



DESTINATION ZERO

Creating a greener, more sustainable
Malvern Hills district

1 INTRODUCTION

CLr John Raine (Portfolio-Holder for the Environment)
 CLr Julie Wood (Chair of the Environment Policy Development Panel).



In July 2019, Malvern Hills District Councillors unanimously supported a Motion for the Council to declare a Climate Emergency and prepare an action plan by way of response. Over the succeeding five months a huge amount of work has been undertaken not only by councillors and staff of the district council but also with inputs from a considerable number of individuals and partner organisations with particular interests and relevant expertise to contribute to the task.

The resulting plan: *Destination Zero: Creating a greener and more sustainable Malvern Hills District* represents the all-important first stage in our commitment to reducing carbon emissions within the district area to net zero – this being our target not only for the council’s own infrastructure and operational environment but for the district area and its communities as a whole.

The council has made an initial commitment of £250,000 to support the plan, the aim of which

is to achieve net zero emissions ‘as quickly as possible’ - with its own operations becoming carbon neutral by 2030, and the district as a whole by 2050 at the very latest.

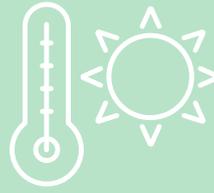
That said, it is of course impossible to know with any certainty how long it will take to achieve several of the ambitions and planned actions, not only because so much depends of developing technologies and evolving know-how, but also because many of the key actions lie outside the direct control of the council and depend on other agencies and individuals respectively making changes in their practices and behaviours.

Accordingly, we will need to keep our action plan under close review – with progress being monitored on a quarterly basis, and with updates published every six months.

This first iteration of our action plan commits the council to some 56 different actions, many of which still need fuller elaboration on exactly how the challenge will be addressed, precisely which agencies will need to be involved and doing what, and by when achievement might reasonably be expected. But, for the present, we encourage everyone to reflect carefully on the ambitions and commitments set out in this document and to provide feedback and further suggestions. In this way the document can become the evolving action plan that we want it to be – and one in which we can all feel we have a stake and sense of shared ownership.

**John W Raine
 Julie Wood
 January 2020**

2 BACKGROUND



Since the industrial revolution, global temperatures have increased by about one degree Celsius resulting in damaging climate change, the impact of which is already being felt across the planet.



Following the creation of the Paris Agreement in December 2015, some 195 nations have committed to global action to limit temperatures from rising above 1.5 degrees Celsius by 2050. This is the point scientists warn climate change will start to trigger many natural ecosystems passed a dangerous tipping point, which will have far reaching consequences for life as we know it.

In October 2018, the Intergovernmental Panel on Climate Change warned the planet was on course to miss the 1.5°C target, but with ambitious action it was still achievable. In order to do this the planet's emissions need to be halved by 2030 and a net zero position reached – where emissions produced are balanced out by carbon capture or offsetting – by 2050.

However, it warned the bulk of the work to reduce emissions must be carried out during the next decade.

In February 2019, the Worcestershire Energy Strategy was published by Worcestershire Local Enterprise Partnership. The strategy includes targets to reduce greenhouse gas emissions across the county by 50% - against a 2005 baseline - by 2030, with an ambition to be net zero by 2040. Tripling renewable energy generation and doubling the low carbon economy are also key measures in the plan.

In May 2019, the UK Committee on Climate Change, set-up to advise the Government, called for the introduction of a net zero target for the UK by 2050. The Government agreed to this recommendation in July 2019.

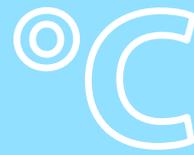
Hundreds of councils across the UK also responded to the IPCC report, and to increasing public concern about climate change, by declaring climate emergencies.

Malvern Hills District Council approved a motion on July 23 2019 to declare a climate emergency and called on the organisation to address its own carbon footprint with new urgency. The Environment Policy Development Panel was asked to carry out the research to produce a carbon reduction plan in response to this, including recommendations for appropriate carbon emission reduction targets.

This report is the result of that research. It takes into account planned national action, existing local plans, evidence from other councils and consultation with our partners and residents.

It sets out an ambitious but realistic vision, which will help ensure Malvern Hills District Council, residents and businesses play their part in supporting the national and international effort to tackle climate change.

3 LOCAL IMPACT OF CLIMATE CHANGE



Our climate is already changing and even if we are successful in achieving our ambitions both locally, nationally and internationally, we will still see shifts in weather patterns that will require us to make adaptations to all aspects of modern life and build resilience in our communities.

According to data from the Met Office, the average temperature over the most recent decade (2009-2018) across the UK has been 0.3 °C warmer than the 1981-2010 average and 0.9 °C warmer than the 1961-1990 average. Since records began in 1884, the top ten warmest years for the UK have occurred since 2002.

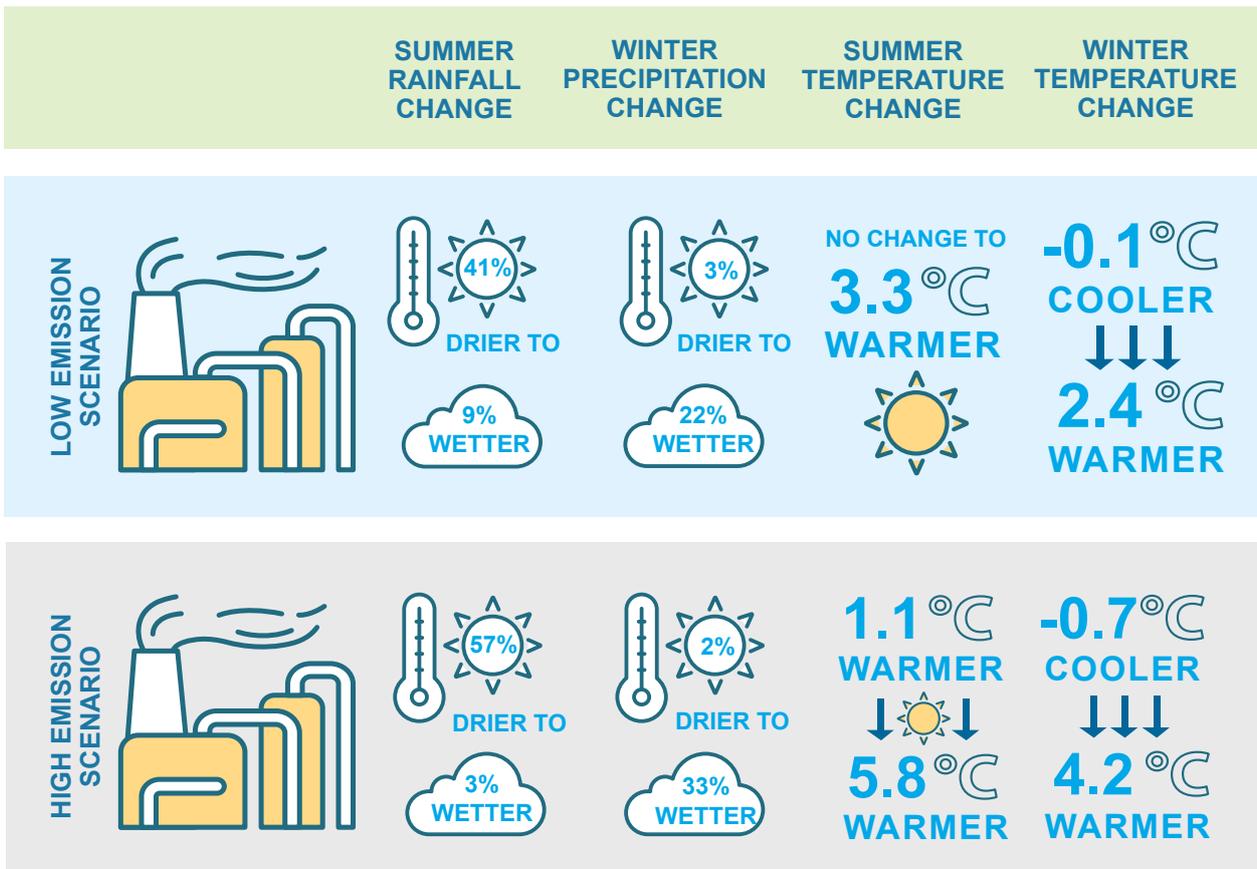
Looking ahead to future years, both in Worcestershire and across the UK, we can expect to see on average warmer and wetter winters, hotter and drier summers, and more frequent episodes of extreme weather, ie more intense episodes of rainfall at all times of the year, flooding, droughts and heatwaves. (Source: Worcestershire Climate Change Strategy)

