



sustainability
west midlands

West Midlands Sustainability Roadmap to 2030

Annual monitoring report 2021



Resource
Efficiency

Clean and Active
Travel

Clean Air and
Water

Natural
Environment

Sustainable
Growth

Social Equity and
Health

Sustainable Energy
Use

Adapting to
Climate Change

Report information

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About Sustainability West Midlands

SWM was established in 2002 as an independent, not-for-profit company and is the sustainability adviser for the leaders of the West Midlands.

Our vision is that the West Midlands is leading in contributing to the national target of Net Zero greenhouse gas emissions by 2050 whilst addressing health inequality and driving inclusive growth. We monitor the [West Midlands Sustainability 2030 Roadmap](#) which acts as a framework that all organisations based or operating in the region can use to help them make changes to their activities in the knowledge that they will contribute to wider regional ambition.

SWM's support our [members](#) and other local stakeholders in the public, private and third sectors to implement these changes by enabling them to demonstrate innovation and leadership and provide opportunities to collaborate and celebrate success.

www.sustainabilitywestmidlands.org.uk
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1. Introduction

1.1. Purpose of this report

The purpose of this report is to provide evidence to policy makers within the West Midlands on progress on the economic, social and environmental sustainability goals and priorities for the region, set out in the West [Midlands Sustainability Roadmap to 2030](#), launched at the end of 2019. The report outlines the progress on the targets that underpin the Roadmap, with the analysis of findings and graphical representation of the data, alongside the method for the data collection for replicability in the future.

The Roadmap targets were established through consultation and collaboration with stakeholders and experts during 2019, and the Roadmap as a whole has been published using the design of United Nation's [Sustainable Development Goals](#) as a guide, which is a recognised framework for good practice.

The report will also provide useful strategic context for organisations reviewing or developing their strategies within the West Midlands and can help identify target areas for improvement and focus. SWM uses this work to help inform our sustainability reviews for our members, developing cross-LEP programmes for funding and the sustainability support programme for the West Midlands Combined Authority and beyond.

1.2. Why is the Roadmap and Monitoring Important?

SWM developed the Roadmap to act as a framework to help organisations operating in the region to further their sustainability activities. SWM acts as a catalyst to help these organisations operate more sustainably and contribute to our vision, which is that *'The West Midlands is leading in contributing to the national target of Net Zero greenhouse gas emissions by 2050 whilst addressing health inequality and driving inclusive growth.'*

We do this by promoting:

- Innovation: Using new ideas, technologies, services and processes to make positive changes quicker and more effectively
- Leadership: Leading by example and promoting the ideas and perspectives of influencers and policymakers who can inspire and make a difference
- Collaboration: Enabling the identification of partnerships and brokering connections between sectors to develop more powerful, sustainable solutions
- Celebrating success: Sharing good practice and promoting the achievements of our members and stakeholders and enabling these to be scaled up and applied elsewhere.

Monitoring the success of our outreach and our role and, critically, the region's progress on sustainability would be almost impossible beyond anecdotal observation without setting relevant targets and annually analysing the data that underpin these. The Roadmap allows us to do this more effectively, and enables us to determine those areas where progress is slower, and consequently where SWM should focus its priorities for the coming years. In section 2, we have set out some example activity that we have led on or contributed to since the start of 2020 that contributes to the various Roadmap targets, to show how we influence progress.

Analysing these data since 2010, which is when our previous Roadmap to 2020 commenced from, can allow us to predict the future trends of each metric, to ensure the targets are on track. The

projections give clear indications about which targets need further action in order to reach the goal, and which are likely to be on track or to exceed the target set. The West Midlands’s contribution to achieving these goals will play a part in acting as a region, and on a bigger scale in a global partnership to make the changes necessary for 2030.

1.3. Background to the Roadmap and Monitoring

This is the first time we have monitored our Roadmap in its current form, however, SWM has overseen a regional sustainability Roadmap since 2010. We are the only region in the UK, as far as we are aware, to have a clear vision, plan, action and annual monitoring to help achieve a more sustainable future. This has been possible due to our independent nature, our evidence-based approach and the support of a range of partners and volunteers.

At our [Annual Conference in December 2019](#), we launched this new ten-year Roadmap replacing the previous one, and we have set a greater range of targets than were monitoring during the lifetime of the 2010-2020 Roadmap.




The new Roadmap to 2030 was developed after an intense literature review and stakeholder engagement undertaken over 2017-2019. We analysed the relevant global, national and regional policies and strategies to understand their focus and targets and used these to inform our own. As part of the stakeholder engagement process we consulted over 300 organisations through a series of events and 1-2-1 engagement. It is important to note that as new data become available the Roadmap targets will be updated.







It should also be noted that some of the datasets used to monitor our Roadmap targets are currently reflecting figures before our baseline year, which is 2019. Therefore we cannot yet establish a full baseline which we will do when all data from 2019 onwards are available, which is likely to be from next year (2022). We made the decision to shift our baseline forward to 2019 from 2020 given that it is highly likely that some of the data for 2020 will show significant anomalies due to the impact of lockdown as a result of the Covid-19 pandemic. For example, we know that transport emissions declined sharply which will have had a significant effect on carbon emissions for this period.

1.4. Structure of the Report

This report provides an analysis of each sustainability priority that makes up our Roadmap to 2030, along with the overarching vision statement. We have provided a summary of the data and progress we are making on each target broken down, where possible, into local authority and Local Enterprise Partnership (LEP) level. We have set out the methodology used to obtain the data and provided recommendations for next steps.










