

Intelligently Green Annual Update 2022 to 2023

Introduction

We adopted the latest Intelligently Green Plan in July 2020. The plan covers the period up to 2030 and sets out how we will contribute towards tackling the climate emergency.

The overall vision of the plan has three strands:

- To lead the Wychavon district to be carbon neutral as quickly as possible and by 2050 at the latest.
- To make the most of the opportunities that tackling climate change presents to further strengthen and grow our local economy.
- To increase and improve a range of habitats across the district to support carbon capture and biodiversity.

Underpinning this vision are five targets to be achieved over the plan period. These targets form the success measures we will use to assess progress towards our vision and targets. In the Intelligently Green Plan we commit to producing an annual report to update our Executive Board and to publish on our website.

The five targets are detailed below:

1. Reduce our own greenhouse gas emissions by at least 75% from 3,066 tCO₂e in 2018/19 to 767 tCO₂e in 2030.
2. Halve district wide carbon emissions from 992 kt CO₂ in 2005 to 496 kt CO₂ in 2030.
3. Double the size of Wychavon's low carbon economy by 2030.
4. Treble renewable energy generation in the district from 108,119 MWh in 2016 to 324,357 MWh in 2030.
5. Capture at least 500 tonnes of carbon dioxide equivalent per year by 2025 through restoring, enhancing and creating a range of habitats across the district.

The plan commits to an annual progress review and this report provides an update against each of the five success measures as well as the latest update on key projects that have been progressed during the year. This report provides a detailed update against each of the five success measures and explanation of the data and its sources.

Key Progress 2022/23

- Appointed an additional Carbon Reduction Project Officer to add to the dedicated resources delivering Intelligently Green projects.
- Started the roll out of carbon literacy training to council officers, delivering it to over 30 members of staff across both Wychavon and Malvern Hills district councils.
- Worked with the Midlands Net Zero Hub to have energy audits undertaken on the Civic Centre and Evesham and Pershore Leisure Centres.
- Completed the installation of new double glazing at the Civic Centre to improve energy efficiency, a scheme that was majority funded through the Public Sector Decarbonisation Scheme.
- The council's executive board approved additional budget of £90k for 2023/24 and £180k for 2024/25 for the purchase of Hydrotreated Vegetable Oil (HVO) fuel to use as a replacement for diesel for some of our waste fleet vehicles. HVO has 90% lower carbon emissions than diesel.

- The council's executive board approved additional budget for installation of pool covers at our Leisure Centres to increase energy efficiency (the pool covers were subsequently installed in July 2023).
- Our toilet cleaning contract with Mitie includes the commitment for their cleaning team and management team to use electric vehicles. They also use 100% Biohygiene products and wash all cloths rather than use disposable ones.
- We have continued to roll out of improvements to our public toilets, including installing energy and water saving Propelair toilets, solar panels, LED lighting and combined tap/hand driers.
- Approved grants with a total value of almost £12,000 to assist with energy efficiency projects at St Andrews Parish Centre Trust, Pershore Riverside Centre and Pershore Town FC through the Pershore Green Community Projects Fund.
- Provided funding towards the Dr. Bike scheme for the Evesham Adventure Playground to deliver the scheme at a series of locations around the District to promote active travel through fixing and maintaining people's bikes in order to get them back on the road.
- £3,140,500 for Wychavon in additional funding secured through Home Upgrade Grant 2 to deliver further improvements to lower income households in the least energy efficient homes.
- Supported 275 homes with energy efficiency and renewable energy improvements through funding successfully obtained via LADS2, HUGS1 and SHDF. We are currently working on 64 homes utilising LADS3 funding.
- In partnership with Heart of England Forest, through the Trees Call to Action Project, we have been helping parish councils and community groups plant trees, hedgerows and orchards and care for them in the future by providing training and support thanks to our dedicated project officer.

Measure 1: Reduce our own greenhouse gas emissions by at least 75% from 3,066 tCO₂e in 2018/19 to 767 tCO₂e in 2030.

We are aiming to reduce our emissions by 75% from the 2018/19 baseline by 2030. In 2018/19 our emissions were 3,066 tCO₂e, the latest data for 2021/22 shows that this has now dropped to 2,479tCO₂e, a reduction of 19%.

What is included in the calculation of our emissions?

