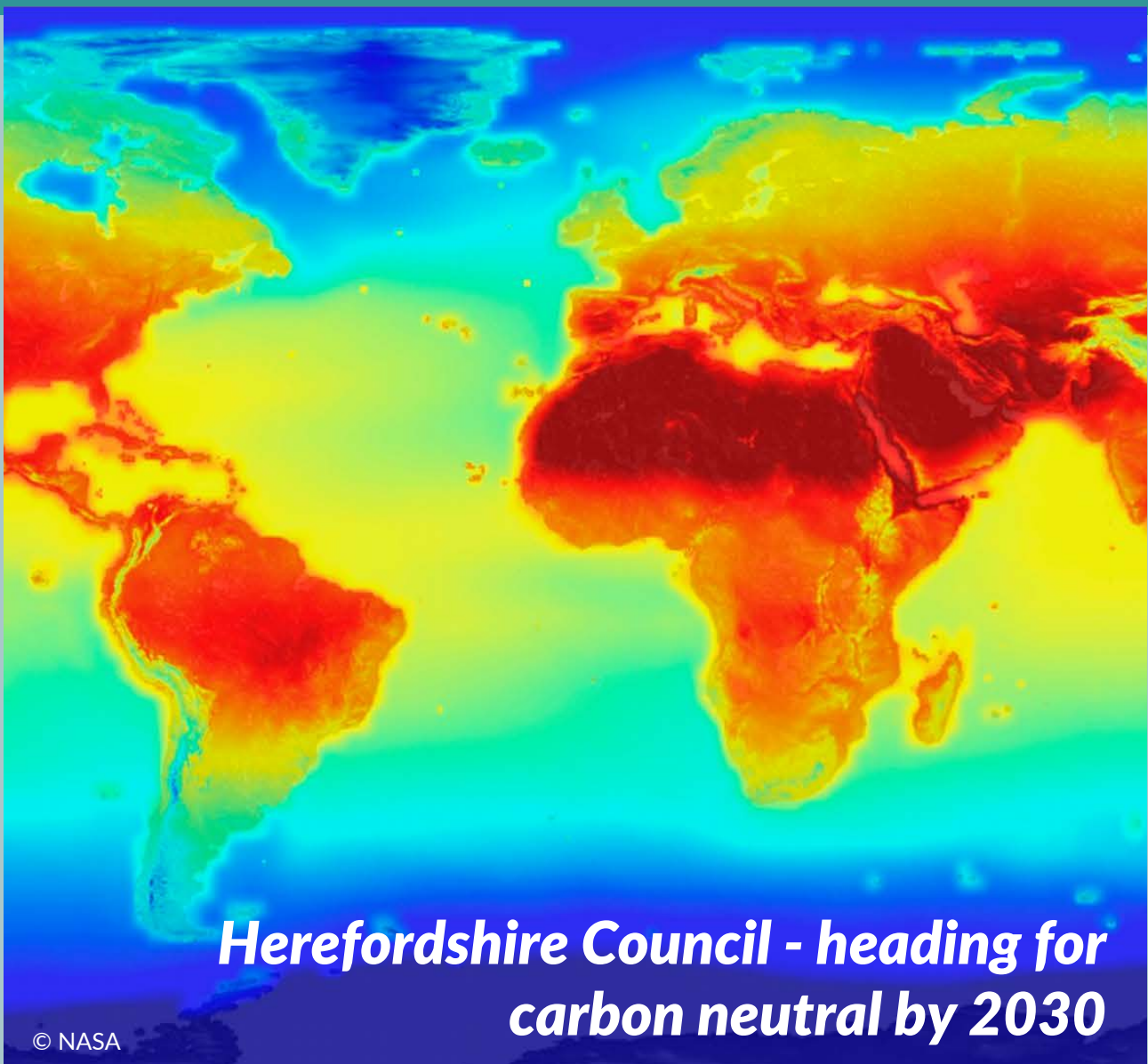


Pathway to Carbon Neutral

Carbon Management Plan 2020/21-2025/26





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Foreword

“Herefordshire Council is committed to leading local responses to the Climate Emergency and achieving our target to become carbon neutral by 2030/31.”

Councillor Ellie Chowns & Alistair Neill



Councillor Ellie Chowns
Cabinet Member for Environment



Alistair Neill
Chief Executive Officer,
Herefordshire Council

Climate change has been placed at the forefront of the agenda by the recent Intergovernmental Panel on Climate Change (IPCC) report stating the implications of a 1.5°C rise in global atmospheric temperatures. The associated impacts are significant for the world in which we live, work and play. Coupled with this report was the significant reaction and action by people across the world. The UK was no exception with young people and a variety of activist groups helping to embed firmly the fact that we are facing a climate emergency.

Herefordshire Council played an important leadership role in taking on the challenges that lie ahead by declaring a target of becoming carbon neutral by 2030/31.

This is Herefordshire Council's third Carbon Management Plan. It focusses on the period 2020/21 – 2025/26, the first five years of the ten-year period to 2030/31 and carbon neutrality.

It draws and builds upon the previous plans with one significant difference – the ultimate target for the Council to become carbon neutral by 2030/31.

This document is based on extensive evidence, research and analysis into how best to approach the challenging target, with a wide variety of key stakeholders having been instrumental in developing and shaping the plan.

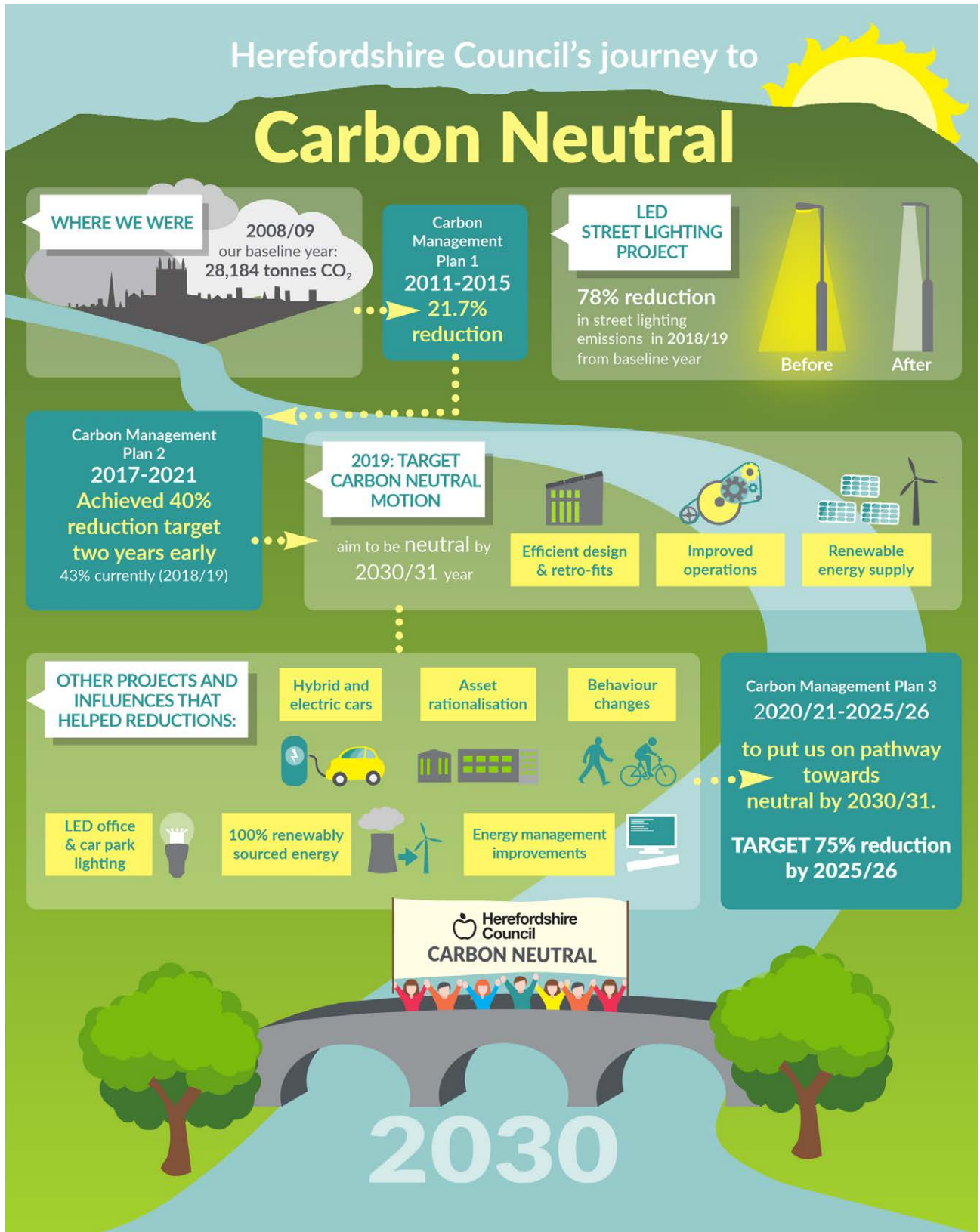
The associated action plan is dynamic and flexible. It will need to evolve constantly as interim goals are met, new challenges and opportunities arise and the landscape in which we operate changes over time.