For example, the chance of experiencing the extended and severe heatwave of 2018 was historically less than 10%. This will rise to 50% by 2050 and increase further with additional warming.

The Met Office has set out forecasts for how the climate is likely to change in both a low and high emissions scenario for a location in Central England, which gives us a likely indication of what we can expect.



Summer and winter changes by the 2070s location in Central England (Source: Met office)

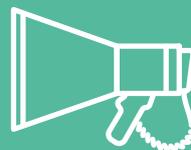


As well as the impact on human life, there are serious implications for wildlife. These include water stress due to hotter summers which may lead to further declines in water quality. This will impact on freshwater species and habitats. We may lose trees due to severe drought or waterlogging and warmer winters could threaten hedgehog and bat populations, as they may no longer receive the temperature triggers needed to prompt hibernation preparation. We may see a disconnect between food availability and breeding seasons, eg caterpillars appearing before young birds have hatched, threatening bird populations. Changes in rainfall patterns may impact on species-rich grassland growth and distribution which, as well as impacting on biodiversity, will affect efforts to use natural habitats to capture and store carbon.

The impact of climate change globally must also be taken into account as the effects will filter down to a local level. These include increased food insecurity, increased competition for resources leading to conflict, disrupted supply chains, increased costs and increased migration pressure.

What this data highlights is failing to act will have serious consequences not only for our environment but for our residents, businesses and public services as well. It reinforces the need for urgent action to help the UK reduce its emissions and achieve carbon neutrality as soon as possible.

4 NATIONAL ACTION



The Climate Change Act 2008 set out a legally binding target to reduce the UK’s emissions by 80% against 1990 levels by 2050, which was updated in July 2019 to net zero by the same date.



To meet these targets, the Government has set five yearly carbon budgets which legally restrict the amount of greenhouse gases the UK can emit during the period. These are detailed below:

Budget	Carbon budget level	Reduction below 1990 levels
1st carbon budget (2008 to 2012)	3,018 MtCO ₂ e	25%
2nd carbon budget (2013 to 2017)	2,782 MtCO ₂ e	31%
3rd carbon budget (2018 to 2022)	2,544 MtCO ₂ e	37% by 2020
4th carbon budget (2023 to 2027)	1,950 MtCO ₂ e	51% by 2025
5th carbon budget (2028 to 2032)	1,725 MtCO ₂ e	57% by 2030

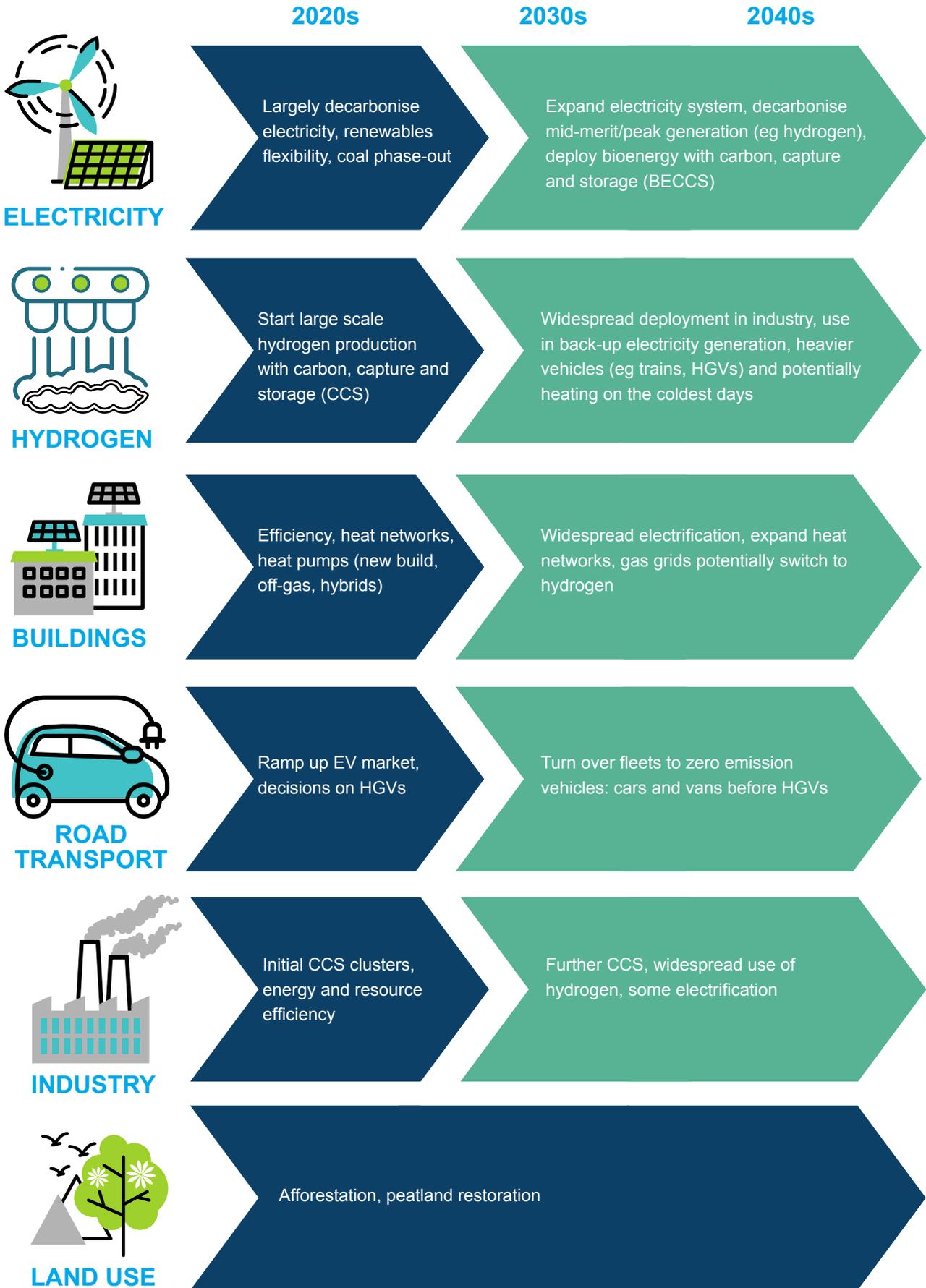
The independent Committee on Climate Change scrutinises government performance regarding its obligations and makes recommendations to help the UK meet its target.