It is important to clarify what exactly is being measured when reporting on greenhouse gas emissions and is known as the organisational boundary. The reporting of emissions falls under three different 'scopes':

- Scope 1 - emissions are released as a direct result of an activity. For a local authority this will largely comprise combustible fuel for heating boilers and fuel burned in owned fleet vehicles.
- Scope 2 - emissions are those released as an indirect consumption of an energy commodity. For a local authority this will be the purchased grid electricity used in its operations.
- Scope 3 - emissions are all other indirect emissions other than electricity and often relate to those generated by the things that a local authority purchases or from activities resulting from the provision of services.

We monitor all relevant Scope 1 and 2 emissions. Scope 3 emissions reporting is relatively new, and methodologies are still emerging to allow for measurement in many areas, particularly for goods and services we purchase. However, we do monitor a number of Scope 3 emissions that relate directly to our operations. The emission sources are identified in Table 1.

Table 1 – Emission sources included in the calculation of our organisational greenhouse gas emissions

Scope 1	Scope 2	Scope 3
<ul style="list-style-type: none"> • Heating – buildings (natural gas) • Fuel use – our owned vehicles (petrol, diesel) 	<ul style="list-style-type: none"> • Electricity – buildings, electric vehicles 	<ul style="list-style-type: none"> • Waste fleet – fuel use • Staff and councillor business vehicle mileage • Paper waste • Transmission and distribution losses from electricity consumption

Our waste fleet, operated by FCC, falls under Scope 3 as it is operated by an external organisation. However, as the service is being provided on our behalf, and because waste collection is a statutory function, it is included as part of our organisational boundary.

The organisational boundary for buildings includes those that we both own and operate. It also includes some buildings that we own but are operated by other organisations that provide the services on our behalf, this includes the three leisure centres and the lido. We own a number of buildings that we lease to private organisations. These fall under Scope 3 emissions and are not included. Table 2 sets out which buildings are included in the monitoring.

Table 2 – Wychavon owned buildings included in the calculation of our organisational greenhouse gas emissions

Building Name
Wychavon Civic Centre
Droitwich Leisure Centre
Droitwich Pavilion
Droitwich Lido
Evesham Leisure Centre
Pershore Leisure Centre
Public toilets

Overview of our emissions

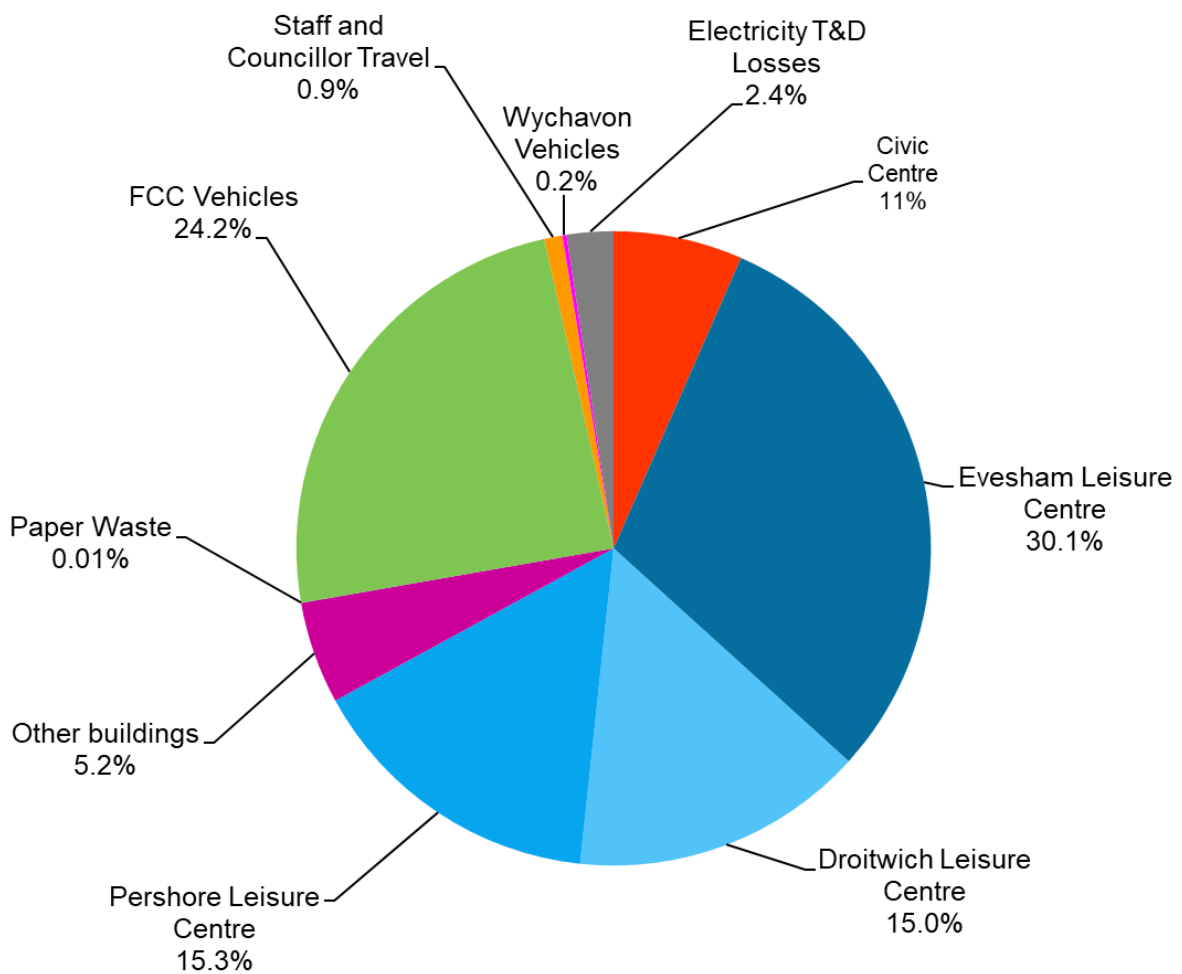
Table 3 and Chart 1 below set out the sources of emissions monitored in 2022/23. The three leisure centres continue to be the largest sources of emissions, making just over 60% of the total, and emissions from the Evesham Leisure Centre represent the largest single source consisting of just over 30% of the total. Emissions from the FCC waste fleet are also significant, contributing 24% of the council's total. The council offices at the Civic Centre account for 11% of the total emissions.