We will work together with our partners and suppliers to deliver this goal and we will be actively working as a team in this hugely important task, making the Council and the County a better place to live, work and play.

Executive summary

Moving forward to carbon neutral

The infographic below depicts the journey, initiatives, challenges, solutions and possibilities we have included as part of our 2020/21 – 2025/26 plan.



Introduction

Our contribution to tackling the Climate Emergency

Herefordshire Council has a strong record of local leadership in addressing climate change. Since 2003, the council has been looking at ways to reduce its carbon footprint and also leading countywide carbon reduction. The Council has recently succeeded in achieving its ambitious emission reduction target two years early.

The first carbon management plan, launched in 2011, formalised this commitment and brought with it an increased investment in environmental and low carbon projects. This continued with the development of the second carbon management plan in 2017. By this time many of the projects were showing savings and emission reductions. These put us ahead of schedule and we exceeded our 40% emission reduction target two years early.

Our third carbon management plan builds upon and takes forward the plans and work as described in the previous carbon management plan. This foundation now provides the launch pad for attaining the challenging goals set out in this document.

This document has been designed to set Herefordshire Council on a pathway towards carbon neutrality. The associated action plan shows in more detail how we plan to move towards achieving our 2030/31 goal of becoming carbon neutral by aiming for a 75% reduction by 2025/26.

Achieving early gains in reducing our emissions are key success factors for making carbon neutrality a reality. Delivering a successful management plan requires the council to be realistic in our ambitions, creative in our approach and bold in our decision-making.

“Climate change is a huge challenge that we must face together. The council acknowledges the very real threat that climate change poses to our planet and unanimously declared a Climate Emergency in March 2019. I am proud to say that as a leading local authority in this region tackling climate issues, we have strong foundations to build on as we continue this work.

We need everyone on board to tackle the much bigger issues of our county emissions from homes, businesses and transport. We encourage residents, community organisations and businesses to join us by making their own changes, both small and large, so that together we can better protect the environment and preserve our wonderful county for our children and future generations.”

Councillor Ellie Chowns,
Cabinet Member for Environment



Council resolves to set both an organisational and countywide target for carbon neutrality by 2030



Declaring a Climate Emergency

Executive Response to the Climate Emergency

Following the unanimous resolution on the 8 March 2019, the council published its executive response on the 26 September 2019. The response is summarised below:

a) The executive commits to an accelerated reduction of the council's own carbon emissions and the aspiration to become carbon neutral by 2030/31.

b) The executive approves the policy approach of using 100% renewably sourced energy. On the 1 September 2019 the council switched its electricity supply to 100% renewable energy. We are exploring options for renewable gas as part of this plan.

c) The council will work with strategic partners, residents and local organisations to develop a revised countywide CO₂ reduction strategy aspiring for carbon neutrality by 2030.

The Council will be developing a citizen's panel and countywide action group in 2020/21. A report will be brought forward this year exploring the different engagement options including a citizen's assembly, citizen's jury, citizen's panel, youth panel and a public summit in 2020/21 and will explore the benefits and resource requirements of each.

The Council has set up a cross-party task and finish group on climate change to:

- Develop and propose a checklist of criteria to inform strategies, plans and future decisions.
- This checklist will help assess and increase the contribution of policies, strategies and decisions by reducing emissions and increasing resilience to climate change.
- Work with networks of major partners to develop a joint countywide strategy to meet carbon neutral by 2030.

d) The council will continue to monitor and publish reports on its performance on carbon reduction annually and will include future reporting on countywide emissions, which is also monitored annually. These will be published on the Council's new **Climate and Ecological Emergency** webpages.

e) A members briefing session on climate change was held on 16 July and a full day interactive workshop was held on the 21 October 2019. This was the start of an ongoing process of engagement to ensure that members are briefed on emerging local issues affecting the environment and able to participate in developing actions in response to those issues.

For more information please visit our website: www.herefordshire.gov.uk/climate

Our Carbon Footprint

Background to how we calculate our footprint

We started measuring our carbon footprint in the 2008/09 financial year and have used that as our baseline year against which we measure our emission reductions.

Over the years, the scope of our carbon footprint has remained relatively static although we have seen a reduction in numbers of staff as well as owned buildings during this period. We have included Scope 1 and 2 emissions and some Scope 3 as set out below.

Scope 1

- Council owned/controlled mobile combustion sources (e.g., petrol and diesel fuel consumed in buses and cars).
- Combustion of fuels in stationary sources (e.g., natural gas, burning oil, gas oil and LPG consumed within Herefordshire Council buildings).

Scope 2

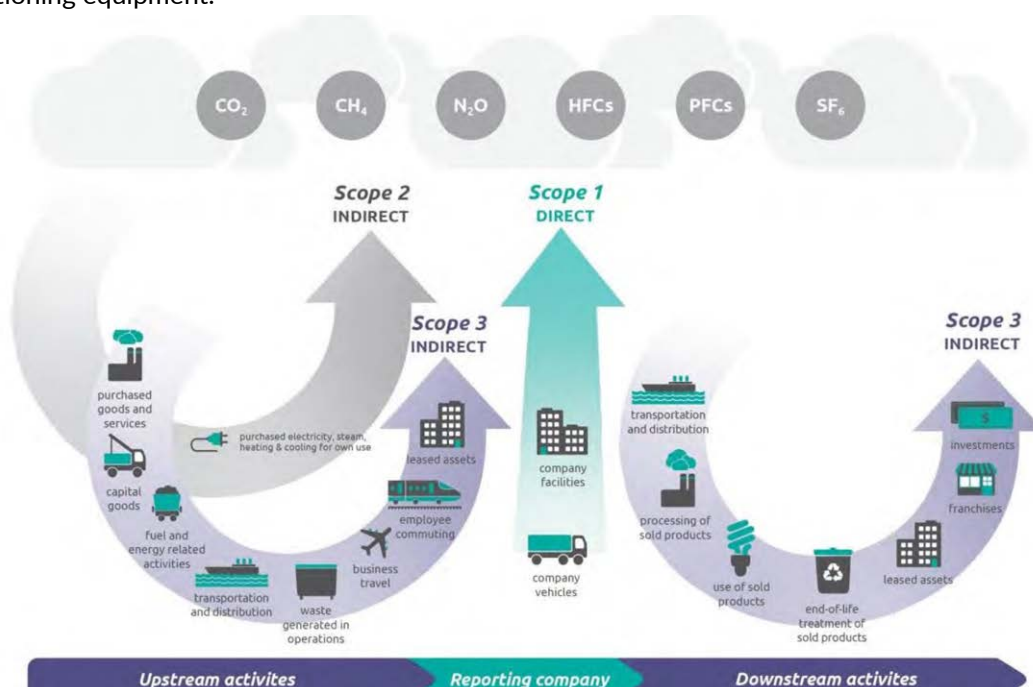
- Emissions from the generation of purchased electricity, heat or steam that is consumed in the Council's own or controlled equipment or operations (e.g., buildings and street lighting).

