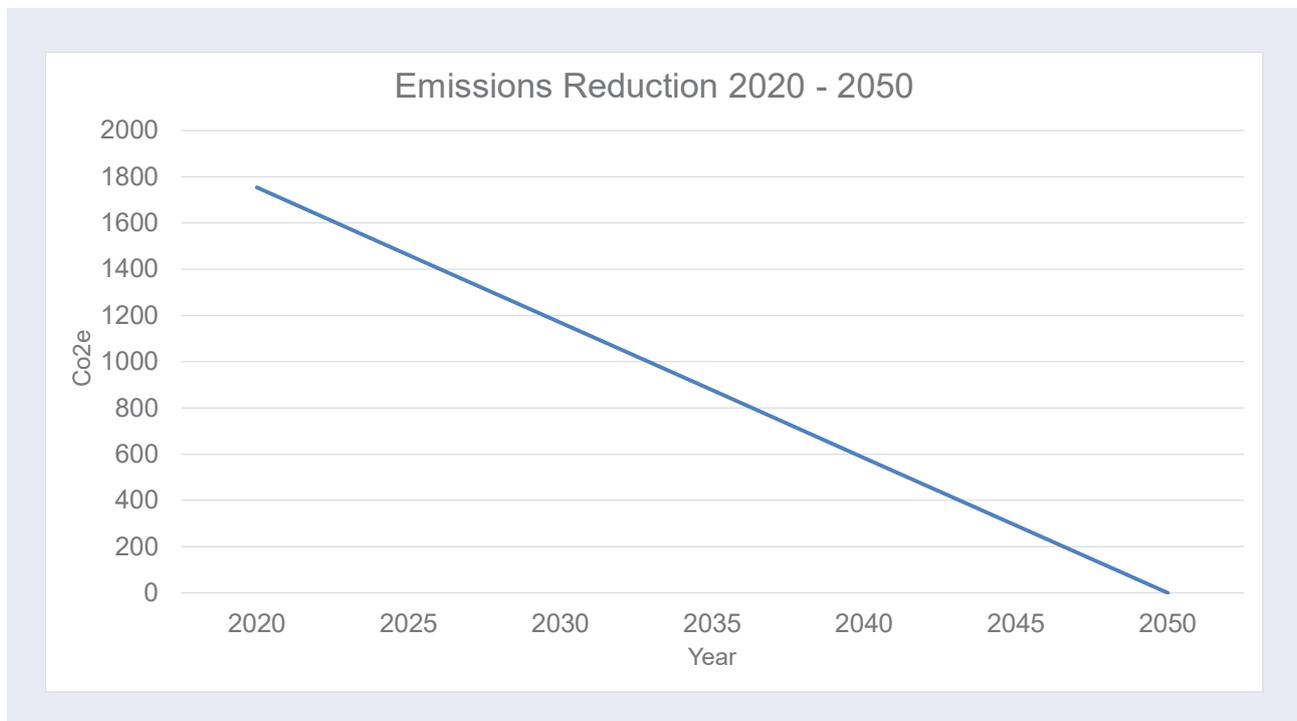
How do we measure CO₂e performance?

In order to monitor and provide accurate data, the Service engaged with ESOS Energy in order to provide independent confirmation of consumption data. The results complete a carbon calculation covering Scope 1 and 2 emissions (see page 9 for details).

The Service provides ESOS Energy with the consumption figures on:

1. **Building energy consumption carbon emissions (gas, electricity, oil etc.)**
2. **Fleet vehicle carbon emissions (petrol, diesel etc.)**
3. **Business travel**

The accuracy of the calculation relies on collating consumption data for all of the emission sources.



Gas and electricity data was provided in kilowatt-hours (kWh) from meter readings or bills. Transport emissions and fuel consumption was provided by fuel type and by financial analysis. Carbon emissions were calculated using the activity data multiplied by standard emissions factors as set by the Government each year.

The Service will continue to use these measures as a basis for evidencing the delivery of the objectives laid out within this Strategy. As time progresses the accuracy of the data will improve.

Carbon Reporting

Scope 1 emissions are direct emissions from owned or controlled sources.