Table 3 – Our greenhouse gas emission sources for 2022/23

Source	tonnes CO2e
Civic Centre	163.12
Evesham Leisure Centre	747.17
Droitwich Leisure Centre	371.30
Pershore Leisure Centre	380.45
Other buildings	129.17
Paper Waste	0.25
FCC Vehicles	600.81
Staff and Councillor Travel	22.87
Wychavon Vehicles	5.37
Electricity transmission & distribution losses	58.84
Total	2479.36

Chart 1 - Our greenhouse gas emission sources for 2022/23

WDC Carbon Emissions 2022/23



Change in emissions over time and the pathway to net-zero

Our aim is for our operational emissions to be reduced by 75% by 2030. Chart 2 below shows that, in 2018/19 our emissions were 3,066 tCO₂e and latest data for 2021/22 shows that this has now dropped to 2,479tCO₂e, a reduction of 19%. Taking a linear trajectory from our emissions at 2018/19, this means reducing emissions by around 191 tCO₂e per year until 2030. However, it should be recognised that emissions reductions are unlikely to follow a linear path in reality and key decisions that happen between now and 2030 may have significant influences at certain points. Nevertheless, it provides a useful indicator of the progress towards the target of a 75% reduction by 2030 and the ultimate journey to net-zero. Chart 2 shows the change in emissions from the 2018/19 baseline.