Scope 3

- Business travel (staff mileage, rail travel by Herefordshire Council staff for business purposes) and staff commuting.
- Electricity, gas, burning oil and LPG consumption in buildings operated by outsourced services for waste management, highways, leisure, cultural services, education (academies) and residential care homes.
- Petrol and diesel consumption by contracted fleet vehicles.
- Fleet and staff mileage undertaken by main outsourced contractors on behalf of Herefordshire Council.

Notable exclusions (also excluded from previous reporting periods):

- Emissions from Hill and Moor landfill site. Waste emissions are mainly from domestic properties and businesses which are represented in the county emission figures rather than the Council's.
- Fugitive emissions from air-conditioning systems. Fugitive emissions from intentional or unintentional releases, e.g., leaks or spills of hydrofluorocarbon (HFC) emissions during the use of refrigeration and air conditioning equipment.



Overview of Green Houses Gas (GHG) Protocol scopes and emissions across the value chain Source: www.ghgprotocol.org



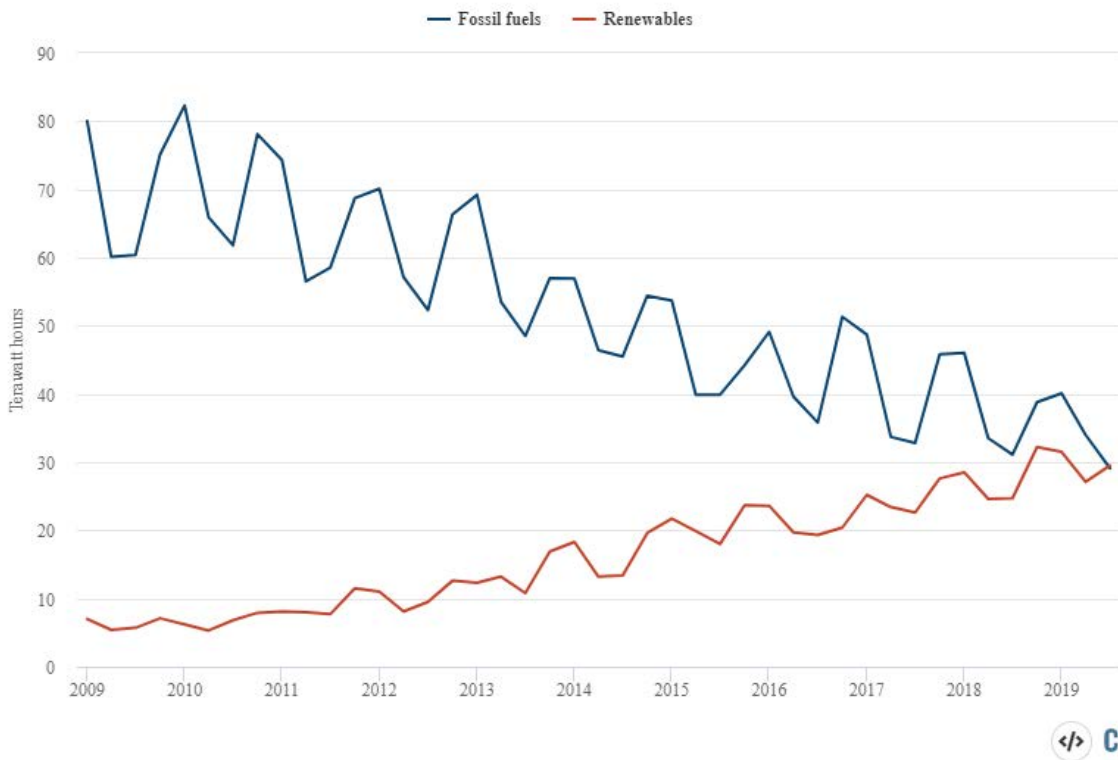
Previously we have kept our organisational and operational carbon emission boundaries relatively similar in order to compare actual emission reductions over time. However through the development of this plan we took the opportunity to broaden this to include staff commuting as part of our Scope 3 emissions. Here we consider this an important part of our responsibility and so have not only included it going forward, we have also included this retrospectively to the baseline year.

Our ability to access accurate data over time has also changed, notably with regards schools. Schools have gained increasing autonomy over time, with freedom of choice over preferred energy suppliers making accessing accurate and timely data increasingly difficult.

We use the most up to date, accurate and complete data wherever possible. Occasionally, we are required to make assumptions where data is unavailable. We also use the most up to date emission factors which has contributed to lowering our grid-connected electricity emissions in particular (Scope 2). In addition to the delivery of our action plan the national grid emission factor has been falling over the years, driven by the increasing portion of renewable energy being brought into the energy mix of the UK. The table below shows that in September 2019, the UK's energy mix for electricity reached the point where more energy was being derived from renewables than from fossil-fuels. That is a truly significant change from which we will benefit more as the mix ratio increases in favour of renewables.