1.5. Summary of results

Roadmap priority	Target	Progress
	Net Zero by 2050	Sustain current action
	By 2030, achieve a household recycling rate of 55%	More action needed
	By 2030, one third of all trips made by walking or cycling.	Accelerate progress
	By 2030, 50-70% of new car sales should be Ultra Low Emission Vehicles	Accelerate progress

Roadmap priority	Target	Progress
	By 2030, reduce mortality as a result of PM2.5 pollution exposure by 75% from 2019 levels	More action needed
	None at present	-
	By 2030, increase GVA per head by 40% from 2019 levels.	Unknown
	By 2030, sales in the Low Carbon Goods and Services sector will reach £40 billion.	Sustain current action
	By 2030, achieve a 40% reduction in male and female health inequality from 2019 levels	More action needed
	By 2030, reduce the proportion of households in fuel poverty by 50% from 2019 levels	Sustain current action
	By 2030 achieve a 79% increase in the amount of energy generated by renewables from 2019 levels	Unknown
	None at present	-

2. What has SWM been doing?

The following tables summaries some of the projects and activities that SWM has been involved with since the start of 2020 that are directly linked to our Roadmap and its priorities. This shows how our role is contributing to supporting the meeting of the targets analysed in subsequent sections of this report.

Roadmap priority	Projects and activities since start of 2020
	<ul style="list-style-type: none"> Continued running of the Innovative Zero Carbon Working Group Supporting local authorities with Net Zero targets Event with members Mott MacDonald on place-based approach to Net Zero
	<ul style="list-style-type: none"> Involvement in WMCA Circular Economy Taskforce Working with Wolves FC and members EnTRESS on resource efficiency challenges
	<ul style="list-style-type: none"> Event with members CREST on rural, low carbon public transport
	<ul style="list-style-type: none"> Supported members Air-Pot AQ at an event focusing on air quality monitoring
	<ul style="list-style-type: none"> Continued strategic links with the Birmingham & Black Country Wildlife Trust Training for Heritage Fund staff on environmental sustainability
	<ul style="list-style-type: none"> Extensive study in Low Carbon Goods and Services Sector in the Midlands Running the WMCA Net Zero Business Pledge Participation in Innovation Engine 3, where SMEs can solve challenges of large businesses
	<ul style="list-style-type: none"> Continuing support to our NHS and Public Health Networks
	<ul style="list-style-type: none"> Forthcoming event with our members CREST on rural energy innovation (Nov 2021)
	<ul style="list-style-type: none"> Improving the accessibility of the Independent Assessment of UK Climate Risk Development of a West Midlands Climate Adaptation Plan (Nov 2021) Workshop for local authorities in adaptation

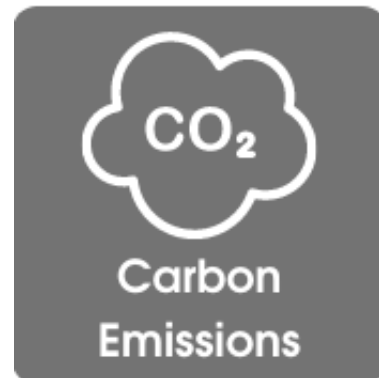
This does not include the myriad of activity that contributes to a selection of the above Roadmap priorities, such as our Annual Conference and more general support and training given to public and private sector organisations on wider sustainability issues.

3. Carbon Emissions

3.1. 2050 Vision Statement

To achieve Net Zero in carbon emissions by 2050 across the West Midlands.

Status: sustain current action to meet target



3.2. Methodology

Information on local carbon emissions is sourced from the UK local authority and regional carbon emissions national statistics, [published annually](#) by the Department for Business, Energy and Industrial Strategy (BEIS). At the time this dataset was analysed, data from 2010-2018 were available for analysis and therefore utilised within this report. Data at the local authority level within the West Midlands were extracted, comparing the 'grand total' column across the time frame identified above.

These data **do not** include aviation, shipping or military transport, but **does** include transport, land use and industry and domestic sources of energy. This allowed for analysis by collating the data at a local authority level and establishing a graph for comparison of West Midlands local authorities against the year, on the x-axis. A total average for the West Midlands was also defined using the collected data.

To identify whether or not the 2050 target could be met, a trendline was plotted to predict the value for 2050. The methodology behind this can be found in the annex. This methodology is utilised for many of the datasets analysed throughout the report.

3.3. Findings

Figure 1 shows the average carbon emissions across the West Midlands between 2010 and 2018. As indicated below, there is a decline in the levels of carbon emissions between these years. In 2010, carbon emissions were 39,860kT (kilotonnes), compared to 30,970kT in 2018. Using these data trends, the regression line was calculated to be $Y = -1128x + 40701$. Utilising this equation, we can project that the region is on track to be Net Zero by 2050. Furthermore, if the current carbon emission trends continue, our target is predicted to be met between the years of 2045-46.

In short, we are making good progress on this target thanks to the establishment of various local and national policy interventions, such as the national Net Zero target by the same year, the WMCA's [#WM2041](#) initiative, with a more ambitious target of Net Zero by 2041, and the Clean Air Zone in Birmingham City Centre, which taxes high polluting vehicles driving through the defined area. This action should help reduce the carbon emission levels through Birmingham and help aid the progress towards the 2050 target. The West Midlands is also a leading region on [low carbon goods and services](#), with many high-value low carbon specialist businesses operating in the area.