Chart 2 – Our greenhouse gas emissions since 2018/19

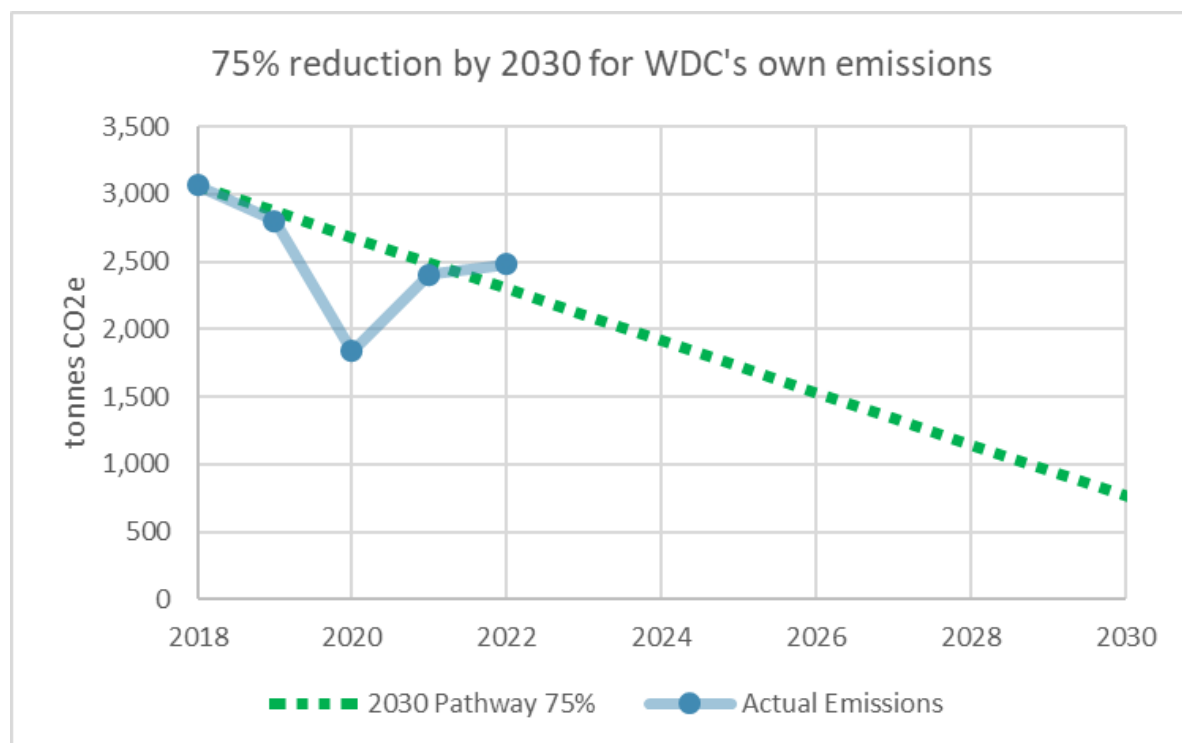


Chart 2 above shows that there has been a rise in emissions in 2022/23 when compared with 2021/22. This rise has primarily resulted from a significant increase in emissions from Evesham Leisure Centre (see Table 4). During 2022/23 the Combined Heat and Power (CHP) unit at the centre was out of operation for large parts of the year. While the CHP was not running, electricity was instead directly used from the grid rather than being generated more efficiently via the gas fueled CHP. This increase in electricity taken from the grid has resulted in much larger emissions as a result and has increased the council's total emissions overall.

Table 4 below sets out the change in emissions for each emission source, both the change from 2021/22 to 2022/23, as well the change from the 2018/19 baseline to 2022/23. It shows that there has been a drop in emissions since 2021/22 for Droitwich and Pershore Leisure Centres as well as a significant drop at the Civic Centre. The Civic Centre has seen a particularly large reduction resulting from a much lower gas consumption, this is likely to be result of energy efficiency improvements from the replacement windows that were installed in

2022/23, as well as updated building management controls, combined with milder winter temperatures.

Overall, all emission sources have seen a reduction from 2018/19 baseline, apart from Evesham Leisure Centre for the reasons set out above. Emissions from Electricity Transmission and Distribution Losses are showing as having increased by 39% since the 2018/19. This has also been impacted by the increase in grid electricity use at Evesham Leisure Centre in 2022/23, however, it is also due to losses from this source only being recorded for the leisure centres and lido at the 2018/19 baseline. Monitoring now includes losses from all electricity use within the organisaitonal boundary identified in Table 1 above.

Table 4 – Change in greenhouse gas emissions from the council's emission, comparing the latest data from 2022/23 with both the 2018/19 baseline and the previous year of 2021/22

	2018/19	2021/22	2022/23	Change 21/22 to 22/23	Change since 2018/19
	t CO2e	t CO2e	t CO2e		
Civic Centre	359.10	200.94	163.12	-19%	-55%
Evesham Leisure Centre	663.58	632.98	747.17	18%	13%
Droitwich Leisure Centre	462.84	426.49	371.30	-13%	-20%
Pershore Leisure Centre	430.14	424.10	380.45	-10%	-12%
Other buildings	148.55	90.38	129.26	43%	-13%
Paper Waste	0.38	0.28	0.25	-12%	-33%
FCC Vehicles	901.23	574.68	600.81	5%	-33%
Staff and Councillor Travel	48.26	14.14	22.87	62%	-53%
Wychavon Vehicles	9.85	6.19	5.37	-13%	-45%
Electricity T&D Losses	42.26	33.25	58.85	77%	39%
Total	3066.18	2403.43	2479.46	3%	-19%