UK renewables generated more electricity than fossil fuels for the first time

The third quarter of 2019 was the first ever to see this switch



Source: Dr Simon Evans, Carbon Brief, 14-Oct-2019

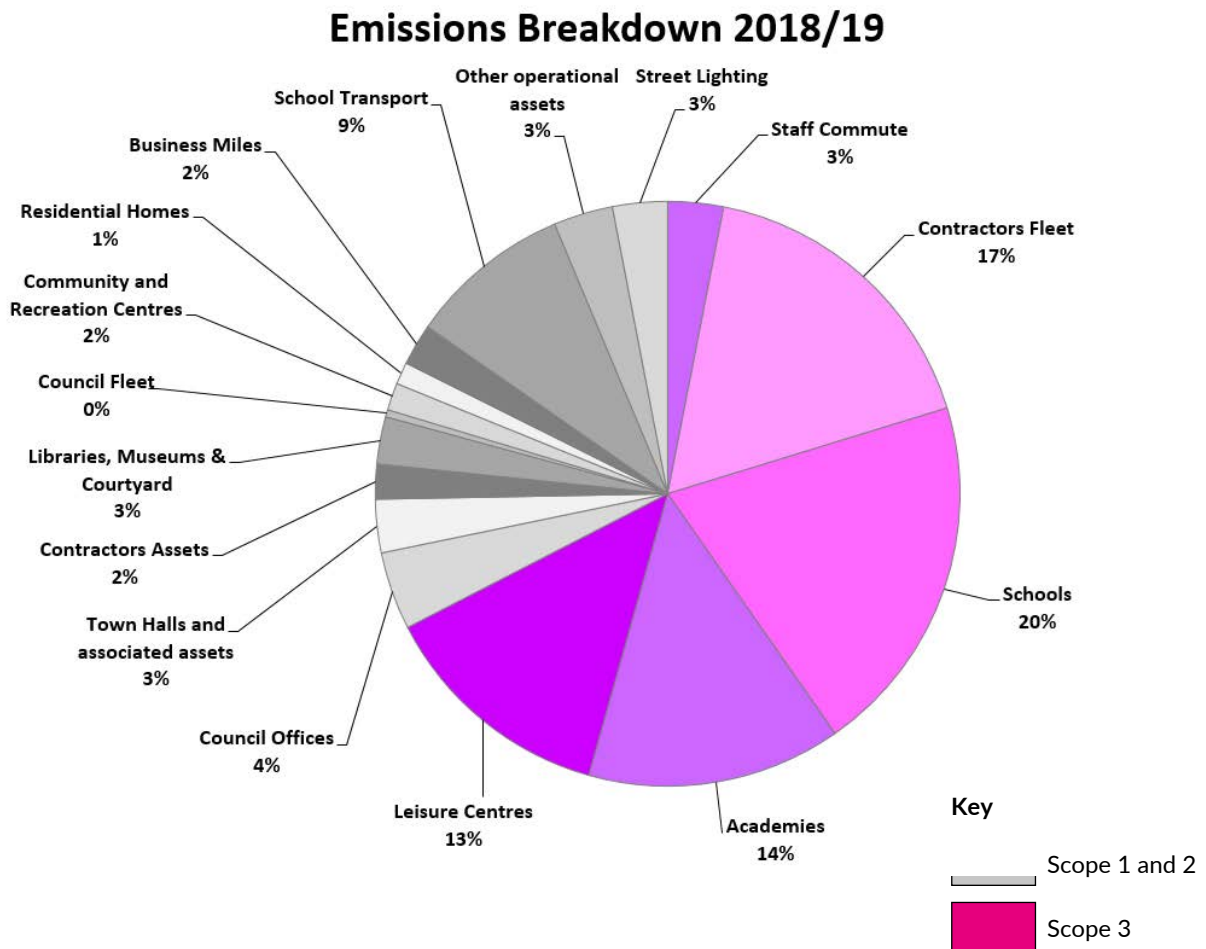
Indirect (Scope 3) emissions form the most significant part of our measured footprint. We have included a number of Scope 3 emissions, although landfill waste emissions have not been previously measured, and are therefore excluded. However, these remain important emissions which we are addressing through activities such as the waste review and the energy from waste plant. These activities will form part of the countywide carbon reduction strategy.

Current CO₂ emissions

Our latest carbon footprint assessment (2018/19)

We have been measuring our carbon footprint since 2008/09 (baseline year). The table and graph below summarise the changes from baseline emissions and show our most recent carbon footprint breakdown by source.

| Herefordshire Council | Baseline 2008/09 | Financial Year 2018/19 | % Reduction |
|-------------------------------------|------------------|------------------------|-------------|
| Scope 1 | 6,531 | 4,474 | 31% |
| Scope 2 | 8,517 | 2,974 | 65% |
| Scope 3 | 13,136 | 8,671 | 34% |
| Total GHG Emissions (tonnes) | 28,184 | 16,119 | 43% |
| Target reduction (2018/19) | - | - | 36% |

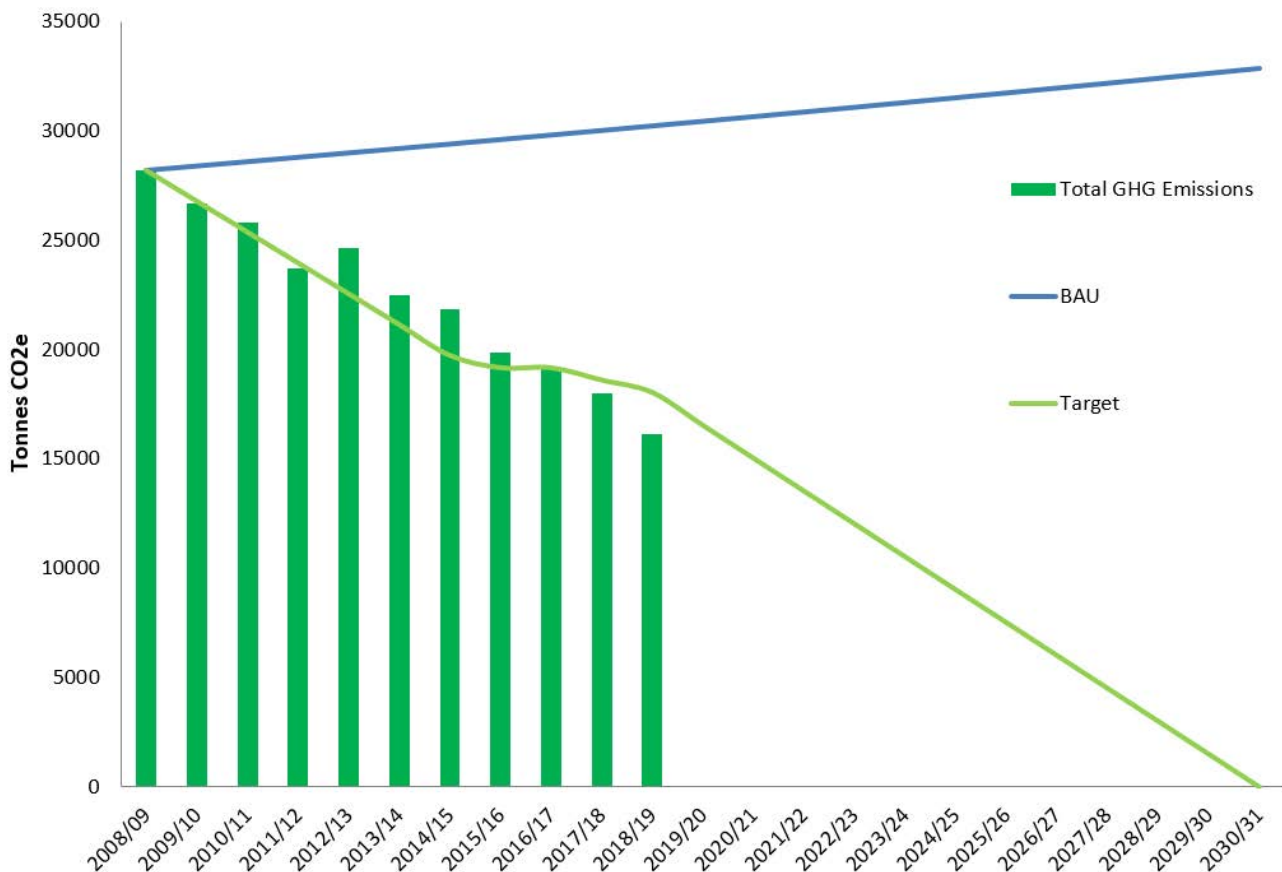


Building on success

What we have already achieved

We have a strong track record of delivering emission reductions and financial savings.

There have been significant reductions in emissions over time against both the target and business as usual (BAU) scenarios. The 40% reduction target was exceeded two years early and the current reduction trend sets a solid foundation upon which to aim for carbon neutrality.



Some examples of successes we have had in reducing our carbon footprint to date include:

- Improved energy management
- LED street lighting
- LED office lighting
- Sensor controls
- Behaviour changes
- Hybrid/electric pool cars
- Active travel initiatives
- Solar PV projects



Ways to accelerate carbon reductions

Working towards carbon neutral, we believe that there are seven main themes (areas of work) which will form the basis of actions required in order to achieve a sustainable, carbon neutral council. These are briefly discussed below.

Energy Reduction

This includes a whole suite of energy saving initiatives. Many of these will be an extension of successful projects, building upon these and expanding them to create additional savings such as: LED lighting, energy management systems and advanced lighting controls which detect motion and light levels in our offices.