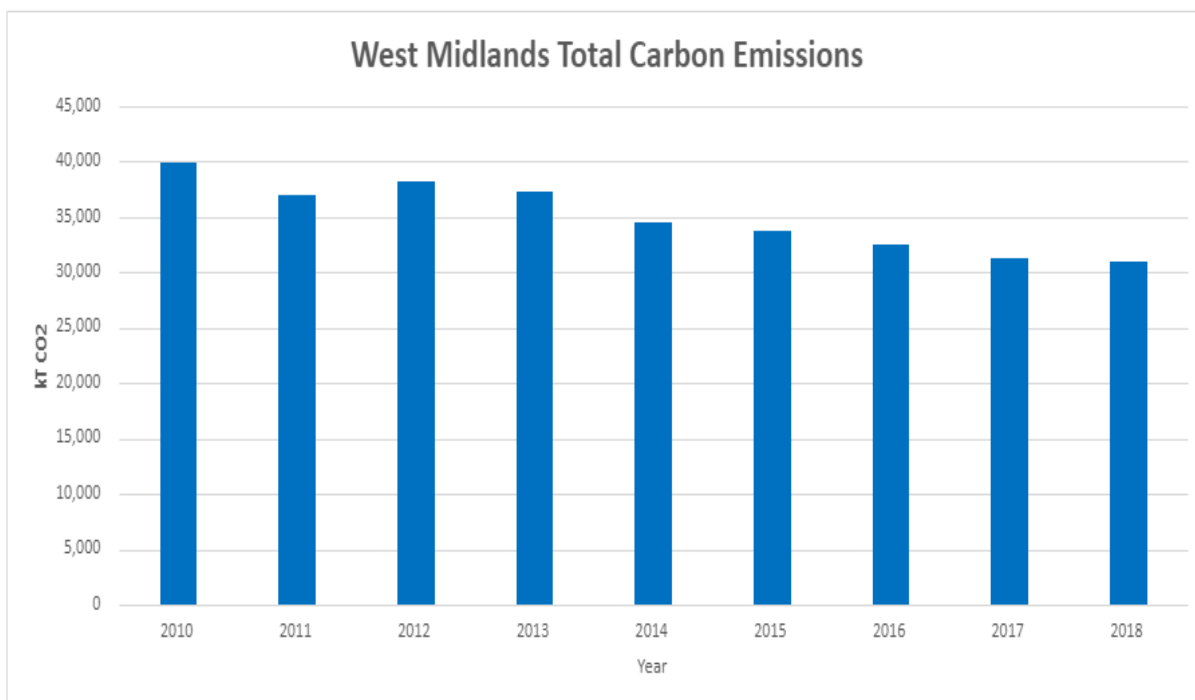


Figure 1: Carbon emissions in the West Midlands, 2010-18, in kt.

Figure 2 shows the carbon emissions across the West Midlands between 2010 and 2018, broken into LEP areas. The highest carbon emissions are shown to be sourced from Stoke-on-Trent and Staffordshire in 2010 at 8,724kt, and this pattern was still consistent in 2018 at 7,153kt, being the highest carbon emitter throughout this time frame. These findings could be attributed to the industrial nature and facilities located within this area, such as the Staffordshire Potteries encompassing six separate towns. The lowest carbon emission levels were found continuously in Worcestershire LEP since 2010, with a steady decrease in emissions found towards 2018.

The greatest decline in emissions has occurred in Greater Birmingham and Solihull LEP, with carbon footprint initiatives and other actions showing impact and improvement over the period. From 2010 to 2018, a decrease of 2,014kt carbon emissions was made within the Greater Birmingham and Solihull LEP. In contrast, Worcestershire’s emissions declined by the lowest amount of 930kt, however this area is still responsible for the lowest emission levels overall.

3.4. Recommendations

- Over the next few years, it will be important to consider the effect of the Covid-19 pandemic, to see how this effects trends and whether the impact of lockdown has a lasting effect on the region’s emissions, good or bad. It will be important to assess whether emissions return back to the predicted progression and whether we need to assess our vision statement to be adjusted to meet the new emerging trend.
- In future reports, the West Midlands carbon emissions could be plotted against the UK average emissions for comparison of regional progression.
- Per capita emissions, i.e. emissions per head of population, could also be calculated for a ‘truer’ picture of which LEP areas emit the greatest ‘intensity’ of carbon, and where interventions may be required.