The figures for 2022/23 do not reflect the carbon reduction that will be brought about by a number of key projects that were approved in this year. Firstly, the implementation of HVO that has been approved for 2023/24 will save a significant amount of carbon by reducing our diesel use and will increase further in 2024/25 when the budget for HVO use is increased. Secondly, the council has now installed pool covers at leisure centres which will cut gas use by 5-10% at each building. In addition, we have signed up for renewable energy contracts for the Civic Centre which can be used to offset against emissions.

In addition, the increase in emissions resulting from the CHP issues at Evesham Leisure Centre is also being addressed. We have commissioned specialist consultants to develop and detailed design and specification for a new, low carbon heat and power system that will ultimately replace the existing fossil fuel-based system as well as looking a renewable energy generation potential. This work is also being carried out for Pershore Leisure Centre and will in time be extended to Droitwich Leisure Centre as well.

Measure 2: Halve district wide carbon emissions from 992 kt CO₂ in 2005 to 496 kt CO₂ in 2030

The Intelligently Green Plan's overall vision is for the entire district to become carbon neutral as quickly as possible, but by 2050 at the latest. However, for the current plan period to 2030 the measure is to halve emissions from the 2005 baseline as a key stepping-stone towards the overall target.

Progress against this measure is monitored using the '[UK local authority and regional greenhouse gas emissions national statistics](#)' provided annually by the Government's Department for Energy Security and Net Zero. For this measure we use data showing territorial CO₂e emissions within the scope of influence of local authorities. As the data set is within the scope of local authorities it excludes emissions from large industrial sites, railways, motorways and land-use change. Data is provided from 2005 and the latest published data is for 2021.

It should be noted that when the Intelligently Green Plan was published the latest data for 2005 provided an emissions figure of 992 ktCO₂e. However, this figure has been revised through subsequent Government updates and is now 989.3 kt CO₂e. In addition, starting from the 2020 release, data now includes territorial emissions of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) within its greenhouse gas figures (presented in CO₂e). However, previous publications of the data covered emissions of carbon dioxide only.

In 2020 the district-wide greenhouse gas emissions stood at 717.3 ktCO₂e. This represents a 27.5% decrease on the 2005 baseline. Taking a linear trajectory from 2005, reaching net-zero by 2050 would mean emissions reducing by around 21.5 ktCO₂e per year. It should be recognised that emissions reductions will not necessarily follow a linear path but, nevertheless, it provides a useful indicator of the progress on the journey to net-zero. This is shown in Chart 3 below.

It can be noted from Chart 3 that there was a significant drop in emissions in 2020 due to the impact of Covid-19 and the restrictions that were in place over that year. The data for 2021 shows that emissions have bounced back from this drop and were higher than in 2019. However, the general trend is still for a steady reduction over time and since 2005.

Chart 4 below displays the change in emissions from the main sectors included within the data. It shows that the domestic and transport sectors are the largest sources of emissions in the district. Domestic emissions have been falling steadily since 2005, although there was a slight rise in 2022/23 compared to 2021/22. Transport emissions have remained fairly consistent since 2005 but fell significantly during the 2020, reflecting the impact of Covid-19 restrictions. Transport emissions have subsequently risen again in 2021 but have not yet returned to levels seen in 2019. Emissions from both the industrial and commercial sectors have also been reducing steadily since 2005, although the record for 2021 displays a significant rise in emissions from Industry to levels not seen since 2010. The reason for this is not clear from the data available.

Chart 3 – Wychavon district-wide greenhouse gas emissions (under the scope of influence of local authorities) since 2005