Scope 2 emissions are indirect emissions from the generation of purchased energy.

How does this affect our reporting?

Scope 1 – Different organisations have various elements that they have to consider in their calculation e.g. emissions from refrigeration and cooling, but our main aspect is fleet and fuel use.

Scope 2 – This is simply all the electricity, gas and oil that we use to run operation.

That is why the reduction in energy consumption and maximising fuel efficiency is key to reducing carbon emissions.

Changes to baseline figures from the Green Industrial Revolution 10-point plan

Historically the Service has measured its reduction in emissions against baseline figures set in 2009 and as highlighted above achieved a reduction of 41%. The 10- point plan provides the challenge of reducing emissions by 50% by 2032, set against a 2017 baseline. This provides a greater challenge for the organisation in terms of hitting the 50% target but is something that will be used to help drive the organisation and innovation forward to hit these new targets. Thus, future reporting on emission reductions will utilise these new metrics.



6 Our Environment and Sustainability Strategy

Future Targets, Thinking and Direction

As highlighted earlier the Government has set a challenging target of net zero emissions by 2050 and our local constituent authorities have set objectives of being carbon neutral in their operations by 2035. This increased focus at local and national level has highlighted the need for even greater efforts to reduce emissions and target climate change.

This Strategy seeks to ensure that with all activity an environmental impact and angle is considered. Where negating emissions is not possible because of operational requirements, or there is no suitable equivalent, then mitigation of those emissions should be factored into the decision making process. In theory mitigation in local and national diversity projects is not possible until technological and practical alternatives are available.

Mitigation of emissions of course cannot be the final solution and every new product and service must deliver a degree of energy saving, whilst being sourced sustainably, particularly following the introduction of the Waste Hierarchy Regulations. (refer to page 15 for more details). The life cycle, re-use and repair, recycling (usually called the Circular Economy) and final disposal method should be considered with every purchase to help and support the reduction in the use of virgin materials and depletion of resources.

The recent COVID 19 pandemic has forced us to change the way we work by asking staff to work remotely and host meetings virtually. This has had the effect of reducing emissions produced by staff attending meetings, reducing energy requirements at Service property and reducing costs for the Service.



As a result the Service will look carefully at the impacts and lessons learnt from this to determine whether new ways of working should be made more permanent to help the Service meet its emission targets.

The Service's Key Objectives – journey to net zero

This strategy is broken down into 6 key areas and will be the first step on a journey to net zero emissions. It will set the pathway for future planning and decision-making. Technology and new initiatives will continue to bring new thinking and opportunities on our journey. We will need flexible thinking and innovation to help us improve our performance.

This Strategy is also the first of six, five year strategies that will set aspirations and targets towards achieving net zero emissions by 2050 or earlier. It will add a temperature check to performance to maintain the focus on environment and sustainable progression.