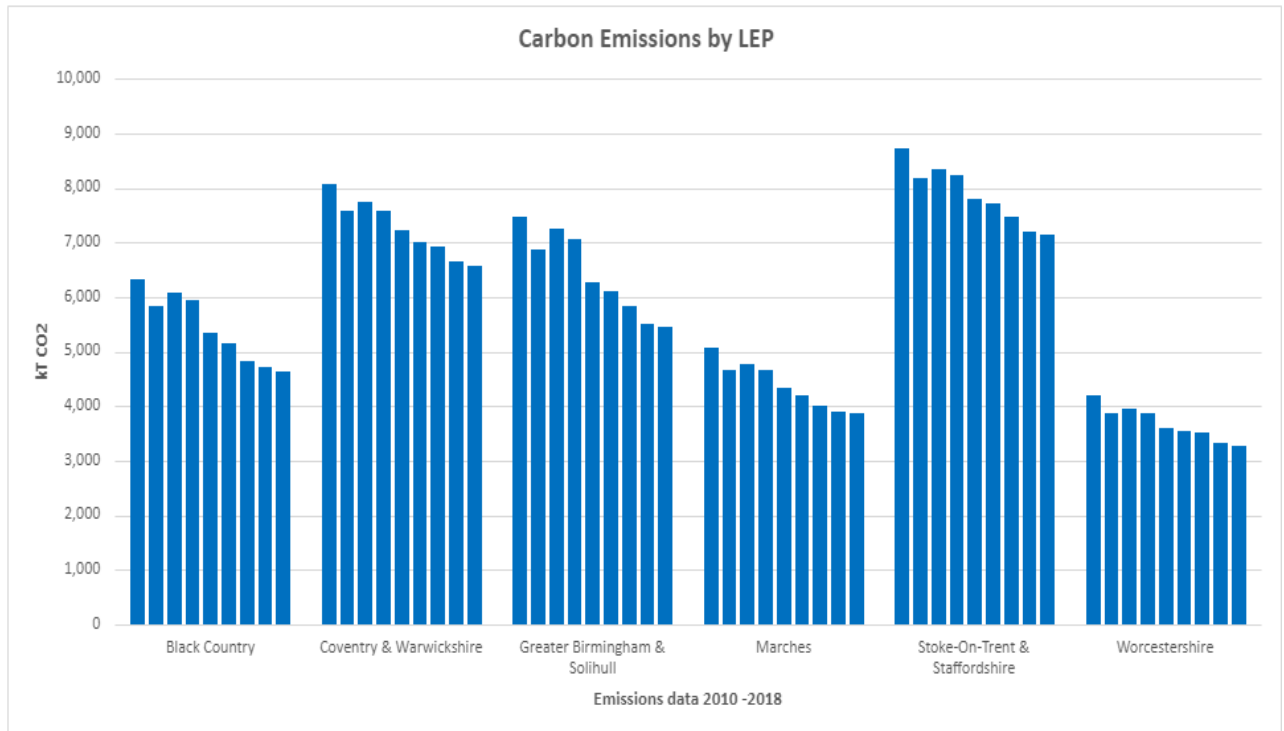


Figure 2: Carbon emissions in the West Midlands by LEP area, 2010-18, in kT.

3.5. Summary

A decrease in carbon emissions has been observed since 2010, and the region is currently on track to meet the 2050 Net Zero target prior to the vision statement year and therefore current action should be sustained.

Status: sustain current action

4. Resource Efficiency

4.1. 2030 Vision Statement

To achieve a household recycling rate of 55% by 2030 across the West Midlands

Status: more action needed to meet the target



4.2. Methodology

Local authority collected household waste figures from April 2000 to March 2019 (for England and regions), and local authority data April 2018 to March 2019, [is available](#) from the Department for Environment, Food & Rural Affairs (Defra). The percentage of household waste sent for reuse, recycling or composting, provided in the dataset, was compared at both the local authority level and regional West Midlands level.

4.3. Findings

Figure 3 shows the percentage of household waste sent for reuse, recycling or composting within the West Midlands in the years 2010-2018. The graph shows a flat trend over the years with values remaining very consistent towards 2018, with an average recycling rate of 44%. This is 11 percentage points lower than the 2030 target of 55%. This trend indicates that the target will not be met if the current rate of recycling continues. Therefore, action must be taken to increase the percentage of household waste being sent for reuse, recycling or composting.

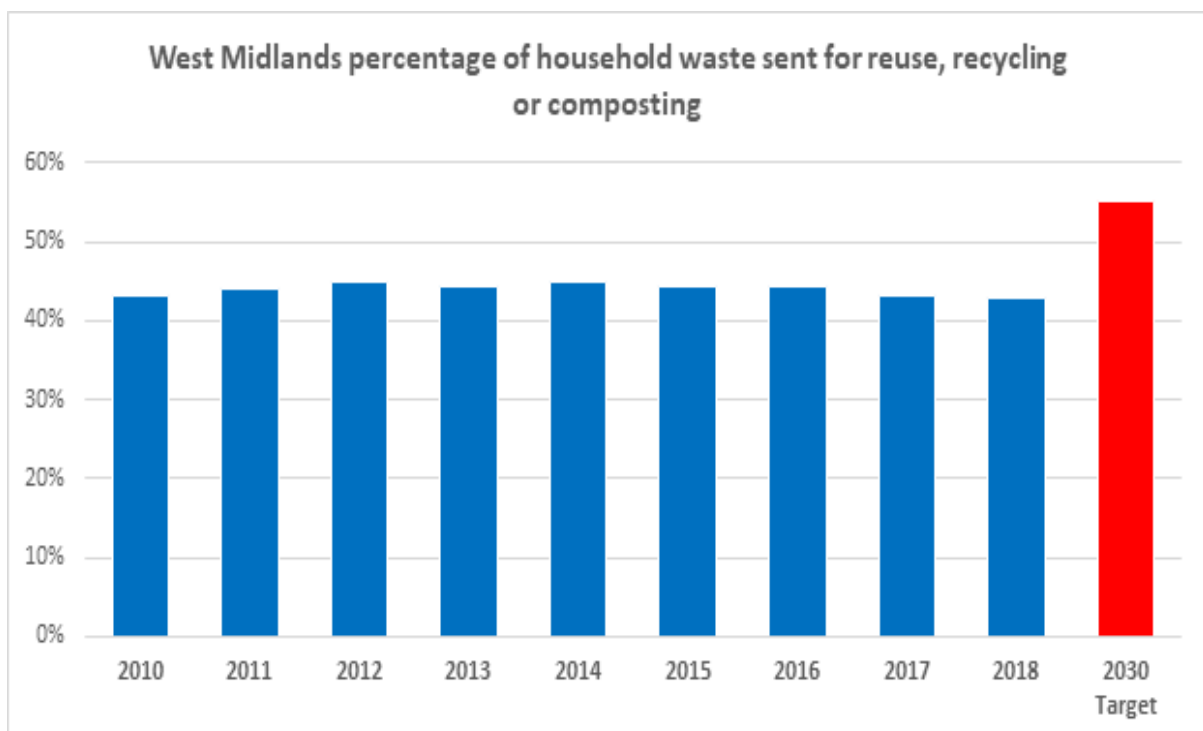


Figure 3: household waste sent for reuse, recycling or composting within the West Midlands, 2010-18, %.