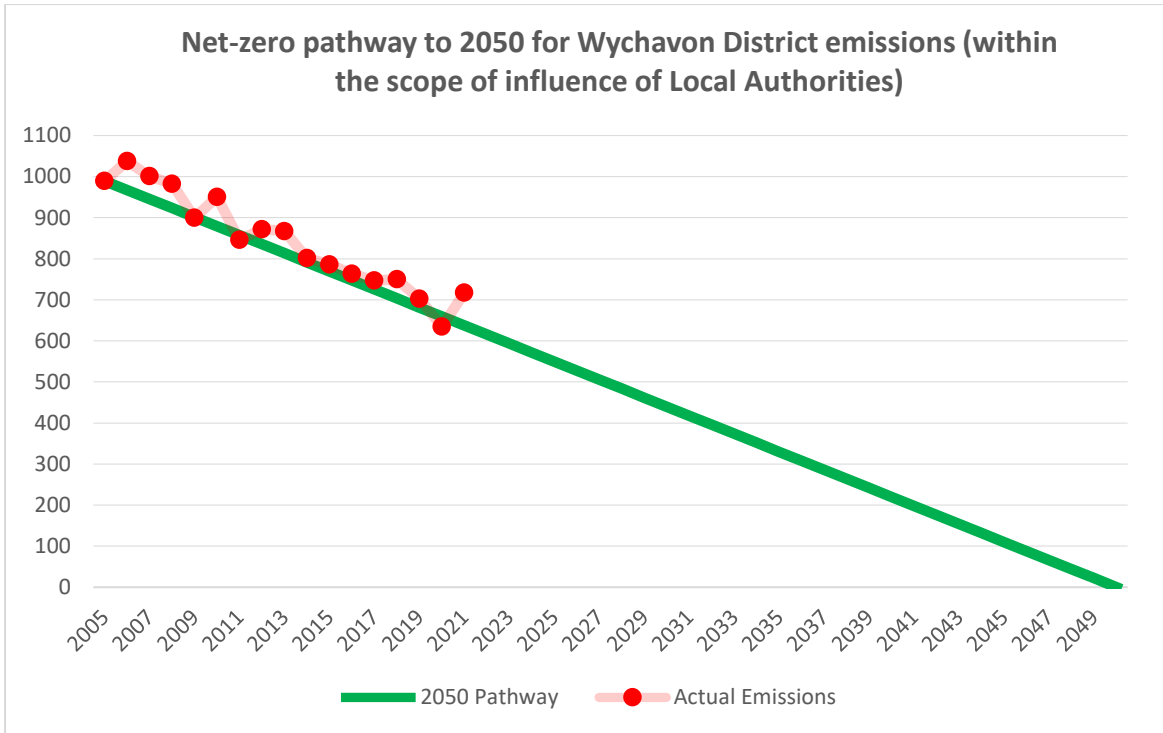
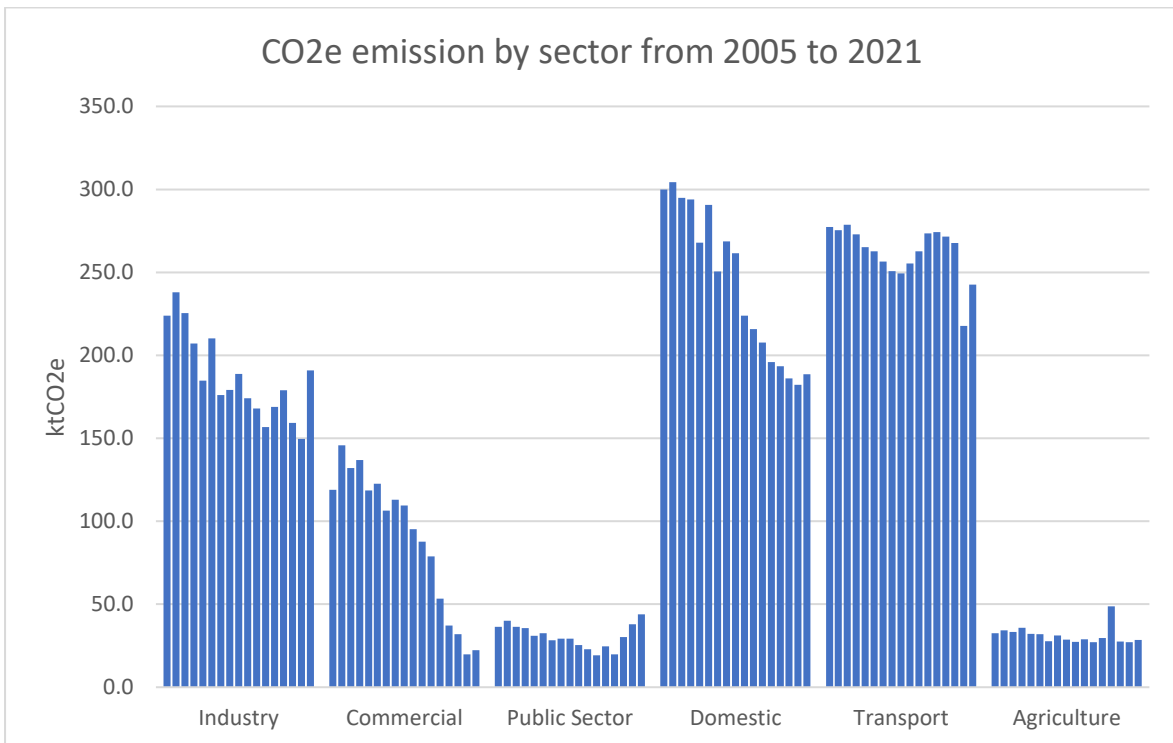