Behaviour change

This is a theme which has no boundary – it cuts across and to the core of every service area. In order to achieve the carbon neutral target, changing the way the council thinks, decides and acts will undoubtedly be the most important factor over the next ten years. In order to effect the change in emissions required, the way the council makes decision is being updated to ensure the environment is at the heart of decision making.

Renewable energy

Generating our own renewable energy will be an important theme in bringing our emissions down towards zero. Solar energy is likely to form the largest proportion of this with others such as wind, hydro and renewable heat sources adding smaller contributions where we can utilise them.

Engagement

Herefordshire Council believes that clear communication, community engagement and leadership will play an important role in moving the council, as well as the county, towards a low carbon future. Engaging staff, communities, schools, businesses and individuals across Herefordshire will be a key role for Herefordshire Council to play as it strives towards the targets.

Leadership

Leading the County towards a low carbon future is a priority for the Council. The Council is committed to leading the development of a countywide collaborative carbon reduction strategy in its 2020-24 County Plan.

Resourcing

Staff and financial resources will be key to the successful delivery of this plan. Appropriate levels of both will be required in order to achieve our carbon neutral target.

Policy

Enhancing and/or creating policies which are aimed specifically at areas which are now insufficient or need to be put in place in order to facilitate the move towards a carbon neutral future. Such policies will include aspects such as staff travel, agile working, influencing planning, transport and parking. A new cross-party task and finish group has been established to support and inform future decision making in line with the 2030/31 target.



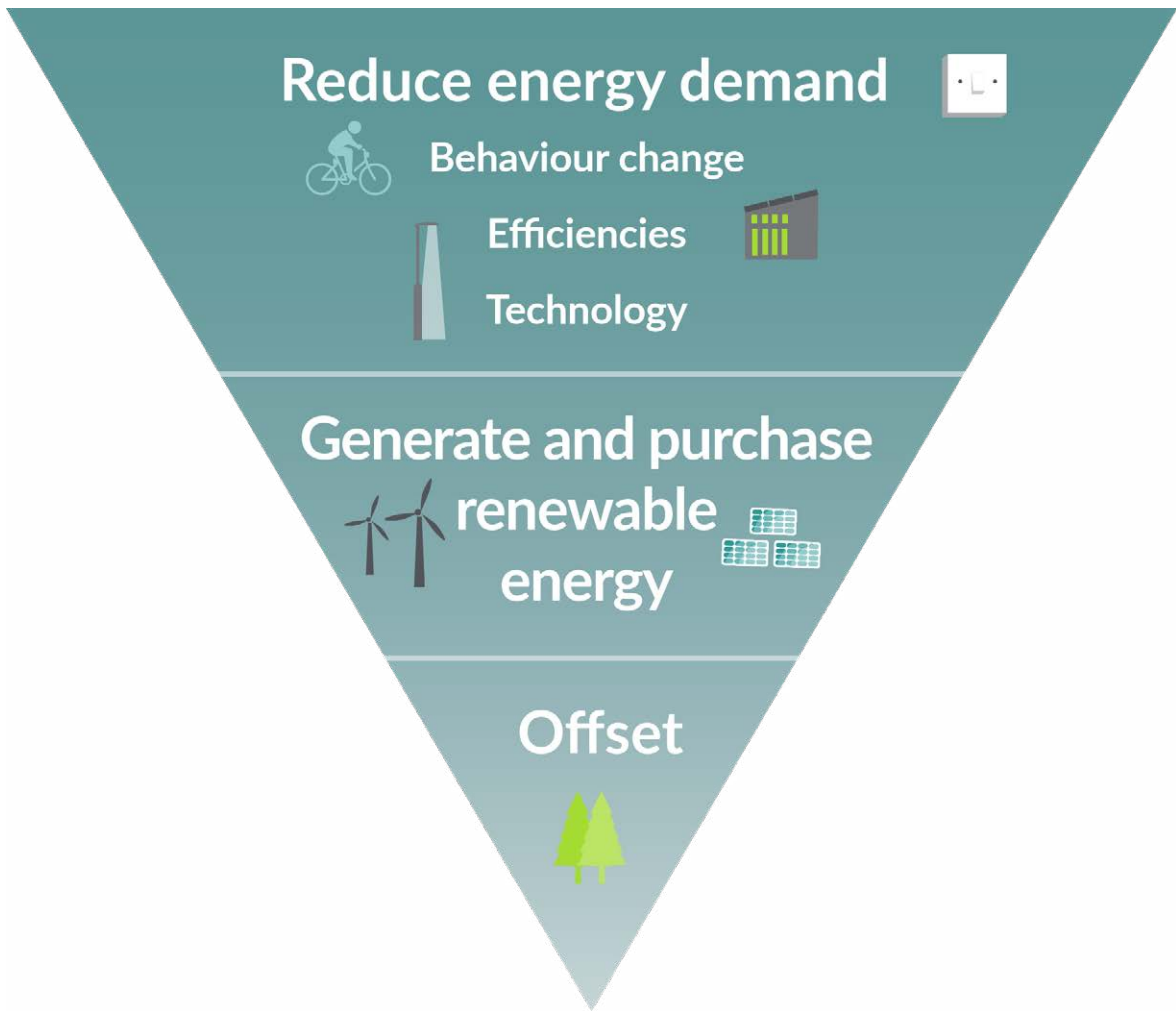
What changes are needed

Changes required across emission sources

Changes are usually interpreted as something completely different from what has gone before. Whilst the task that lies ahead is clearly significant, we believe that many of the successes of the past will continue to form the basis for future reductions.

Whilst there are likely to be some new and innovative ideas and projects coming through due to the speed of change in technology, the successes and lessons from previous and current projects will play a critical role in determining our pathway towards carbon neutrality.

The key focal points for this period of reductions, based on our current carbon emission sources, are shown in this hierarchy.