Figure 4 shows the percentage of household waste sent for reuse, recycling or composting broken down at LEP level. The graph shows that on average, Stoke-On-Trent and Staffordshire LEP has the highest rates of household recycling, as opposed to Greater Birmingham and Solihull with much lower levels, decreasing over time. Only three out of the six LEPs saw an increase in recycling rates between 2010 and 2018, showing there is much more work to be done in order to meet the 2030 target of 55%.

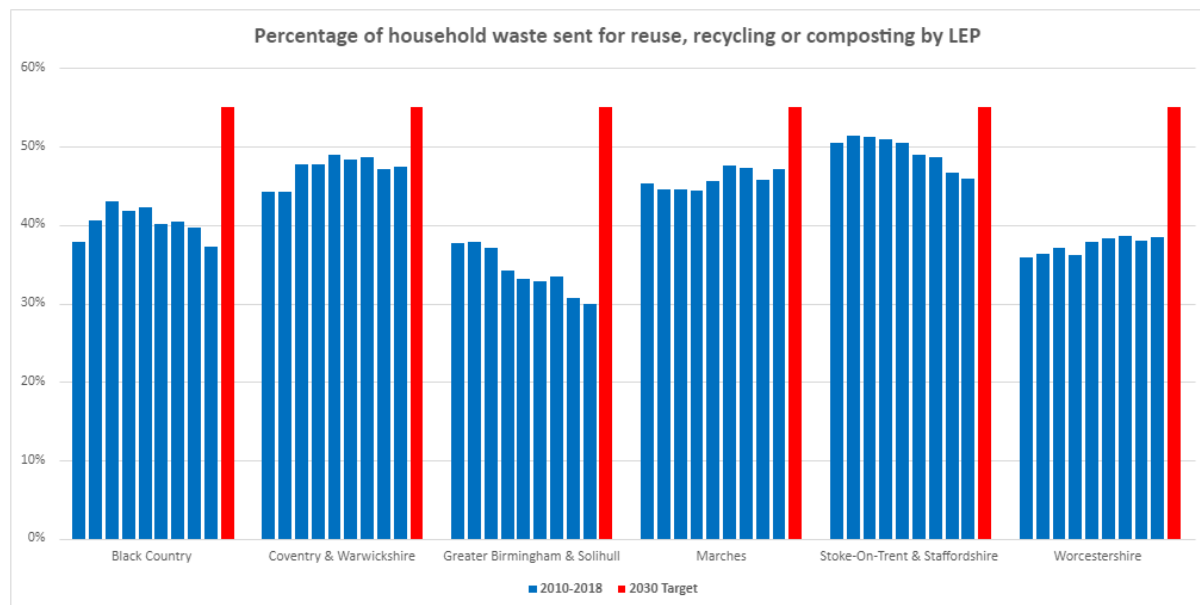


Figure 4: household waste sent for reuse, recycling or composting at West Midlands LEP level, 2010-18, %.

4.4. Recommendations

- In future, it may be beneficial to compare the West Midlands household recycling rate to the UK overall and rates in other comparable regions to ascertain whether the lack of progress on this is a national or regional issue.
- Further analysis of which local authority areas are particularly contributing to the static nature of progress against this target would also be beneficial, alongside working with them to try and improve recycling uptake.

4.5. Summary

Based on current trends since 2010, household recycling needs further action in order to meet the 2030 target of 55%.

Status: more action needed

5. Clean and Active Travel: Walking and Cycling

5.1. 2030 Vision Statement

By 2030, one third of all travel to be made by walking or cycling across the West Midlands

Status: progress to date needs acceleration to meet the target



5.2. Methodology

Department for Transport statistics show the number of trips made by walking or cycling from 2010 to 2018 as part of its [National Travel Survey](#), last undertaken in 2019. The data can be used to identify the total number of trips made by walking or cycling in the West Midlands by calculating a percentage of these against all trips.

5.3. Findings

Figure 5 displays the percentage of walking and cycling trips against all transport modes within the West Midlands. In 2014, the lowest percentage was recorded at 22%. The highest percentage was found in 2017 at 27%. There is a slight upwards trend present, which can be represented by the line of best fit equation $y = 0.0026x + 0.2295$. Utilising this equation, a value for 2030 can be projected as 28%. This is 5% lower than the 2030 target of 33% showing action needs to be taken to catalyse an increase towards meeting the target.