Chart 4 – Wychavon district-wide greenhouse emissions (under the scope of influence of local authorities) by sector since 2005



Measure 3: Double the size of Wychavon's low carbon economy by 2030

A [Low Carbon and Environmental Goods and Services Sector Study](#) was published in April 2021. This was undertaken across nine Midlands Local Enterprise Partnership areas including Worcestershire. The study was commissioned to understand the current state of the low carbon sector, where support is needed to help grow it and the role the sector can play in driving a low-carbon recovery from Covid-19. It also provides a baseline from which to measure future growth.

In the study's baseline in 2017/18 the size of the low carbon sector in Wychavon was £251.7m in terms of sales. In the 2019/20 this had grown to £266.9m, a 5.9% increase. This was generated by 194 companies and 1,802 employees working in the sector.

We are currently developing a new economic strategy for the district, which can consider how we can help to facilitate and support the growth of the low carbon economy.

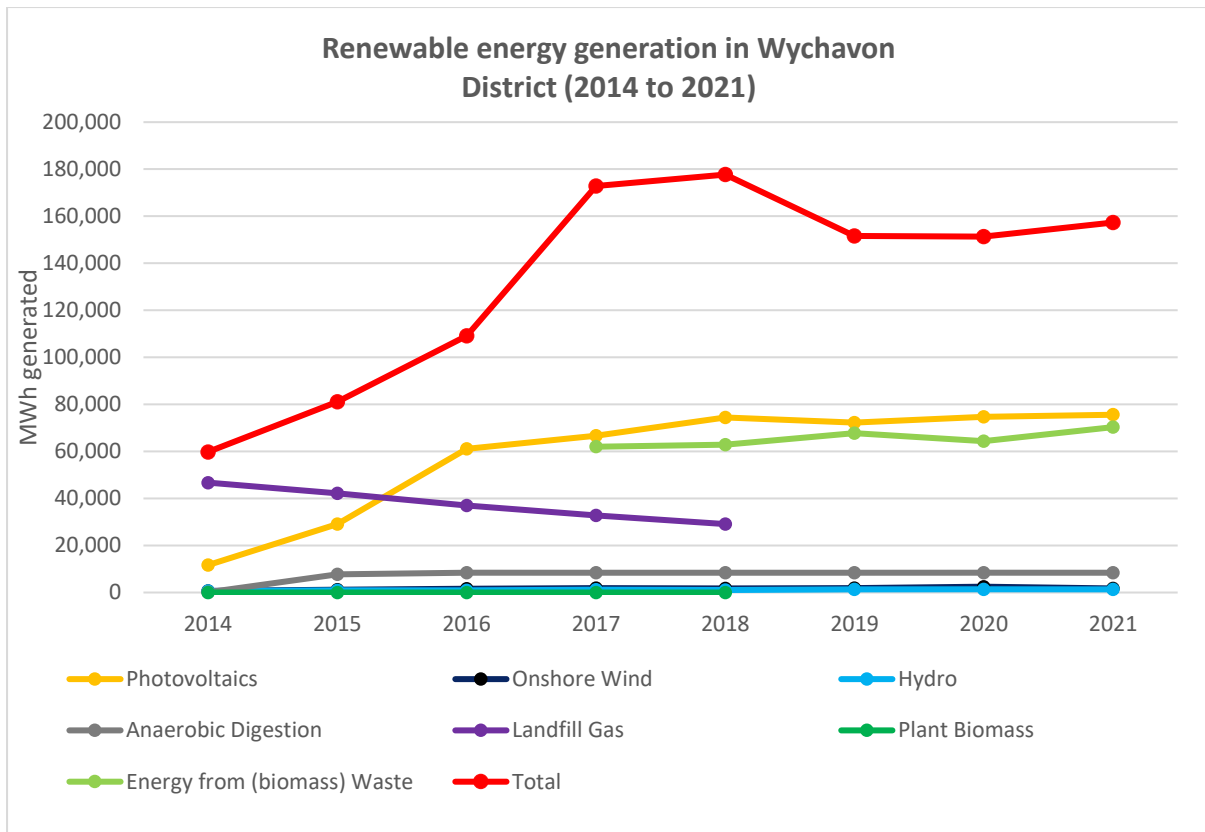
Measure 4: Treble renewable energy generation in the district from 108,119 MWh in 2016 to 324,357 MWh in 2030