According to the committee, in 2018 the UK’s greenhouse gas emissions were 44% below 1990 levels, meaning the country has met the first and second carbon budgets and is on track to meet the third. Coal now accounts for just 5% of UK electricity generation and low carbon power generation accounts for more than half of the UK’s energy needs. Coal fired power stations are set to be phased out by 2025.

In July 2019 the committee published its latest update report, which acknowledged the progress the Government has made so far and stated there was cause for optimism the UK could become carbon neutral by 2050.

However, it warned most of the country’s greenhouse gas emission reductions over the last five years had been achieved in electricity generation, with little progress being made in other sectors. It also warned the UK is currently on course to miss the fourth and fifth carbon budgets (2023 to 2032) and is inadequately prepared to cope with a rise in global temperatures of two degrees Celsius.

The table information on the next two pages is taken from the committee's net zero report, published in May 2019, and sets out the pathway for the UK to achieve its target:



2020s

2030s

2040s



AGRICULTURE

Healthier diets, reduced food waste, tree growing, low-carbon farming practices



AGRICULTURE

Operational measures, new plane efficiency, constrained demand growth, limited sustainable biofuels



SHIPPING

Operational measures, new ship efficiency, use of ammonia



WASTE

Reduce waste, increase recycling, landfill ban for biodegradable waste

Limit emissions from combustion of non-bio wastes



F-GASES

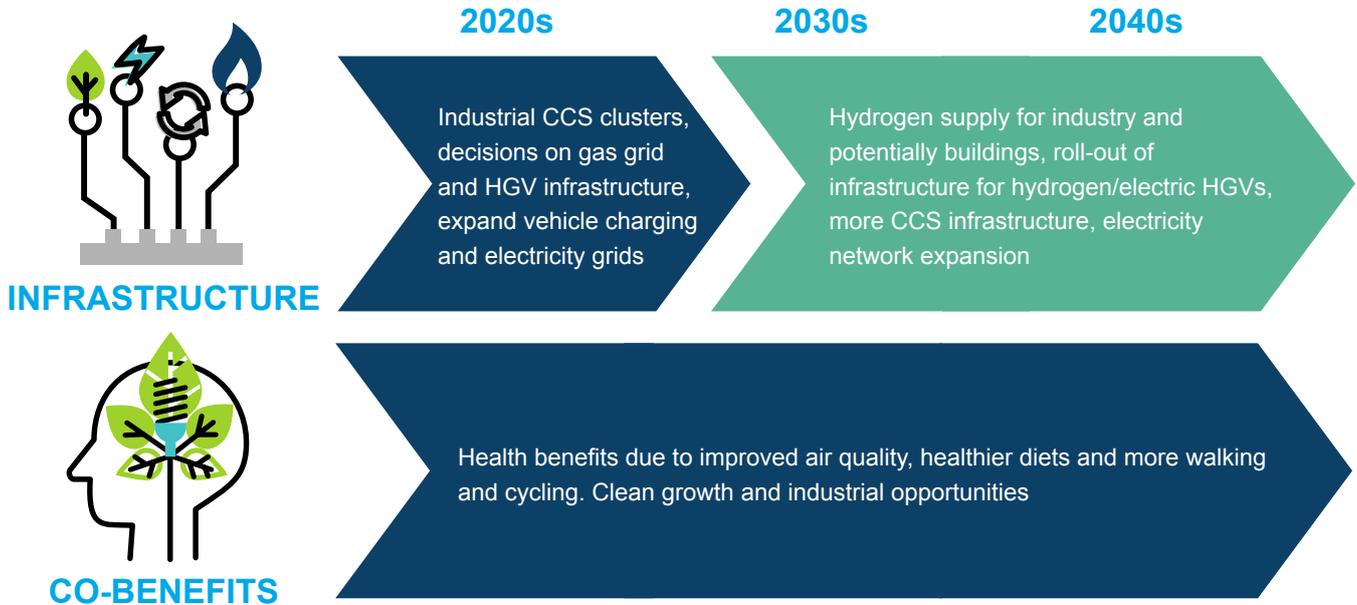
Move almost completely away from F-Gases



GREENHOUSE GAS REMOVALS

Develop options and policy framework

Deployment of BECCS in various forms, demonstrate direct air capture of Co2, other removals depending on progress



Source: Committee on Climate Change

The committee has recommended a series of new policy actions including:

- Bringing the ban on the sale of petrol and diesel vehicles forward from 2040 to 2030 or 2035
- Stronger incentives to purchase cleaner vehicles
- Plans for the roll out of zero emissions HGVs
- Schemes to support walking, cycling and public transport
- Improving energy efficiency in industry by 20% by 2030
- Capital support for industry decarbonisation
- The development of a low carbon heat strategy
- New build standards to ensure new homes are ultra efficient and use low carbon heating by 2025
- The planting of 30,000+ hectares of forest every year
- Plans for networks to be capable of meeting higher demand for electrical energy
- A ban on the landfilling of biodegradable waste by 2025

The Government published its response in October 2019 which summarised existing achievements and set out future plans including:

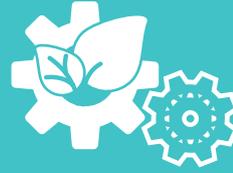
- An ambition to install another 30GW of offshore wind power by 2030
- The introduction of a Smart Export Guarantee,

ensuring from January 1 2020 homes and businesses installing solar, wind or other forms of low carbon energy generation receive payment for each unit of electricity they export

- A commitment to introducing a future homes standard, meaning new build homes must be future proofed with low carbon heating and the highest standard of energy efficiency
- An increase in the amount of green gas used in the gas grid to reduce the need to burn natural gas
- Analysing options for the long-term decarbonisation of heat with a view to publishing a roadmap in summer 2020
- Continuing to invest in carbon capture technology
- Plans to introduce measures to increase recycling and reduce waste through the national waste strategy
- Funding to support businesses to improve their energy efficiency
- A new tree strategy to review the Government's tree planting ambitions to help support the 2050 target

The full report is available [here](#). In addition to this there is also the Government's 25 Year Environment Plan, published in January 2018 and the forthcoming Environment Bill, which contains a range of proposals around resource management and environmental protection. Both of these support the targets and ambitions set out in the Climate Change Act.

5 THE ROLE OF LOCAL GOVERNMENT



Local authorities account for a small proportion of the UK’s greenhouse gas emissions but according to the Committee on Climate Change, they have a direct or indirect influence over some 40% of them. There is therefore a crucial role for local government to play in helping the UK meet its obligations under the Climate Change Act 2008 and the Paris Climate Change Treaty.

The Committee on Climate Change published a report in 2012 that outlined the context for the role of local government in tackling climate change and urged the setting of ambitious, but realistic targets. Based on this report, Malvern Hills District Council’s role in tackling climate change can be summarised into six principles:

1. **Leadership** – inspiring and encouraging others to take action
2. **Reducing emissions** from Malvern Hills District Council’s own operations
3. **Enabling** – creating the policy and planning environment to support the creation of infrastructure and innovation needed to help tackle climate change
4. **Service provision** (planning, waste transport etc)
5. **Partnership** – working with other stakeholders to deliver schemes jointly, recognising Malvern Hills District Council does not have all the answers
6. **Mitigation** – implementing measures to help communities build resilience to the current and future impacts of climate change

However, while there is much local government can do and has influence over, it must be stressed that significant government intervention is going to be crucial to meeting our own local targets. This will not only require certain national policy decisions but also further funding for programmes such as retrofitting of homes and changes to national planning policy to encourage low carbon or carbon neutral development.