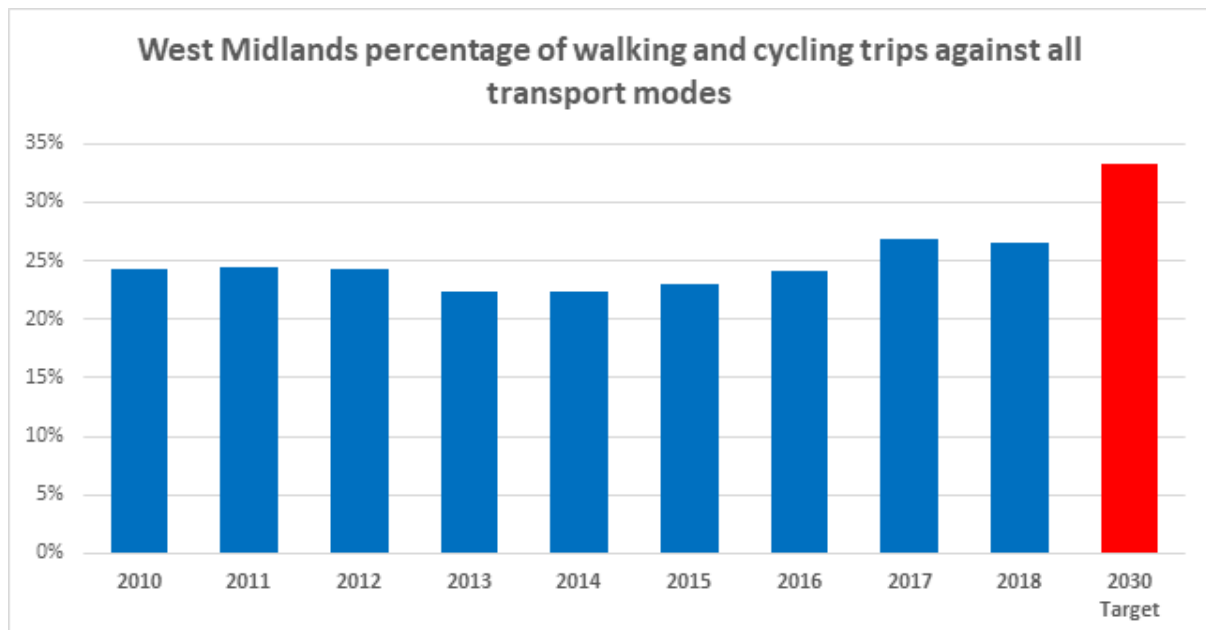


Figure 5: Trips made by walking or cycling compared to all modes of transport in the West Midlands, 2010-18, %.

New schemes, such as the [West Midlands Cycle Hire](#), may encourage the public to utilise cycling over other forms of transport. This may help contribute towards reaching the target by increasing the percentage over the next few years.

5.4. Recommendations

- In future reports, it would be valuable to analyse the walking and cycling levels further at a LEP level alongside the West Midlands' averages to indicate specific areas that need targeted action projects, e.g. it would be reasonable to expect that rural areas will have greater barriers to walking and cycling uptake. Data could not be found on this at present, but liaison with DfT could take place as a starting point, lest non-publicly available data are available.
- Using the DfT dataset, it should be possible to calculate the percentage of trips made by walking and cycling against only non-sustainable travel modes (e.g. single car usage) rather than all modes (e.g. buses and trams). This may be a better comparison to make given that we also advocate other sustainable transport modes, and will be considered for next year's analysis.
- Similarly, comparing other sustainable modes of transport to non-sustainable modes more broadly could be useful in giving a larger scale comparison of sustainable verses unsustainable transport. This could include public transport but also e-scooters and electric vehicles, for example.
- Analysing trends related to walking and cycling in 2020 will be interesting to see how the Covid-19 pandemic has affected levels overall. Capitalising on any positive trend is fundamental, especially if public transport use struggles to increase compared to car use.

5.5. Summary

In accordance with the trends from 2010 to 2018, the percentage of trips made by walking and cycling is currently on track to fall just short of the target in 2030.

Status: Accelerate progress

6. Clean and Active Travel: ULEV sales

6.1. 2030 Vision Statement

By 2030, 50-70% of new car sales should be Ultra Low Emission Vehicles (ULEVs)

Status: progress to date needs acceleration to meet the target



6.2. Methodology

The original target for this metric included a separate percentage for ULEV van sales. This has been removed during the process of this monitoring exercise as it has since transpired that data at a regional level for this metric is unavailable and does not allow for the ULEV van sales to be accounted for separately when compared to non-ULEV van sales for each year.

The ULEV dataset for cars [is collected from](#) the Department for Transport, where data specific to the West Midlands region is accessible. The data for total new car sales was then extracted alongside the data for the proportions of ULEV sales to calculate the percentage of car sales that were classified as ULEVs.

6.3. Findings

Figure 6 shows the percentage of new ULEV car sales against total new car sales for the West Midlands between the years of 2010 and 2019. As shown, there is a clear increase in ULEV sales since 2010, with the highest percentage recorded in 2019 at 5%, however as the vision statement target is 50-70%, further action is required to catalyse this progress. Using a quadratic regression line to predict the future level based on previous trends, the 2030 percentage of ULEV car sales is predicted to be 29%. This falls 21% lower than the minimum vision statement target of 50%.