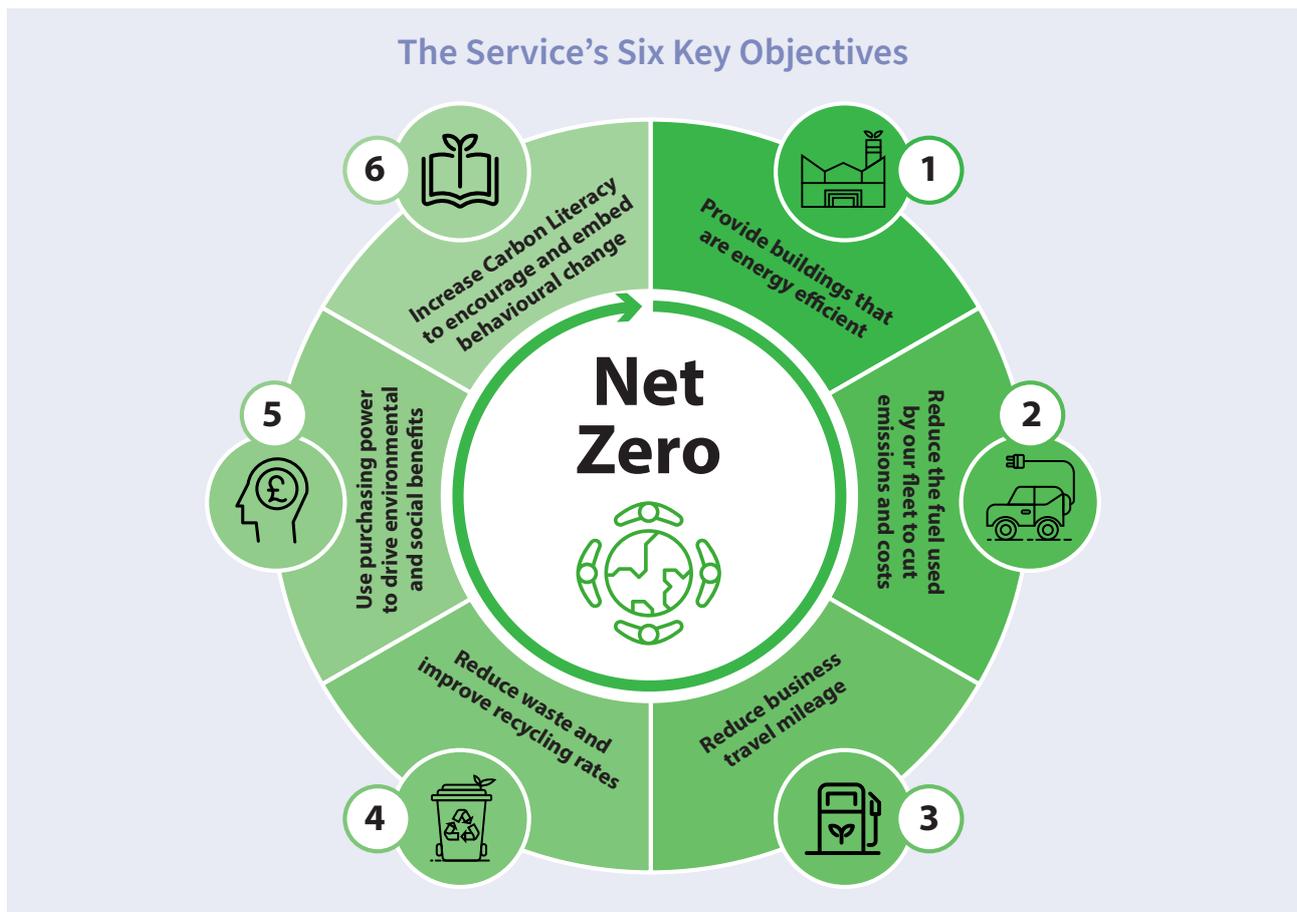
A key theme that will be explored across many of the objectives is that of self-generation, especially across some of the larger sites. Consideration will be given to:

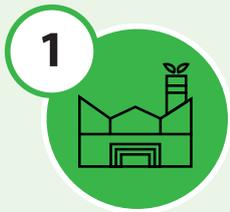
- Generating our own energy through solar power for direct energy and storage.
- Combining heat and power plants initially run by renewable gas supply, but transferable to clean hydrogen as this is introduced into the gas grid.
- Using solar energy to expand the electric vehicle charging capability across the estate to allow for more electric vehicles in the fleet and more opportunities for colleagues to use electric vehicles, bikes and scooters to travel to work.

- Storing that generated energy so we can benefit from increased self-consumption.

A common thread throughout all of the objectives is that of behavioural change which will be the driver behind the success of many of the suggested initiatives.

It is also expected that behaviours changed in the workplace will also help employees change their own personal habits at home.





Key Objective: Provide buildings that are energy efficient

The table below summarises Cheshire Fire and Rescue Service buildings' carbon emissions:

Fuel	kWh	Tonnes CO ₂ e
Natural gas	3,029,392	559
Electricity	2,000,964	467
Oil	18,480	5
	TOTAL	1,031

The Service will deliver this objective by firstly profiling energy usage across the Service's estate to help target areas where improvements can quickly be made, as well as helping to establish what the longer-term plans and initiatives should be. These initiatives will include:

1. Exploring co-generation projects and the need to consider self-generation on sites.
2. To work in collaboration with local authorities where district heating schemes are being developed as part of a wider local authority aim.
3. Use data from installed automatic metering to identify the most inefficient buildings on the estate and prioritise remedial actions to reduce emissions.
4. Introduce carbon literacy training into the Service to create greater understanding of the need to reduce consumption, carbon emissions and a culture/behavioural change of collective responsibility.