The Local Government Association has reinforced this point by warning in September 2019 without further powers, and sustainable and simplified funding streams, councils would struggle to support the UK’s ambition of becoming carbon neutral by 2050.



6 OUR VISION



Vision: To lead Malvern Hills District to become carbon neutral as quickly as possible and by 2050 at the latest, with at least a 50% reduction in the district's carbon footprint by 2030.

The baseline for our vision is 2005, which is consistent with the Worcestershire Energy Strategy and national guidance.

In 2005 Malvern Hills District generated 507.2 thousand tonnes of carbon equivalent emissions (co2e). Co2e takes into account other gases that cause climate change and converts them to a carbon equivalent to give a total picture of an area's greenhouse gas emissions.

There has already been a 25% reduction in greenhouse gas emissions across the district between 2005 and 2017, which is the last year for which figures are available for.

The district generates 381,000 tonnes of co2e every year, amounting to 4.9 tonnes per person.

To achieve our vision we will need to remove or offset at least 128,000 tonnes of co2e by 2030 through schemes to reduce emissions and capture carbon.

The table to the right shows the current co2e emissions for the district broken down by sector. It excludes, heavy industry, agriculture and motorway emissions as these are beyond our direct influence and control. However, this does not mean we cannot and should not lobby for changes to transport and agricultural policy more widely.

Malvern Hills District Co2e emissions by sector 2017

Sector	Thousand tonnes of co2e
Industry and commercial	92.7
Domestic (gas, electric, other fuels)	129.1
Transport (A roads, minor roads, other)	159.1
Total	381

While there are many actions we can and must take locally, we will benefit from measures being put in place nationally to help reduce the district's emissions.

Below sets out how the predicted impact of these national schemes, when combined with local initiatives, can help us achieve our vision by 2030.

	(tonnes of co2e)
Decarbonisation of National Grid	76,300
EV growth	67,167 – (37,315 vehicles)
MHDC going carbon neutral	1,200 tonnes
Switching domestic oil use to bio fuel	30,000
25% reduction non-electric car journeys	17,168
AND/OR	
Planting 246,000 trees (or other carbon capture habitats)	20,000
Total reduction/offset:	194,667 tonnes

If these predictions are realised then it will mean a reduction since 2005 of 338,385 tonnes of co2e by 2030 or 67%.

7 PRIORITIES



Between July and October 2019 we carried out a series of consultation exercises with members, staff, partners and the public to gather ideas and feedback to help inform our response to the climate emergency. More than 190 ideas were generated. These ideas have been reviewed and refined on the basis of cost, feasibility and carbon impact. Together with other research and evidence gathering from other local authorities, this has helped us identify eight priority areas we need to focus our time, money and effort on in order to achieve our vision. At Appendix One is a detailed action plan setting out a series of actions for each priority and the known carbon impact and the cost implications.

The following pages summarise some of the key issues and evidence behind each priority.



Priority 1: Make Malvern Hills District Council's operations carbon neutral by 2030

It is important for Malvern Hills District Council to show leadership on this issue by ensuring our own operations are carbon neutral.

As a council we have been taking action to reduce our environmental impact for some years, including partnering in 2010 with the Carbon Trust to produce an energy saving plan. Some of the actions we have taken include:

- Shrinking the size of our estate to a single site and the depot which has reduced electricity and gas use by 34% and 19% respectively
- Installation of solar panels on The Depot, Hill Centre and Malvern Vale Community Centre
- Fitting of LED lighting in the Council House, Council Chamber, Depot, TIC and Malvern Theatres
- Fitting of lights sensors on kitchens and toilets in the Council House
- Installation of sheep wool cavity insulation in the Council Chamber to upgrade the thermal value

- Installation of three electric car charging points at Priory Road South Car Park
- Installation of a grey water harvesting tank from the new reception extension
- Installation of Energy efficient hand driers and low flush WCs in toilets in the Council House
- Reduction in printing, saving 2,152 reams of paper since 2015/16. Paper used for printing is produced from FSA and Woodland Trust approved sustainable sources
- Removal of single-use disposable cups from the Council House and depot to reduce waste and use of plastic
- Investment in a new fleet of fuel efficient refuse collection vehicles
- A 33% reduction in co2e emissions from Malvern Splash as a result of measures to reduce the centre's electricity and gas usage

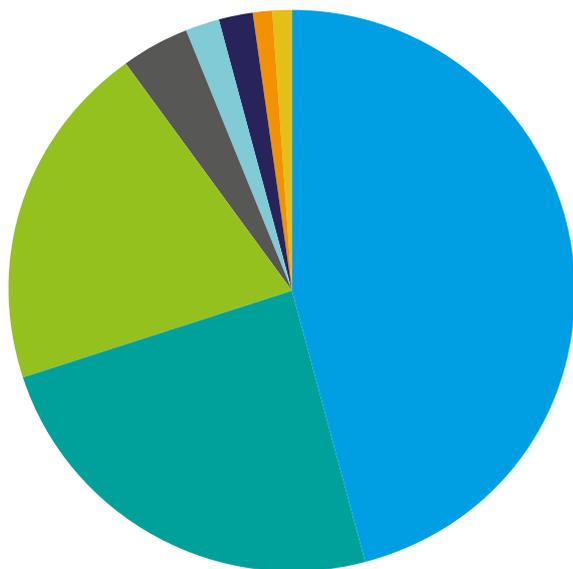
This has helped reduce our emissions by approx. 350 tonnes since 2010 but we need to go further and faster.

In 2018/19 the council's operations generated 1,750.18 tonnes of co2 equivalent gases (co2e).

The table on the next page shows the breakdown of how those emissions are generated.

Breakdown chart of Malvern Hills District Council's greenhouse gas emissions 2019

Malvern Hills 2019 Total kg CO2e



- Refuse vehicles 46%
- Malvern Theatre 24%
- Malvern Splash 20%
- Council house and chamber 4%
- Other buildings 2%
- Staff and councillor travel 2%
- TICs 1%
- Car parks and toilets 1%

Two thirds of our emissions come from our waste and recycling collection vehicles and Malvern Splash. In order to become carbon neutral we will need to replace our waste and recycling collection vehicles at the end of their life with non-internal combustion engine vehicles. This is likely to be necessary about 2029. There will be earlier opportunities to replace other parts of the fleet over the next decade and introduce fuel saving technology such as electric bin lifts. Malvern Splash requires significant investment in the next two to five years to extend the life of the building. This will provide an opportunity to improve energy efficiency and reduce the centre's carbon footprint at the same time. Combined with other energy efficiency measures in our other buildings this should reduce our emissions to about 473 tonnes. This will then need to be offset by planting 7,500 trees over five hectares.