Data to monitor against this measure is obtained by the [Regional Renewable Statistics](#) provided annually by the Government's Department for Energy Security and Net Zero (DESNZ). In addition, energy generated from the energy from waste facility at Hartlebury, which opened in 2017, is also included in these figures. However, only the energy that is derived from biomass waste is included in the figures as a renewable source, which is estimated to be 50% of the total waste incinerated at this site. This data is provided by Worcestershire County Council.

Progress is measured against the amount of renewable energy generated in the district. This has been increasing steadily since the data became available in 2014. In our previous Intelligently Green update it was reported that the total energy generated was 177,935MWh, representing a 64% increase from the baseline. However, in the latest released by DESNZ for 2021, data is no longer provided for certain energy sources beyond 2018, citing that the data has suppressed to prevent the output of individual plants being revealed. For Wychavon district this has meant that we no longer have data provided for landfill gas and plant biomass beyond 2018, although there is generation from these sources still occurring. As a result, the energy generation reported for 2021 is considerably lower at 157,263MWh. This also means that future figures are not going to be directly comparable to the original 2014 baseline established in the Intelligently Green plan.

As show in Chart 4 below, the majority of renewable energy generation is from solar voltaics and the energy from waste plant, consisting of 48% and 44% of the total respectively. Smaller generation also come from anaerobic digestion, hydro and onshore wind.

Chart 4 – Renewable energy generation in Wychavon district, both total generation and source



Measure 5: Capture at least 500 tonnes of carbon dioxide equivalent per year by 2025 through restoring, enhancing and creating a range of habitats across the district

The Intelligently Green Plan recognises the vital role the natural environment has to play in reducing our carbon footprint. Retaining good quality habitats and creating new high carbon storage habitats are crucial elements of the plan. As well as carbon sequestration this priority also has a range of significant environmental co-benefits, including protecting, enhancing and restoring biodiversity and habitats, adapting to the impacts of climate change and human health and wellbeing.

We also recognise that natural carbon storage measures will be important to help meet our own net-zero targets, balancing those emissions that we cannot completely remove by 2030.

There are ongoing investigations into levels of carbon capture that is being achieved through habitat restoration projects on our own land as well as with our partners, including town and parish councils, and projects that we have provide support to. Progress against this action will require continued and longer-term monitoring of the amount of carbon being captured as a direct result of projects and initiatives that we progress, i.e. carbon that would not have otherwise been captured without intervention. The measurement and monitoring of this will depend on the type of project involved.

As an example, we have been able utilise the Woodland Carbon Code to provide a best estimate as to carbon sequestration impact of woodlands we have established at Stoulton Woods and Jubilee Woods. Stoulton Woods, after over 20 years since planting, is now

capturing in the order of 85 tonnes CO₂e per year across the whole site. While Jubilee Woods, after 10 years since planting, is expected to be capturing 5 tonnes CO₂e per year and this will continue to increase as the wood matures.

The [Flourishing Floodplain project](#), being delivered through the Wildfowl & Wetland Trust, aims to restore threatened wetland habitats in the farmed landscape of the Severn and Avon Vales. As well as undertaking habitat restoration projects, they are building the evidence base to prove how important floodplain meadows are as stores of soil carbon. This will help us understand the impact of projects, such as the restoration of Avon Meadows in Pershore, will contribute towards this Intelligently Green target. We are currently trying to establish a robust figure for the amount of carbon capture that is taking place at Avon Meadows.

This is just an example of three individual projects that provide a snapshot of carbon capture potential for projects that the council have undertaken or supported. We will continue to establish carbon capture figures for projects where they are underpinned by robust evidence and using nationally recognised methodologies.