5. Consider battery storage for more cost effective usage of our Solar PV generation.
6. Optimise our building management systems to better reflect the building operational needs.
7. To create a new water contract and deliver a four year programme of proactive water management delivering lower usage and costs.

How will success be monitored?

- Reduction in energy figures following the implementation of energy efficiency projects at stations – emissions reductions will be monitored through analysis of electricity, gas and oil used to run the buildings
- Increase in number of renewable energy sources installed at stations
- A clearer and more accurate picture of how water is consumed through water AMRs
- A reduction in water consumption figures by minimising water usage where possible
- Carbon literacy increased across the organisation and a team of trained individuals able to provide carbon literacy training



Key Objective: Reduce the fuel used by our fleet to cut emissions and costs

The introduction of electric vehicles into the fleet had a major effect on the reduction of carbon emissions. The challenge from early model vehicles concerned the range of the vehicle on a charge but as technology has progressed models, range capability and also financial consideration is making this an even more viable purchase decision.

**Table 3:
Summary of Vehicle Fleet 2019/2019**

Fuel	Total litre	Tonnes CO ₂ e
Unleaded	4,842	10
Diesel	279,988	713
	TOTAL	723

The Service will deliver the objective of reducing fleet usage and reducing overall emissions by:

1. Investigating and extending the coverage of the electric charging infrastructure to allow greater electric vehicle coverage and usage on stations for non-blue light activities.
2. Prioritising fuel efficiency in fleet replacement until all grey fleet vehicles are electric.
3. Reviewing lightweight storage solutions for equipment on operational vehicles and adopting them where possible – this will reduce fuel consumption.
4. Introducing minimum kit storage guidance for all appliances and response vehicles.

5. Investigating and delivering specific projects to reduce our use of fuel. Can more meetings be online to reduce non-essential travel? The Pandemic has proved that this is possible.
6. Delivering driver training including enhancing environment driving techniques where operationally appropriate. This should include guidance to all Service employees and volunteers who drive on Service business, including essential and casual users.
7. Reducing the number of vehicles the Service operates.

How will success be monitored?

- Reduction in mileage used in grey fleet
- Reduction in fuel consumption figures and associated carbon figures
- Implementation of driver improvement courses



3



Key Objective: Reduce business travel mileage

The Service is a significant employer within the county with over 800 staff. It will continue to influence staff to promote a collective responsibility for reducing carbon emissions and work to reduce business travel mileage.

The Service will deliver this objective by:

1. Setting clear expectations where travel isn't appropriate.
2. Using technology to support unnecessary travel - promoting initiatives to reduce business travel including, more online meetings and presentations.
3. Enhancing the option of cycling to work - Cycle to Work Scheme, facilities for storage etc.
4. Reducing single occupancy car journeys - Car Share Scheme.
5. Considering agile/flexible working from home or location near to home through designated hot desking.
6. Encouraging employees to use the Service electric charger infrastructure for personal vehicles.
7. Supporting and playing an active part in the Winsford re-generation project, promoting the new public transport initiatives which give choices to colleagues and visitors to our new Training Centre.

How will success be monitored?