Priority 2: Encourage low carbon development and design measures to improve resilience and adaptation to climate change

We need to ensure the homes we are planning now are fit for the future. This means that not only must they not add excessive amounts of carbon emissions to the atmosphere during construction, but they must be designed in ways that can protect people from excessive heat, flooding etc. Households across Malvern currently generate on average 4.9 tonnes of carbon emissions per person, every year, including transport. According to the latest five year housing land supply report, 217 homes per year need to be built across the district up until 2030, with a further 1,940 proposed to 2041 as part of the SWDP Review. Based on an average household size of 2.35, and without any changes to the way homes are built, heated, supplied with electricity or lifestyle behaviour change from the public, this would add close to 48,000 tonnes of greenhouse gas emissions to the district's annual total. This would require further measures to reduce or offset these emissions.

We also need to create the right environment for investment in renewable energy developments by using our role as a planning authority and influencing Western Power Distribution to resolve local capacity issues on the grid.



Priority 3: Improve the energy efficiency of homes across the district

Energy use in homes is the second biggest producer of greenhouse gas emissions in our district. While major strides are being taken to decarbonise electricity production nationally by 2030, gas is likely to remain carbon intensive and a significant source of heating for homes for a while longer. The way people heat their homes will therefore need to change in order to achieve our ambition of a carbon neutral district by 2050 at the very latest. While alternatives to gas boilers do exist, they are currently expensive and not suitable for every home. Therefore, in the early years of our plan, the focus will need to be on encouraging people to install insulation and other energy efficiency measures.

There are currently more than 16,000 homes across the district that are rated below a C by their Energy Performance Certificate. By carrying out the recommendations made by the energy assessment (solid wall insulation, under floor insulation etc) it should be possible to bring over 11,300 of them up

to a C rating. This would save approx. 39,000 tonnes of carbon emissions as well as saving money for householders. External funding for these schemes is available, such as the ECO deal for those claiming certain benefits and which relies on money provided by the main energy providers. We already work with Act on Energy to promote these schemes and will continue to do so in future. However, to carry out a full retrofit project would require fresh government funding as the cost is likely to run into several million pounds. Our efforts would be best focused on helping the 18.4% of properties that are not on the central gas network and which rely on heating oil. Supporting homes to switch to biofuel or other lower carbon fuel sources would be inexpensive for the consumer and save approx. 30,000 tonnes of greenhouse gas emissions. We also need to create the right environment for investment in renewable energy developments by using our role as a planning authority and influencing Western Power Distribution to resolve local capacity issues on the grid.



Priority 4: Encourage low carbon travel

Transport is the sector that generates the most greenhouse gas emissions across our district and it continues to grow. Encouraging people to swap their petrol or diesel car for an electric or other low emission vehicle and to use more sustainable modes of travel, ie walking, cycling, buses, car-sharing, will be crucial in meeting our ambition. There are currently 48,000 cars on the district’s roads. Just 274 are ultra low emission vehicles (electric or other), although this is predicted to grow significantly year on year. By 2030 it estimated there will be 37,315 electric vehicles on the district’s roads saving more than 67,000 tonnes of greenhouse gas emissions. National and international developments will support this growth. The UK government has announced it will ban petrol and diesel vehicles by 2040 and the French government by 2030. As car manufacturers are unlikely to make different vehicles for different markets, it is likely we will see the phasing out of petrol and diesel vehicles in the UK at a much faster rate.

We have a role in supporting this growth by ensuring the electric vehicle charging infrastructure

is in place. We will do this through a combination of incentivising the private sector to install charging points and installing more charging points in our car parks. There are currently just 12 EV charging points available across Malvern Hills district.

Provision of public bus services across the district is limited and has reduced in recent years. Across Worcestershire the number of bus passenger journeys has fallen by more than 4 million over the last decade. We will need to lobby and work with both Worcestershire County Council and commercial operators to reverse this trend, as well as promoting and incentivising alternatives such as community transport, car-sharing clubs, etc.

We will also have to engage with taxi drivers locally to encourage and support them to switch to low emission vehicles



Priority 5: Support businesses to become more energy efficient

Industry has already made significant steps to cut its greenhouse gas emissions but needs to go further. Encouraging businesses to help us achieve our vision for the district will not only help save them money, but will also provide opportunities for growth.

Latest figures from the Office of National Statistics reveal the UK’s low carbon and renewable energy economy grew by 6.8% to £44.5billion in 2017. The Worcestershire Energy Strategy estimates the county’s share of this is about £334million.

In 2011/12, the last year for which data is available at a local authority level, there were 411 companies working in the low carbon sector countywide. The strategy includes a target to double the size of the county’s low carbon sector by 2030 and work is ongoing to understand how that breaks down by district.

We can play a role in supporting the growth of the local low carbon sector through our grants system. External funding is also available for SMEs to install energy efficiency measures. We currently promote these, but in future we can do so in a more targeted way by concentrating on those businesses that are most energy intensive.



Priority 6: Reduce the amount of waste going for landfill or incineration from the district's households and businesses

The main driver of climate change is consumption. The more we consume, whether food or goods, the more demand that drives for raw materials, the manufacture of products and the movement of those goods. Encouraging people to consume less, reuse more and recycle as much as possible is crucial to the global effort to tackle climate change. Locally it is more difficult to measure the impact of waste reduction as a lot of the emissions will be generated higher up the supply chain. However, disposal of the district's waste at the Energy from Waste plant will be adding to greenhouse gas emissions elsewhere in the county.

The move to Alternate Weekly Collections in 2018 resulted in a drop in the amount of waste collected from households across the district of about 2,000 tonnes to 12,156 tonnes overall.

Without significant behavioural change though, waste from households is expected to rise by 2030 to about 1% annually.



Food waste is a particular issue and about 37% of the district's waste is estimated to be food. Reversing this trend is crucial and will require investment to support significant behaviour change campaigns targeting both residents and businesses. In the future we may also need to explore alternatives to existing centralised waste collections, which may require changes to legislation.



Priority 7: Use tree planting, pollinator sites, wetlands, wildflower meadows and other natural measures to capture and store carbon

Trees and our natural environment have a key role to play in reducing our carbon footprint. When eco systems are joined up and work as they are supposed to, they have the potential to capture significant amounts of carbon. They also provide a host of other environmental benefits that can alleviate some of the other impacts of climate change, such as flash flooding, drought, etc.

However, much of the potential of these systems has been disrupted by human activity. As part of our plan, we have an opportunity to repair some of this damage.

Protecting, maintaining, expanding and connecting the district's existing high quality habitats will create a resilient network of biodiverse sites. Many of the typical habitats of our district have immense value beyond their ability to capture and store carbon, with traditional orchards, species-rich meadows, reed beds, fens and marshes, heathlands and ancient woodlands all contributing to the rich biodiversity and landscape character that makes our district so special.

Worcestershire County Council, together with partners including Malvern Hills District Council, is working on a Nature Recovery Map which will set out the best places to create different types of habitat (woodland, wetland, grassland etc). It is important to start this process as soon as possible as the more we delay, the more trees will need planting, the larger the habitat will need creating and the more it will cost.

Cost will be a significant barrier to meeting this priority as while some external funding is available to purchase trees and support schemes, they do not cover land purchase. Any new woodland planted will also need to be actively managed for many years to ensure that its carbon capture and storage potential is realised.