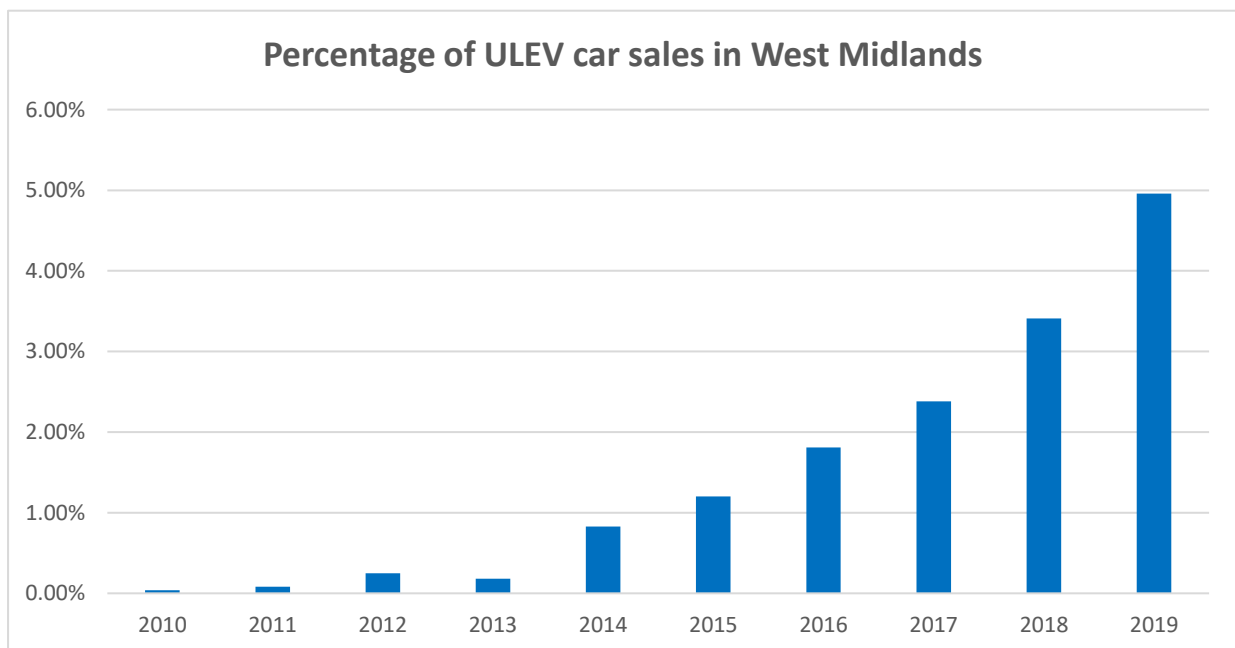


Figure 6: New ULEV car sales in the West Midlands per year compared to all car sales, 2010-19, %.

6.4. Recommendations

- In future reports, it may be valuable to include some comparisons between the UK averages and the West Midlands totals.
- Also it may be beneficial to ascertain whether the data can be broken down into LEP or local authority level for further insight. This would be especially helpful to determine if the uptake of electric vehicles is slower in rural areas where perhaps infrastructure is limited and range anxiety is still a greater concern than in urban areas.
- It is expected that the Government's target for all new vehicle sales by 2035 to be electric will accelerate this upwards trend, so although we have indicated that more action is needed to do this, the data analysed reflects uptake prior to this announcement. Should an acceleration of uptake not take place in the next couple of years, the concern around this metric would be greater.

6.5. Summary

Based on current trends, an acceleration of uptake in ULEV cars is required in order to meet the 2030 vision statement.

Status: Accelerate progress

7. Clean Air and Water

7.1. 2030 Vision Statement

To reduce the mortality rate from PM2.5 pollution exposure by 75% from the 2019 levels across the West Midlands

Status: more action needed to meet the target



7.2. Methodology

The dataset used to assess this target was gathered from Public Health England's [Footsteps Public Health Profiles](#), and is broken down into local authorities to show mortality as a result of PM2.5 pollution exposure from 2010-2019. The West Midlands percentage data was collected, alongside the LEP levels as presented in the forthcoming graphs. A trendline was generated to predict the 2030 value (see annex for full calculations).

7.3. Findings

Figure 7 shows the percentage of mortality attributed to particulate air pollution within the West Midlands between 2010 and 2019. As shown below, there is a slight decrease in percentage from 2010 to 2019. The highest percentage was 5.6%, recorded in 2010, and the lowest was 4.7%, recorded in 2015. Using the decreasing trend, a line of best fit can be applied for equation $y = -0.0004x + 0.0536$. Utilising this equation, the 2030 percentage can be estimated at 4.5%. This is 3.2 percentage points higher than the figure necessary to meet the 2030 target as displayed on the graph, which is 1.3%.

Therefore, at the current rate, the 2030 target will not be met. However, due to the implementation of the Clean Air Zone within Birmingham City Centre, these values could see a rapid decrease over the next few years within the Greater Birmingham and Solihull region as particulate air pollution decreases; it remains to be seen how this could affect the surrounding areas, however. The future implications of the Government's electric vehicle uptake target on air pollution levels, and air pollution levels as a result of the Covid-19 pandemic, will also be important to monitor and report. This includes the post-pandemic recovery and whether any possible declines in particulate matter and resultant deaths will be maintained following the re-opening of society.