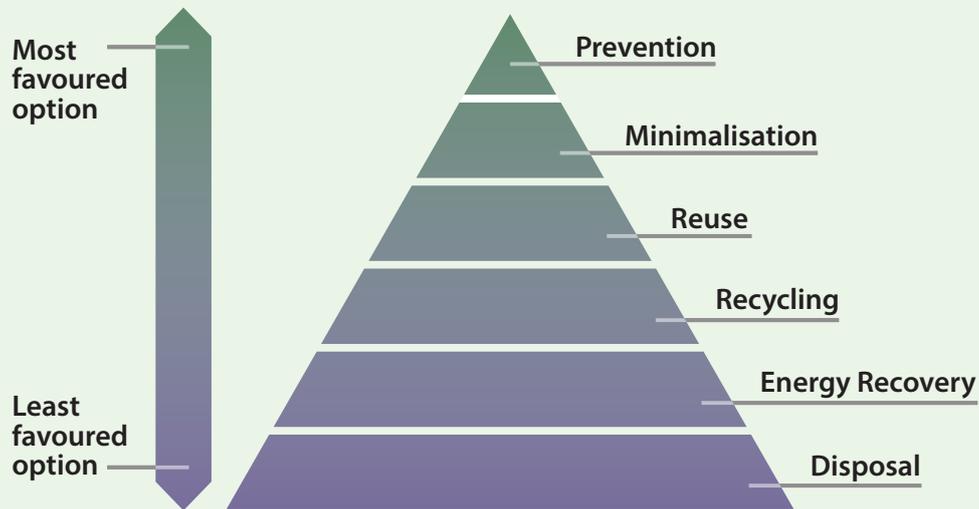
- Fleet mileage reduced
- Personal vehicle mileage reduced
- Clear position on remote and agile working from the Service to allow more working from home and use of virtual meeting environments



4



Key Objective: Reduce waste and improve recycling rates



By reducing the waste we produce, recycling more and sending less to landfill we could make a significant impact in improving the Service's recycling rates. The circular economy is critical to the reduction in use of virgin materials and natural resources that are being depleted.

We will deliver this objective by:

1. Ensuring that all our waste meets the requirements of the Waste Hierarchy¹.
2. Ensuring we have maximum waste prevention and minimisation through ethical sourcing policies during the procurement stages.
3. Ensuring that the key areas of 'reuse and recycling' are factored into all buying decisions.
4. Exploring relationships with Cheshire-based charities and third party organisations to reuse/recycle materials from waste.
5. Ensuring that all waste contractors are correctly licensed and meet the Duty of Care Regulations in respect of managing the Fire Service waste streams.
6. Maintaining our delivery of a 99% diversion from landfill by working with the appropriate contracted partners.
7. Reporting the waste profile of each location and their recycling and compliance performance to the Service's waste processes.
8. Raising awareness and providing effective communications to staff to change behaviour and improve recycling.
9. Encourage paperless working with electronic archive processes – reviewing printing behaviour etc.

¹ The Waste (England & Wales) Regulations 2011 and subsequent amendments enhanced the waste hierarchy to include the focus on the procurement of products and services. We complete a legal declaration each time we dispose of waste to state that we have followed this process, which means we have considered the life cycle of products and services and minimise disposal to landfill.



What is a circular economy?