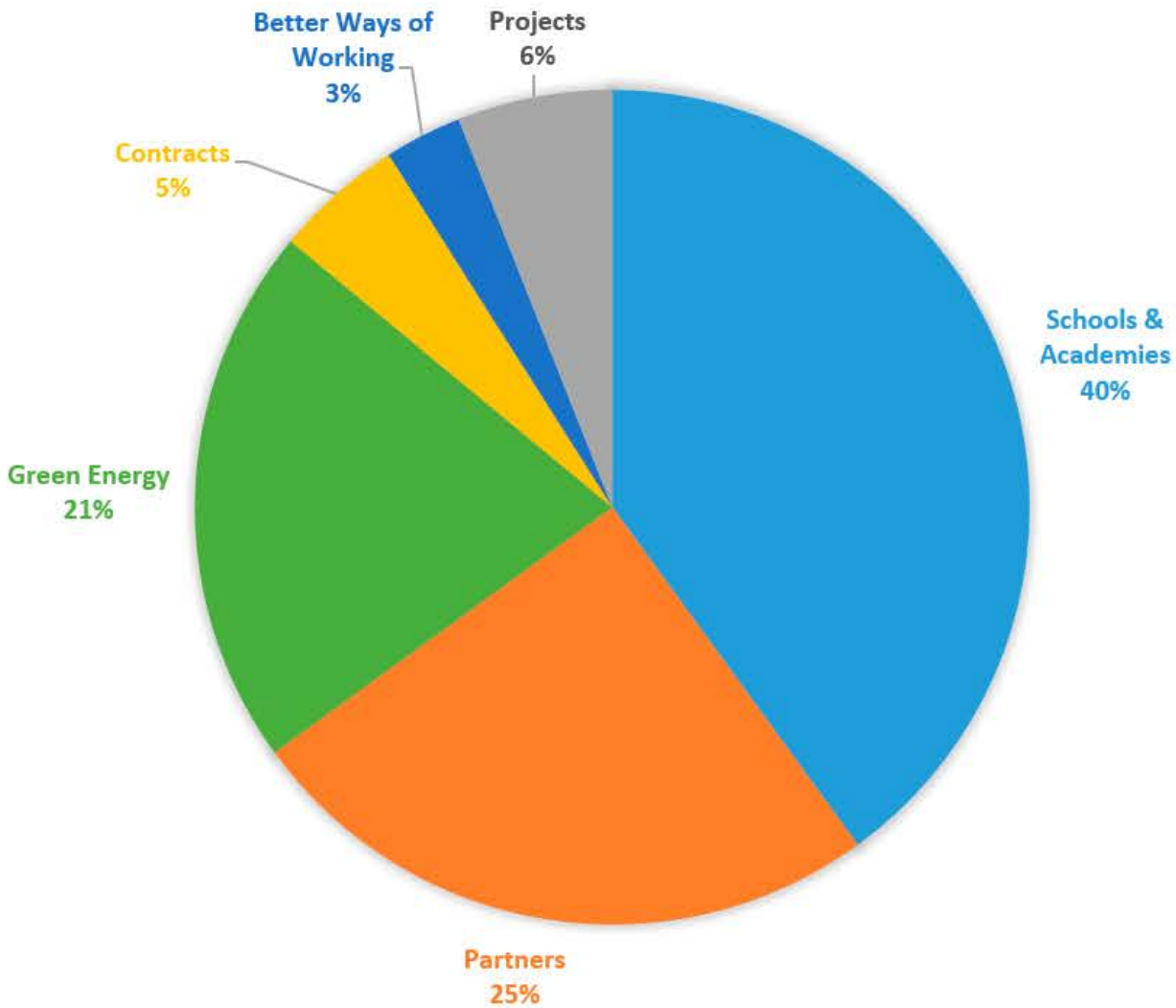
Key areas of reductions

This diagram shows key areas where we aim to reduce emissions over the next five years.

It is likely that the emission reductions will not match this exactly as there will be variation and additional projects which may impact in ways we have not planned for and cannot predict at this stage.

This diagram is indicative and the areas of focus will remain flexible as reductions are measured across a variety of interventions and as we continue to seek and develop projects for 2030/31.

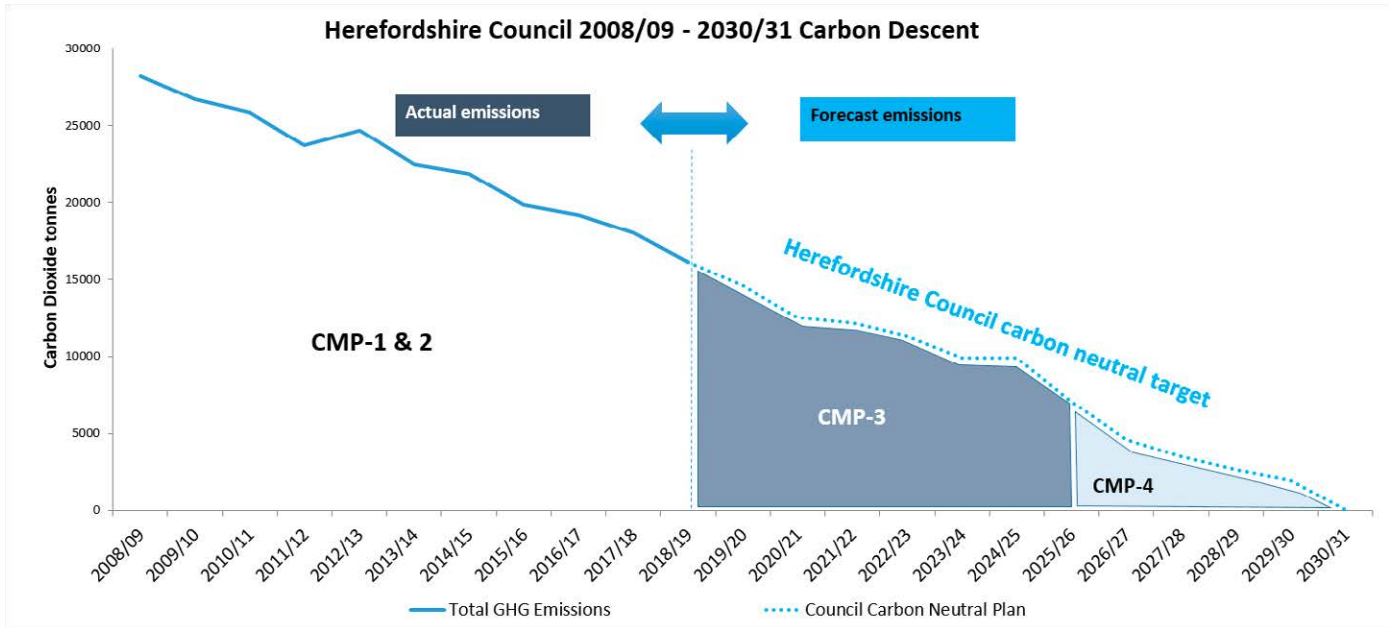
Each section of the pie chart represents an area of work, whilst the size represents the percentage of the five year target we have set out in this plan.



Carbon descent

How we predict our CO₂ emissions reducing over time

The graph below shows the actual CO₂ reductions achieved to date and the projected changes over the next ten years, with a target of a 75% reduction on 2008/09 levels, by 2025/26.



We have a high confidence in the early reductions; this reduces as time goes on as uncertainty increases over time. It is important that this document remains “live and dynamic” with the ability to adjust as time moves forward. Our 2018/19 carbon footprint total was 16,119 tonnes of CO₂. Our ultimate aim is to bring this down to zero.

Our approach in the first five years is to focus on behaviour changes, efficiencies, technology and renewable energy. Currently, we anticipate that we will be able to reduce emissions (relative to 2008/09 baseline) by 75% by 2025/26. We then have five more years to get to carbon neutral. We believe we will be able to reduce our carbon emissions significantly although there are likely to be some residual emissions which we will not be able to reduce to zero.

Offsetting and sequestration will have an important role to play in the council achieving carbon neutral and we will be considering how best to implement this over the coming months. One option will likely be through carbon sequestration which is the act of locking away carbon by using methods such as tree planting.

Time for action

Summary of our action plan over the next five years

Development of the action plan has been a challenge. Uncertainty plays a significant role in the pathway towards a carbon neutral future. Embracing the uncertainty and acting despite it is our preferred option.

This document has been published during the COVID-19 outbreak. As such we are aware that plans will need to evolve, some targets may be met sooner than initially intended whilst others will become more difficult.

The table below gives an outline of how we intend to meet our 2025/26 target. The areas of work are supported by specific activities, many of which are already underway and will be continued, completed and/or ramped up over the next five years. To detail our thinking we have provided two further columns. The first column shows the theoretical maximum savings available whilst the second column provides a figure which we have a high confidence in achieving by 2025/26, whilst still challenging ourselves.