The table below shows the best type of habitats to develop, the potential carbon impact and the indicative costs if we were to purchase all the land ourselves:

Existing land use	Change of land use	Carbon impact (tco2e) per hectare by 2030 (if started in 2020)	Hectares of land needed to capture 20,000 tonnes	Number of trees required	Cost (based on purchasing arable land at £20,000 per hectare)	Additional benefits
Agriculturally improved grassland (fertilised, used to grow silage etc)	Semi-improved grassland (wildflower meadow)	53.64	280	N/A	£5.6million	Pollinator provision, high quality hay crop and/or grazing land, reduced pesticide and artificial fertiliser use, leading to improved water quality in the wider environment, potential flood water holding capacity
Agriculturally improved grassland	Native broadleaved Woodland	122.43	164	246,000	£3.28million	Biofuels from woodland thinning, soil stabilisation, natural flood management, additional woodland habitat, however will take many years to develop ground flora and is no replacement for existing ancient woodlands, however where new planting buffers and expands, this can be beneficial.
Agriculturally improved grassland	Semi-improved grassland plus red clover	127.82	156	234,000	£3.12million	Pollinator provision, high quality hay crop and/or grazing land, reduced pesticide and artificial fertiliser use, leading to improved water quality in the wider environment, additional atmospheric Nitrogen removal, potential flood water holding capacity

Without external funding Malvern Hills District Council is unlikely to be able to create all the natural habitats required to offset a significant proportion of the district's emissions. We will therefore need to concentrate on working with partners and landowners and on smaller, affordable schemes that help offset emissions from our own operations.

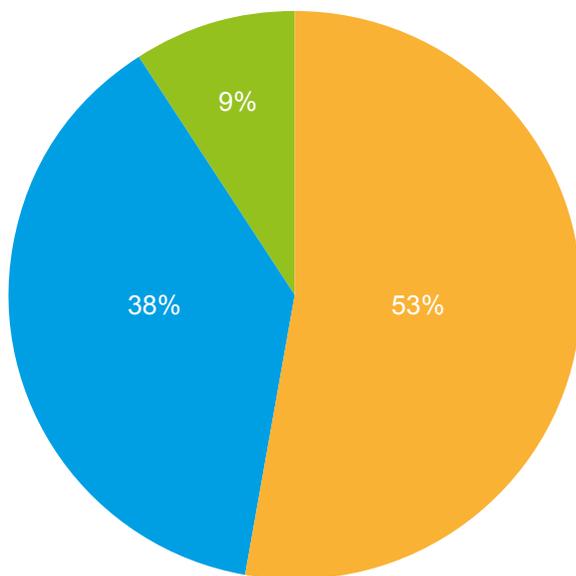
We have already had 46 sites put forward by our parish and town council partners that could be used to develop natural carbon capture habitats and we have spoken to partners including the Woodland Trust, Malvern Community Forest and Malvern's Marvellous Trees.



Priority 8: Engage with our communities to support them to reduce their carbon footprint

While technology and policy changes have a key part to play in tackling climate change; whether or not we are successful will ultimately rest on the willingness of the public and businesses to make changes to their lifestyle and activities.

The chart below from the Committee on Climate Change demonstrates how crucial it is the public willingly change their behaviour to meet the UK's carbon neutral 2050 target:



- Measures with a combination of low-carbon technologies and societal / behavioural changes
- Low-carbon technologies or fuels not societal / behavioural changes
- Largely societal or behavioural changes

Source: Committee on Climate Change

The Department for Business, Energy and Industrial Strategy publishes a regular tracker of public attitudes towards climate change. In March 2019 it found concern about climate change amongst the public had risen to 80%. However, concern was highest amongst those earning more than £35,000 and was less of a concern for those on lower incomes.

Most people believe walking, cycling or using public transport instead of using a car would have the biggest impact in tackling climate change. People felt eating less dairy and meat would have the least impact.

It was also found the majority of the public believe responsibility for tackling climate change rests primarily with central government (45%), followed by the general public (27%) and then businesses (14%). The survey also revealed the most significant motivating factor for people to make change was financial rather than environmental.

Such findings underline the importance of engaging with all parts of our community and helping people understand the simple actions they can take that will save them money and help the environment. Behaviour change campaigns will need to be more high profile in order to have the desired impact and that will require more funding.

A number of parishes and schools in our area have declared their own climate emergencies and are working on their own plans and it will also be important to engage and co-ordinate actions with them.

8 FUNDING



The action plan at Appendix One sets out the potential funding implications for the various actions, where known. Each scheme will be worked up on a business case by business case basis and wherever possible we will look for natural opportunities to invest or for external funding. Undoubtedly, additional investment will be required and to support this, £250,000 has already been earmarked from the priorities reserve to fund initial actions.

There will also be opportunities for the council to generate additional income from some proposed projects, particularly those involving investment in renewable energy generation.



9 MONITORING AND EVALUATION



The plan will be monitored as part of the council's quarterly performance monitoring reports with specific updates provided every six months to the Executive Committee.

While a carbon resource is required to lead and co-ordinate these projects, reducing emissions requires action by officers across all departments. In addition an officer working group will be set-up to ensure progress is being made against the action plan, with monitoring and oversight by the Environment Policy Development Panel.

Our measures of success will be:

- Reduction to zero of the council's own greenhouse gas emissions
- Reduction as far as possible towards net zero of district-wide greenhouse gas emissions

(under scope of influence of local authorities)

- Growth in size of the low carbon economy (to be defined)
- Increased amount of renewable energy generation across the district
- Increase in the amount of carbon captured through council action

Progress with the plan will be reviewed on at least an annual basis and reported to the Environment Policy Development Panel and the Executive Committee, with changes in technology and national policy announcements being taken into account in each update. A full refresh will be undertaken after five years.

Appendix One: Action Plan

The action plan outlines in more detail how each of the eight priorities will be achieved, their carbon impact and funding implications, if known.

As projects are being worked up on a case by case basis the action plan will be updated when those details are ascertained. Timescales are given as short, medium and long (defined by the key below) and indicate how soon work on an action can be started and not necessarily when it will be completed.

Key:

Short	1-2 years
Medium	5 years
Long	By 2030
Ongoing	Work will continue throughout the life of the plan

Actions	Carbon impact (co2et)	Funding implications	Timeline
Priority 1: Make Malvern Hills District Council's operations carbon neutral by 2030			
Replace car park lights with more efficient LED lighting	1.6 tonnes	£11,800 – planned expenditure	Short
Move our waste collection fleet to non-internal combustion engine vehicles by 2030 and make all the council's non-waste fleet electric or low emission by the same date	805 tones	Funding is planned for fleet replacement on the basis of petrol/diesel vehicles. Additional expenditure may be required to move to non-Internal Combustion Engine (ICE) vehicles.	Long
Switch the council to a green energy supplier for gas and electric when current contracts end in 2021	197 tonnes approx.	Will depend on tariffs available at the time but when combined with other energy efficiency measures is likely to be cost neutral	Medium
Use our procurement rules to ensure the local authority supply chain is minimising carbon emissions	1,400 tonnes approx. (as these emissions are generated higher up in the supply chain we won't be able to directly count them towards our target)	Some contracts may end up costing more but it is easier to eliminate emissions in the supply chain than having to offset them later so overall the council will benefit	Short
Install further heat and energy efficiency measures within our buildings, but particularly the Splash	210 tonnes approx. (based on 50% reduction on current emissions)	Energy efficiency package planned for the Splash including LED lights, more efficient glazing, renewable technology and more efficient heating. Requires separate Council approval	Medium