A circular economy is an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

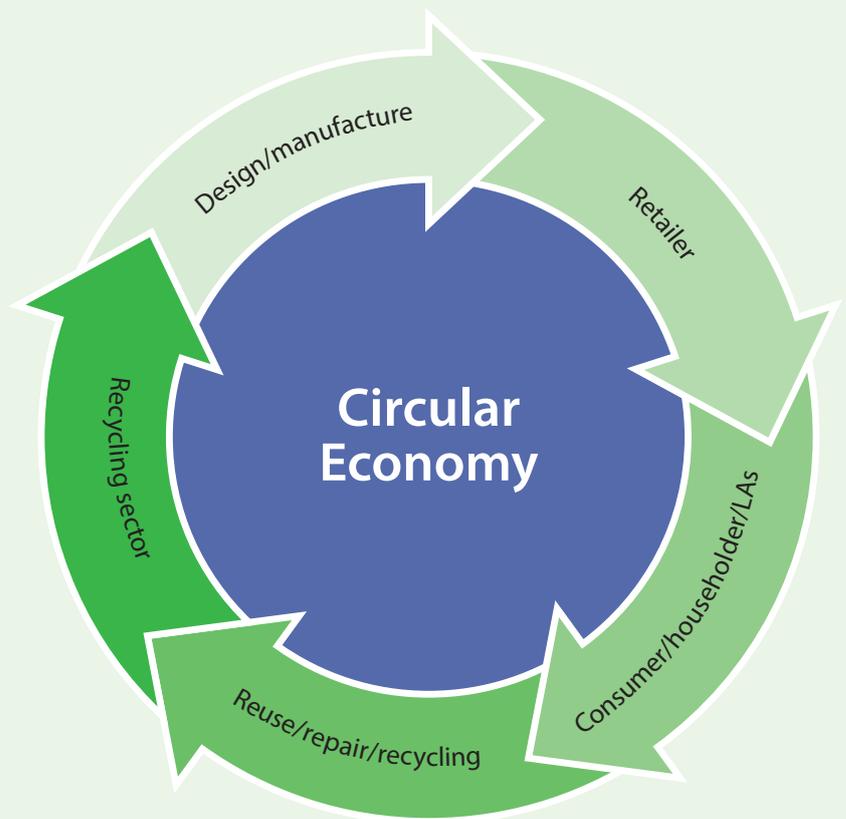
Why a circular economy is important

As well as creating new opportunities for growth, a more circular economy will:

- reduce waste
- drive greater resource productivity
- deliver a more competitive UK economy
- better address emerging resource security/scarcity issues in the future
- help reduce the environmental impacts of our production
- reduce consumption in both the UK and abroad

How will success be monitored?

- Reduction of paper consumption figures
- Monitor and increase recycling performance figures





Key Objective:

Use purchasing power to drive environmental and social benefits

The Service will enhance its approach to sustainable procurement ensuring relevant risks and opportunities are fully understood. The Service will deliver this objective by:

1. Embedding the requirement to consider sustainability and social value by developing an Ethical Procurement Policy.
2. Using environmental and sustainability credentials as a key deciding factor when engaging new partners and contracts – new operational equipment environmental impacts for example.
3. Ensuring contractors are using sustainably sourced products and where possible new products are produced using recycled materials.
4. Ensuring that the life cycle of products and materials meets the Waste Hierarchy and objectives of the Circular Economy.
5. Setting clear expectations with our suppliers and contractors to continuously work to improve environmental standards in the supply chain.

Examples of this would be suppliers who work with organisations and accreditations such as, but not limited to:

- Environmental Standards – ISO 14001:2015, EMAS Management System
- Good Agricultural standards – GlobalGAP
- Consumer facing standards – Fairtrade, Rainforest Alliance, Tea Sourcing Partnership (TSP)
- Organic – Soil Association
- Management of World Forests – FSC, PEFC
- Improving Global Supply Chains – SEDEX

How will success be monitored?

- The ethical sourcing procurement policy is well embedded and understood by those purchasing products and services
- Impact assessments can question the decision making process in terms of new initiatives, products and services
- Decisions being made on environmental criteria, product sustainability and the supplier engagement with environmental and sustainable delivery
- Carbon emissions impacts on supply chain are reviewed and visible





Key Objective:

Increase carbon literacy across the Service to help encourage and embed behavioural change

Behavioural change is an essential ingredient of the introduction of most new initiatives. In order to bring about changes in employee behaviour the Service will:

1. Review and revise the environmental impact assessments used as part of the Service's project management framework as well as ensuring project managers know how to complete these properly and fully.
2. Develop a core group of 'environmental champions' across the Service to help them become advocates of new initiatives.
3. Provide a number of carbon literacy training sessions across the Service, with the focus being on train the trainer to ensure messages can be disseminated around the Service.
4. Provide ongoing environmentally focussed communication campaigns to refresh knowledge, provide details of new technology available and new initiatives the Service is implementing, as well as regular updates on performance against carbon emission targets.

It is also hoped that changing behaviours at work will also have knock on effects to employees within their own homes further reducing the impact of those involved with the Service.

How will success be monitored?

- New and improved environmental impact assessment documents
- A team of environmental champions able to deliver further carbon literacy training across the organisation
- Improvements in quarterly waste/recycling figures
- Improvements in energy performance league tables
- Reduction in paper usage through printers
- Increase in biodiversity projects





Our Core Values



Be Inclusive

By acting fairly, with integrity, respect and without prejudice.



Do the Right Thing

By holding each other to account for ensuring high standards of professionalism in everything we do.



Act with Compassion

By being understanding and offering help to each other and to our communities with warmth, patience and kindness.



Make a Difference

By making an impact in our organisation and in our communities in whatever ways we can, for as many people as we can.

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