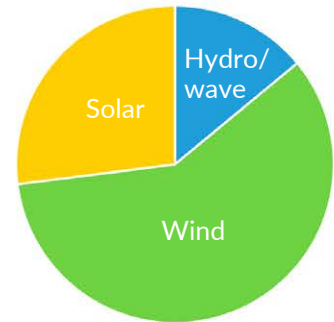
| Area of work | Example of planned activities | Estimated Maximum Reduction (tCO ₂) | High Confidence (tCO ₂) |
|------------------------------------|---|---|-------------------------------------|
| Renewable Energy | Purchase renewable energy | -2,138 | -1,372 |
| Projects | Energy Efficiency & Renewable Energy programme, pool cars | -563 | -452 |
| Better Ways Of Working (BWOW) | Behaviour change, Staff travel plan, video conferencing, fleet review, property rationalisation | -332 | -237 |
| Schools & Academies | Purchase renewable energy, behaviour change, energy efficiency, renewable energy | -4,884 | -2,209 |
| Contracts | More sustainable travel and practices adopted | -436 | -349 |
| Partners | Purchase renewable energy, energy efficiency programme, behaviour change | -2,840 | -1,526 |
| Totals | | -11,193 | -6,144 |
| Percentage reduction from baseline | | -83% | -65% |
| TARGET 2025/26 | | | 75% |

Areas of Work

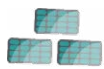


Purchase Renewable Energy

In January 2020 the council switched its electricity supply to 100% certified renewable energy. We are looking into sources of 'green gas' meaning all of the council's energy needs will be met with renewables.



Herefordshire Council sources of renewable electricity 2020



Energy Efficiency Projects

We have a number of energy efficiency projects planned over the next year, utilising European grant funding where we can, to make our own budgets go further. The projects we will be looking to install over the next 12 months include:

- Continue to install solar PV on several council owned buildings where we can match energy supply from the solar panels to demand.
- LED lighting with advanced controls will continue to be installed across our offices and other building including children's centres.
- More efficient air handling units and boilers will also be installed where energy savings can be realised.
- As new technologies emerge, innovative technologies including battery storage will be considered.



Better Ways of Working

In March 2020 it was announced that the council would consolidate its offices from three main offices down to two. This reduction in the number of buildings we operate means we will greatly reduce our energy consumption. To achieve this reduction in offices, our Plough Lane office will adopt more flexible working and meeting spaces. This versatility of our buildings goes hand in hand with encouraging employees to work from home for one to two days a week where appropriate.



Schools and Academies

From April 2020 schools who purchase electricity from West Mercia Energy will automatically receive 100% certified renewable electricity for no extra charge.

In time for the Autumn term the council will release a schools energy resource pack helping schools to audit their energy use with pupils and setting out a series of activities that all members of the school can do for free, to help the school save in excess of 10% of their annual fuel bill.

Schools are able to apply to the European grant scheme MarRE run by Herefordshire Council. This scheme provides applicants with a grant of up to 50% of the total cost of installing eligible renewable energy technologies. This can include, but is not limited to, solar PV and thermal, wind, heat pumps and biomass. There is more information on our website www.herefordshire.gov.uk/MarRe

Maintained/Community Schools in Herefordshire can apply to the council's Schools Finance team for an interest free loan for the full or partial cost of the installation of energy efficiency measures including renewables such as solar. The savings made from these projects can help the school to repay the loan. In the case of solar PV it will entirely repay the loan at which point the school will benefit from their own free renewable energy thereafter.



The Council has set up a cross-party task and finish group on climate change to:

- Develop and propose a checklist of criteria to inform strategies, plans and future decisions
- This checklist will help assess and increase the contribution of policies, strategies and decisions by reducing our carbon emissions and increasing resilience to climate change
- Work with networks of major partners to develop a joint countywide strategy to meet net zero carbon by 2030.

This task and finish group will make recommendations to the general scrutiny committee to ensure all strategies, plans and decision going forward properly consider their contribution to the 2030 carbon neutral target. These changes will mean that when new contracts are signed for the provision of services, these operations are giving proper consideration to the overall target of carbon neutral by 2030.

A task and finish group on waste has also been set up. This task and finish group is conducting a strategic review of the council's waste management service. The review will seek to understand future demands, aspirations and policy requirements and consider what changes may be required to our existing service. It will inform future policy development by providing findings and recommendations to the cabinet member for contracts and assets, the wider executive and the waste management team.

The government's **Resource and Waste Strategy 2018** encourages a move towards a more sustainable circular economy, protecting natural resources and maximising the life of materials. In waste this means doing all we can to prevent waste, encourage reuse, recycle materials and use what's left to recover energy. New services to collect food waste and increase recycled material quality are expected. These measures are likely to see a requirement for additional vehicles to collect waste differently from how we do now. This could result in an increase in Scope 3 emissions, however our move to a more circular economy will help reduce use of natural resources and reduce county-wide carbon emissions overall.



In 2015 the council in partnership with Halo installed solar PV on the Hereford and Leominster leisure centres. Since this date Halo have undertaken a series of energy efficiency projects to further reduce their carbon emissions.

In 2018 Herefordshire Council, in partnership with Balfour Beatty Living Places (BBLP) installed solar panels on the Kington depot, the base for many of the working vehicles in the north of the county. In 2019 the council installed LED lighting in BBLP's main offices in Rotherwas. In 2019 BBLP met their 2020 carbon targets a year early. The target was a 51% reduction over the baseline year, 2010.

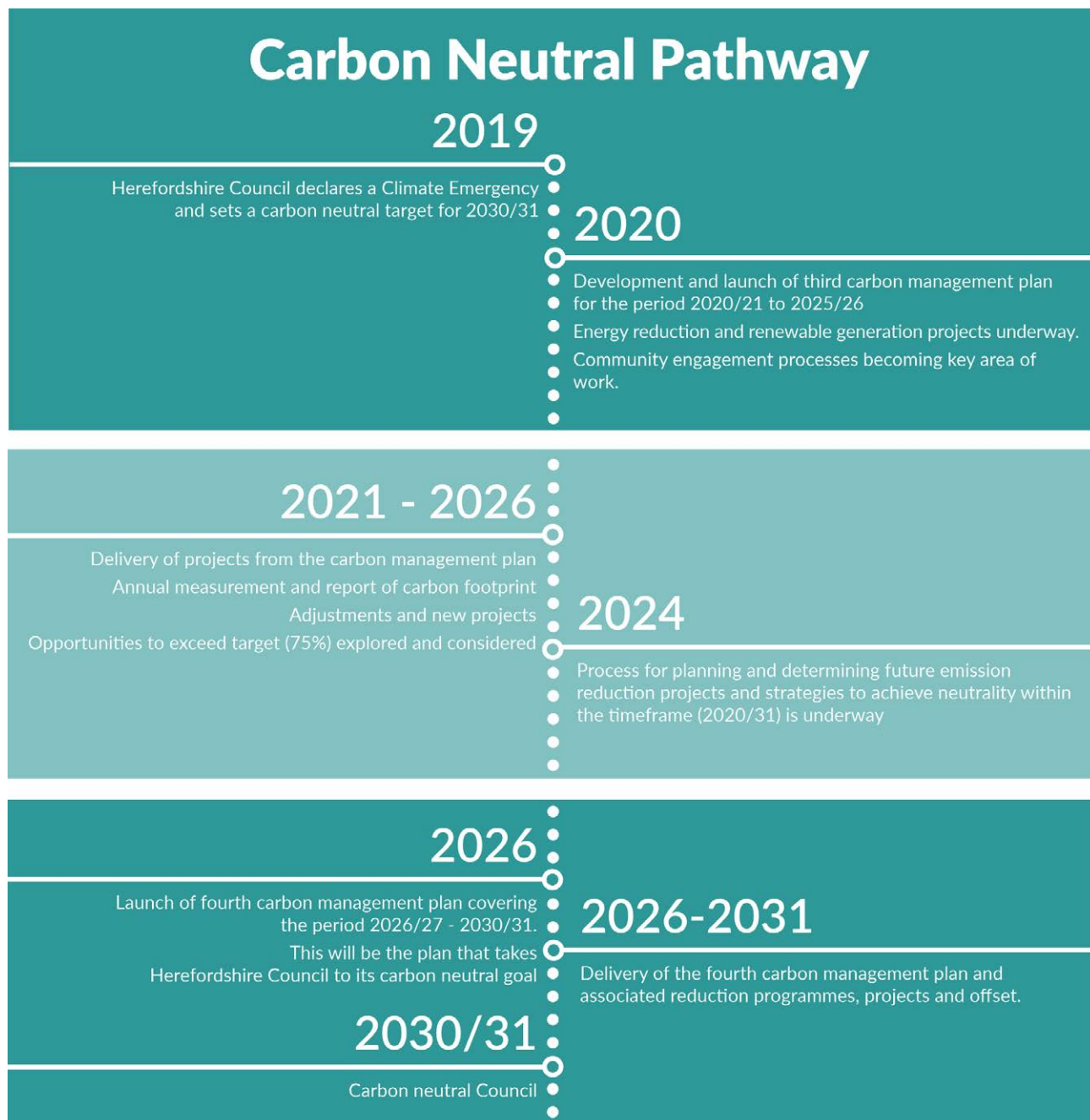
The council will continue to demonstrate leadership by carrying out the actions outlined in this document. In turn we will encourage partners to follow the same actions: to purchase renewable energy, carry out their own energy efficiency projects and encourage organisation-wide behaviour change.