Actions	Carbon impact (co2et)	Funding implications	Timeline
Priority 1: Make Malvern Hills District Council's operations carbon neutral by 2030			
Eliminate single-use disposable products within the Council House and depot and move the council towards becoming a low waste authority	TBC	Potential for small savings from eliminating purchase of single-use items	Short/medium
Run staff communications campaigns on waste reduction and energy efficiency (turn off lights, monitors, print less etc)	6 tonnes approx.	Minimal and can be met within existing budgets	Short
Investigate reducing the number of council meetings and look to use technology (video conferencing etc) for informal meetings to eliminate the need for staff and councillors to travel long distances	TBC	Additional investment required in technology. Currently being explored by ICT.	Short
Employ a carbon reduction resource	Will not be possible to deliver on the plan without additional resource	Additional investment required between £30k and £40k. Approved by Exec Committee Nov 2019.	Short
Priority 2: Encourage low carbon development and design measures to improve resilience and adaptation to climate change			
Increase the requirement in the SWDP for 20% of new homes on each development to be dependent on renewable energy (subject to viability and outcome of Building Regulations consultation)	TBC	None	Short
Require infrastructure for electric vehicle charging points to be installed for every new home	Will support the growth in EV market which is estimated to save 61,167 tonnes by 2030	None	Short
Carry out a call for sites to identify land suitable for renewable technology developments	TBC	??	Medium
Lobby the government to require all new homes to be carbon neutral as soon as possible and to urgently update national planning policy to minimise carbon emissions	TBC (Approx. 34,000 tonnes)	None	Short
Introduce a policy in the SWDP to require developers to show how new developments are designed to adapt to climate change including use of green and brown roofs, solar shading, thermal mass, heating and ventilation of the building, tree planting to provide shading and help to connect habitat	Important to meet our role in ensuring we are building resilience and adapting to climate change as per the county climate change strategy	None	Short

Actions	Carbon impact (co2et)	Funding implications	Timeline
<p>Priority 2: Encourage low carbon development and design measures to improve resilience and adaptation to climate change</p> <p>Require all development to minimise surface water runoff and where possible incorporate mitigation and resilience measures for increases in river flooding that may be caused due to climate change</p> <p>Encourage development near to the rail network rather than the road network to encourage a shift away from car use to public transport</p>	<p>Important to meet our role in ensuring we are building resilience and adapting to climate change as per the county climate change strategy</p> <p>Support efforts to achieve a 25% reduction in non-ICE vehicle journeys, with a potential overall saving of 17,168 tonnes</p>	None	Short
<p>Priority 3: Improve the energy efficiency of homes and increase renewable energy generation across the district to 27.6MW by 2030</p> <p>Work with partners to increase take up of funding for existing energy efficiency schemes</p> <p>Offer targeted energy efficiency audits to homes, particularly older properties</p> <p>Strongly encourage our housing providers to carry out their own investment in existing housing stock</p> <p>Facilitate a community domestic solar PV bulk buying scheme</p> <p>Develop support for homes not connected to the gas grid including a bio fuel bulk buying club and secure low interest loans for the installation of renewable technology measures</p> <p>Lobby power distributors to upgrade distribution networks/ increase capacity for renewable and consider underwriting connections or upgrades to the grid to unlock renewable energy projects</p> <p>Invest in our own renewable energy/electricity generation projects</p>	<p>TBC</p> <p>TBC</p> <p>TBC</p> <p>TBC</p> <p>30,000 tonnes</p> <p>Will limit the increase in carbon emissions from homes and businesses</p> <p>Support the need to increase renewable energy generation across the target and reduce reliance on fossil fuels for domestic energy consumption</p>	<p>Potential requirement for promotional budget</p> <p>Additional investment required to carry out the audits</p> <p>???</p> <p>Minimal, could be met from existing budgets</p> <p>Additional money may be needed for promotion and subsidy depending on how the scheme operates</p> <p>Some additional investment required depending on circumstances</p> <p>Additional investment will be required but potential for income generation</p>	<p>Short/ Ongoing</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Short/ medium</p> <p>Ongoing</p> <p>Medium</p>

Actions	Carbon impact (co2et)	Funding implications	Timeline
<p>Priority 4: Encourage low carbon travel Install additional EV charging points, of all types on our own land, and encourage/incentivise others to install them</p>	<p>61,167 tonnes</p>	<p>External funding is available for installation of EV chargers.</p>	<p>Short and ongoing</p>
<p>Monitor the development of, and demand for, hydrogen filling stations</p>	<p>Support the growth of non-ICE vehicles across the district</p>	<p>None</p>	<p>Ongoing</p>
<p>Invest in increasing the number of walking and cycling networks across the district</p>	<p>Support efforts to achieve a 25% reduction in non-ICE vehicle journeys. Potential saving of 17,168 tonnes</p>	<p>Can be met from existing sources</p>	<p>Ongoing</p>
<p>Lobby the county council to introduce marked out kerbside parking bays as part of an enhanced car share club scheme</p>	<p>Support efforts to achieve a 25% reduction in non-ICE vehicle journeys. Potential saving of 17,168 tonnes</p>	<p>None</p>	<p>Short</p>
<p>Work with Transition Malvern Hills to expand the electric bike loan scheme</p>	<p>Support efforts to achieve a 25% reduction in non-ICE vehicle journeys. Potential saving of 17,168 tonnes</p>	<p>Additional investment for purchase of bikes and promotion. Potential external funding available</p>	<p>Short</p>
<p>Engage with taxi drivers to encourage a shift towards electric or low emission vehicles with a view to only licensing non-internal combustion energy taxis from a date to be determined. Apply increased permit costs for the most polluting vehicles operating as taxis</p>	<p>TBC</p>	<p>Income could be affected depending on details of incentive scheme</p>	<p>Medium</p>
<p>Lobby Worcestershire County Council and bus operators to move to an all electric fleet as soon as possible</p>	<p>1,050 tonnes approx. based on replacing 15 buses</p>	<p>None</p>	<p>Medium</p>
<p>Priority 5: Support businesses to become more energy efficient Introduce Free energy audits, advice and grant support targeted at our 100 top energy using SMEs</p>	<p>420 tonnes a year approx. (Based on 20 organisations a year accessing funds and each saving 21 tonnes of CO2 per annum)</p>	<p>External funding already available through BEEP programme</p>	<p>Short</p>