The road to neutral

This is the timeline towards our carbon neutral goal

The illustration shows the broad outline of our planned timeline towards our ultimate goal of being a carbon neutral council by the end of the 2030/31 financial year.



Adapting to a changing climate

We must adapt to the changes

If all human-induced greenhouse gas emissions stopped today, the climate would continue to change for hundreds of years to come. Sea levels would continue to rise for over one thousand years. We need to reduce emissions but we must, at the same time, adapt to the changes that are unavoidable.

We know the world's average temperatures are rising on land and in the oceans too. Seasonal patterns are shifting and there is a measured increase in both the frequency and intensity of extreme weather events. We have witnessed these events both on the world stage as well as in Herefordshire itself. We will address adapting to climate change as part of our work, in parallel to reducing emissions. There is strong evidence to suggest that Herefordshire, being a rural county, is vulnerable to the predicted changes in climate and the associated weather-related impacts. The floods of February 2020 were some of the worst to date and are an example of the "new normal" to which we need to adapt.

Adaptation to climate change needs to form part of an integrated risk management strategy in order to increase our resilience to and mitigate the impacts of severe weather events and the associated human and economic costs.

The council first explored the need for adaptation in its Local Climate Impacts Profile (LCIP), 2009, which stated: "The number of significant weather events is predicted to increase over the next ten years as a result of climate change and Herefordshire Council and the County as a whole needs to develop an increased level of adaptation strategies for events such as flash flooding." We will be following the National Adaptation Programme (NAP) action priorities of:

- Raising awareness of the need for climate change adaptation.
- Increasing resilience to current climate extremes.
- Taking timely action for long-lead time measures.
- Integrating climate change considerations across our service areas addressing increased risks.
- Leading the countywide approach to adapting to a changing climate and the associated impacts for Herefordshire.

Adapting to our changing climate is critically important. Whilst not strictly within the scope of this strategy, the council will be including adaptation as part of its approach to addressing the climate emergency both at organisational as well as countywide levels. Further work will be carried out on this issue over the next 12 months.



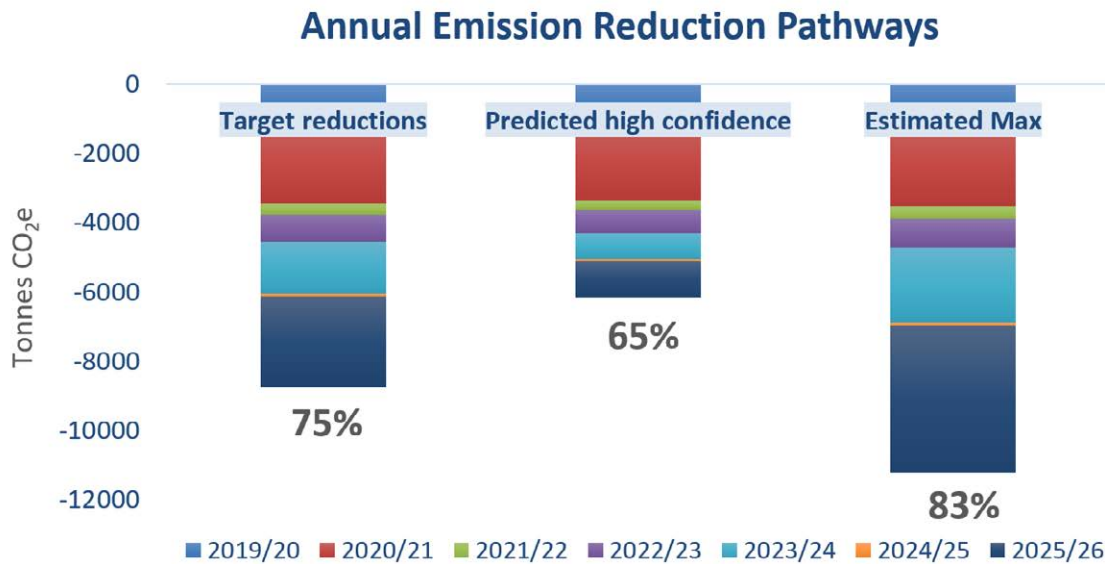
Victoria Bridge and River Wye, Hereford, February 2020
© Will Mears

"Intelligence is the ability to adapt to change."
Stephen Hawking

Appendix

How we calculate reductions and confidence

The graph below shows three emission reduction pathways and the estimated percentage reduction from our baseline emissions. The 75% reduction on 2008/09 levels is the target for 2025/26, with the other two showing what we estimate to be our potential minimum and maximum reductions after five years. The target of 75% would equate to reducing our emissions by a further 8,748 tonnes CO₂e from 2018/19 levels.



The tables below show the estimated reduction in tonnes of CO₂ per annum and per targeted category area. Once again, it is important to note that these figures will change over time as actual emission reductions are recorded and reported. The first table shows the lower (minimum – high confidence) reductions, whilst the second show the estimated maximum reductions over the next five-year period to 2025/26

Pathway towards 65% reduction:

| | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 |
|---------------------|---------|---------|---------|---------|---------|---------|---------|
| Partners | 0 | -180 | -315 | -537 | -493 | 0 | 0 |
| Contracts | 0 | -276 | 0 | 0 | 0 | -36 | -36 |
| Schools & Academies | 0 | -1306 | 0 | 0 | -244 | 0 | -659 |
| BWOW | 0 | -1 | -35 | -152 | -17 | -15 | -18 |
| Projects | 0 | -109 | -343 | 0 | 0 | 0 | 0 |
| Green Energy | -933 | -539 | 428* | 0 | 0 | 0 | -328 |

Pathway towards 83% reduction:

| | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 |
|---------------------|---------|---------|---------|---------|---------|---------|---------|
| Partners | 0 | -240 | -340 | -616 | -1643 | 0 | 0 |
| Contracts | 0 | -290 | 0 | 0 | 0 | -73 | -73 |
| Schools & Academies | 0 | -1374 | 0 | 0 | -488 | 0 | -3021 |
| BWOW | -1 | -2 | -37 | -203 | -33 | -30 | -28 |
| Projects | 0 | -135 | -428 | 0 | 0 | 0 | 0 |
| Green Energy | -933 | -539 | 428* | 0 | 0 | 0 | -1094 |

*The positive figure under 'green energy' in 2021/22 is intended to account for the reduced renewable electricity purchased. This is due to our energy efficiency projects saving electricity that is already 100% renewable. This is to avoid double counting carbon savings.