Actions	Carbon impact (co2et)	Funding implications	Timeline
<p>Priority 5: Support businesses to become more energy efficient</p> <p>Amend our business grant criteria to favour environmentally sustainable projects and proposals</p>	<p>420 tonnes a year approx. (Based on 20 organisations a year accessing funds and each saving 21 tonnes of CO2 per annum)</p> <p>TBC. Will have numerous impacts in areas including transport emissions and waste generation</p>	<p>None</p> <p>Met from existing budgets</p>	<p>Short</p> <p>Medium</p>
<p>Develop our Green Tourism offer</p>	<p>TBC. Support the growth of EV vehicles across the district, reduce emissions from transport</p>	<p>Some additional investment or loss of income depending on how incentive scheme operates</p>	<p>Short/medium</p>
<p>Introduce an incentive scheme to encourage businesses to install EV charges at their workplace, subject to funding</p>	<p>TBC</p>	<p>TBC</p>	<p>By 2030</p>
<p>Seek to minimise the carbon impact of the science park extension</p>	<p>420 tonnes a year approx. (based on 20 organisations a year accessing funds and each saving 21 tonnes of CO2 per annum)</p>	<p>Met from existing budgets</p>	<p>Short</p>
<p>Convene energy reduction workshops to support businesses, particularly smaller SMEs</p>	<p>TBC</p>	<p>TBC</p>	<p>Short</p>
<p>Double the low carbon sector across the district</p>	<p>TBC</p>	<p>TBC</p>	<p>Short</p>
<p>Priority 6: Reduce the amount of waste going for landfill or incineration from the district's households and businesses</p>	<p>TBC</p>	<p>Up to £10k</p>	<p>Short</p>
<p>Install and trial a new system of on the go recycling bins aimed at capturing cans and plastic bottles</p>	<p>TBC</p>	<p>TBC</p>	<p>Medium</p>
<p>Work with town and parish councils to identify new opportunities/sites for developing allotments in areas of high demand</p>	<p>TBC</p>	<p>TBC</p>	<p>Medium</p>
<p>Launch and promote a local water refill scheme to reduce use of single-use plastic bottles</p>	<p>TBC</p>	<p>Scheme already launched, Needs further promotion but can be met from existing budgets</p>	<p>Short</p>

Actions	Carbon impact (co2et)	Funding implications	Timeline
Priority 6: Reduce the amount of waste going for landfill or incineration from the district's households and businesses			
Support Malvern Hills Repair Café to develop a weekly service with potential for a mobile service offered at rural areas	TBC	Additional investment depending on size of grant offered	Short
Create a community fridge in each part of the district	TBC. Reduce emissions caused by food waste. Community Fridge already launched in Upton and projecting saving of 8 tonnes of food in first year	Up to £1,200 for purchase of fridges. Potential for external funding	Short
Run a promotional campaign to encourage businesses to sign up to our commercial recycling service	TBC	£5k additional investment per year	Short/ Ongoing
Support and expand the 30 Days of Zero Waste campaign	TBC	£1k additional promotional budget per year	Short/ Ongoing
Organise more targeted contamination/waste reduction campaigns in areas of high waste generation and of contaminated comingled recyclables	Increase quality and volume of material sent for recycling. Reduce emissions from disposing of waste	£5k additional investment per year to support promotion of campaign	Short
Support the county council in running a targeted food waste reduction project	TBC. Reduce emissions caused by food waste	Additional investment will be required to support contribution from county council	Short
Support more behavioural change campaigns (clothes swaps, buy local, smarter shopping etc)	TBC. Reduce emissions from disposal of textiles and other items	Minimal could be met from existing budgets	Short/ Ongoing
Priority 7: Use tree planting, pollinator sites, wetlands, wildflower meadows and other natural measures to capture and store carbon			
Identify council owned land and purchase additional land suitable for tree planting and other forms of carbon capture	500 tonnes to offset emissions from our own operations (based on planting 7,500 trees)	Purchase of land. Grant funding available for purchase of trees. Funding to support future management may be required	Short/ Medium
Work with parish councils and other landowners to develop pollinator sites	TBC. Will help offset district emissions it is difficult or not currently possible to eliminate	Up to £20k to deliver a match funding scheme with town and parish councils	Short/ Medium
Work with partners and landowners to encourage tree planting and other forms of carbon capture on land they own	Offset 20,000 tonnes (based on planting 246,000 trees)	Minimal but if partner help is not forthcoming the cost to the council to purchase the land to meet the target is currently between £2.5 and £5.6million over a 10 or 30 year period	Ongoing

Actions	Carbon impact (co2et)	Funding implications	Timeline
Priority 7: Use tree planting, pollinator sites, wetlands, wildflower meadows and other natural measures to capture and store carbon (except where highways safety concerns)	TBC	Minimal	Short
Explore more sustainable options for disposing of green waste from our own activities/land	TBC	TBC	By 2030
Work together with Worcestershire communities to restore, recreate and reconnect pollinator habitats across town and country (natural recovery network)	TBC	Will depend on successful external funding bid	By 2030
Work with partners to develop natural flood management techniques to reduce the potential impact of flooding on vulnerable communities	Important to meet our role in ensuring we are building resilience and adapting to climate change as per the county climate change strategy	TBC	By 2030
Priority 8: Engage with our communities to support them to reduce their carbon footprint			
Run a communications and engagement programme across the district to help residents, schools and community groups to find ways to reduce their impact on the planet including downloadable toolkits	Engaging with schools alone could save approx. 937 tonnes and will help reduce per capita emissions from current level of 4.9 tonnes	Could largely be met from existing budgets but may require some additional funding for high profile behaviour change campaigns	Short/ Ongoing
Create a partner/stakeholder group to help co-ordinate district-wide action and provide external scrutiny	Will contribute to achieving the overall vision of the plan	None	Short/ Ongoing

Appendix Two: Consultation

Below is an outline of the various consultation activities carried out with stakeholders and members of the public.

- **Malvern Hills District Council employees**
- We asked staff to contribute ideas via the staff bulletins in August. Over 30 suggestions were received and added to the long list of ideas taken to the Environment Development Panel for consideration in October 2019.
- We asked Senior Managers to complete a short survey about what their service areas currently do to support the environment and what they would like to do. We received seven responses, which will be considered as part of our internal staff environmental pledge.
- **Malvern Hills District Councillors** – We emailed all of our 38 members in August to request ideas and to invite members to a partner workshop. 11 members responded via email with over 40 ideas, which were included in the long list of suggestions that was taken to the Environment Policy Development Panel for consideration in October 2019.

Partners – We invited our 38 members and 27 partners to a workshop on 30 September 2019. The following organisations attended the workshop:

- Chamber of Commerce
- Environment Agency
- The Fold Artisan Village and Organic Farm
- Malvern AONB
- Malvern Car Club
- Malvern Community Forest
- Malvern Energy Co-operative
- Malvern Trust
- Midlands Energy Hub
- Platform Housing
- Repair Café
- Transition Malvern

- Worcestershire County Council
- Worcestershire LEP
- Worcestershire Wildlife Trust

Invitations were also sent to – The Federation of Small Businesses, National Trust Croome, Canal and River Trust, Community Land Trust, English Heritage, Historic England, Madresfield Court, Ramblers Association, Severn Trent, Sustrans, University of Worcester's Sustainability department and Woodland Trust.

Over 24 ideas were generated from this workshop (and included in the long list of ideas) and positive contacts were made that will help us to develop and deliver our plan going forward.

- We held a Parish and Town Council Forum on 21 October 2019. 35 parish and town council clerks and councillors and district councillors attended the forum. The forum contributed nearly 30 ideas for the emerging plan as well as suggesting 10 ideas that district and local councils could potentially work on together. All of these ideas were included in our long list that went to the Environment Policy Development Panel for consideration in October 2019.
- **Residents** - We held two public consultation events at Tenbury Applefest and Malvern Greener Living Fair in October 2019. Residents were given the opportunity to share their ideas by putting a postcard in our wishing well or in person. We received 22 ideas via postcard, which were added to the long list of ideas for consideration by the Environment Policy Development Panel. We directly engaged with over 50 residents in Tenbury with over 150 attending our Greener Living Fair. From our discussions with residents, a number felt that there were conflicting messages about climate change, with others saying they didn't know where to begin or whether their making changes in their own life would have any great impact. One resident even expressed fear and anxiety about the future. This further highlights that how we communicate with our residents will be crucial.





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