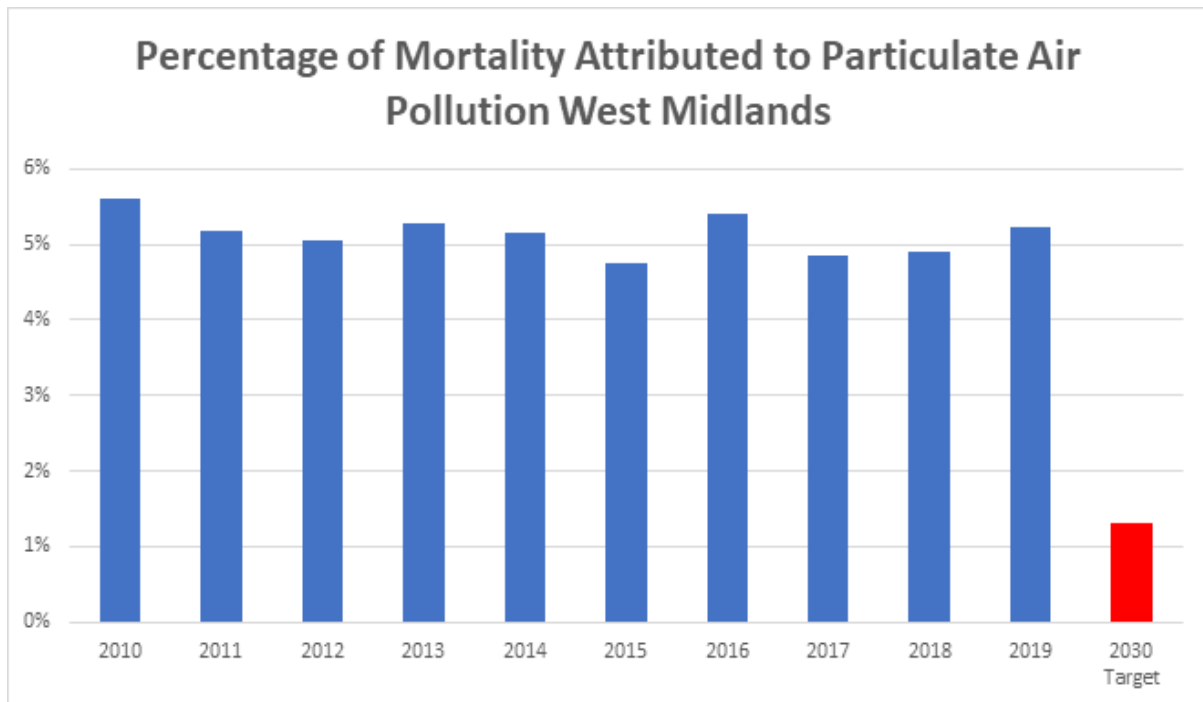


Figure 7: Mortality attributed to particulate air pollution within the West Midlands, 2010-19, %.

Figure 8 displays the percentage of mortality attributed to particulate air pollution by LEP area. The data displayed shows that Black Country, Coventry & Warwickshire and Greater Birmingham & Solihull LEPs all have similar mortality rates associated with air pollution and are the highest of the six LEPs. Stoke-on-Trent & Staffordshire and Worcestershire LEPs produce lower rates than the three previously mentioned LEPs and are very similar to one another. Finally, the Marches LEP produces the lowest rate of all the LEPs; this is unsurprising given that it is the most rural of our LEP areas. However, none of the LEP level data show a trend to suggest the 2030 target percentage will be reached. This suggests action may need to be taken as the Clean Air Zone will only impact one of the LEP areas.

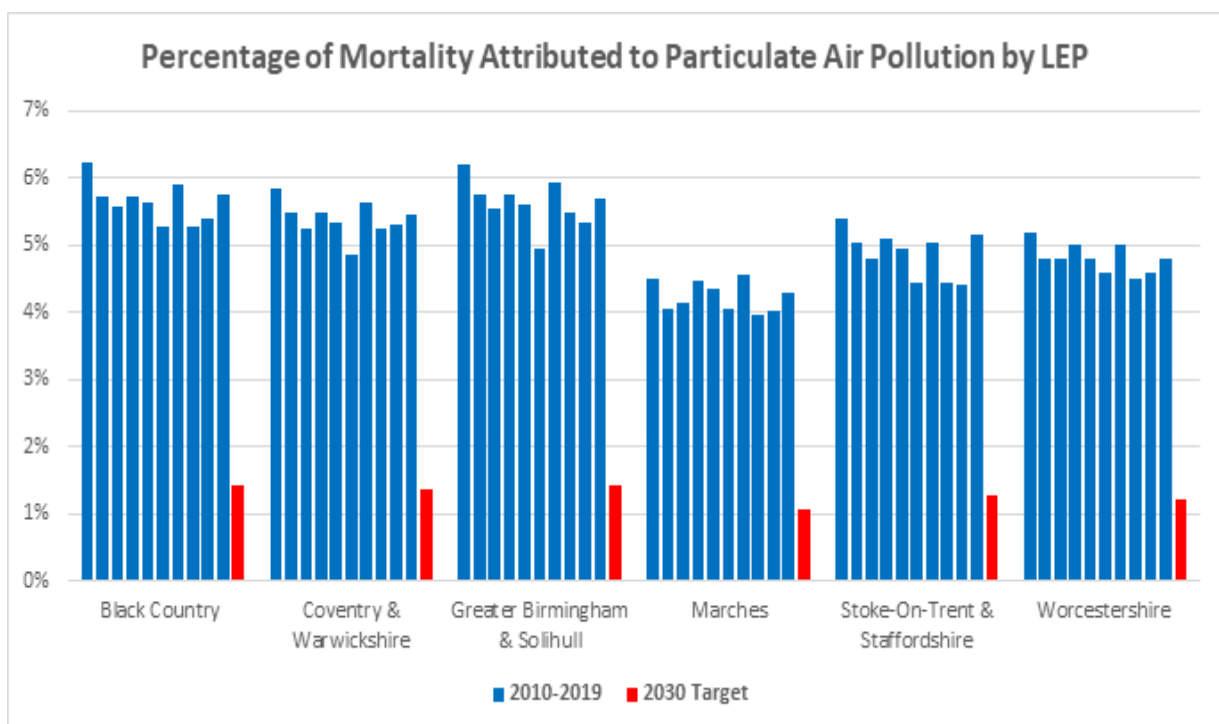


Figure 8: Mortality attributed to particulate air pollution within the West Midlands by LEP, 2010-19, %.

7.4. Recommendations

- In future reports it would be beneficial to segregate the impact from the Covid-19 pandemic on mortality rates, to learn and adapt the target if needed to suit new trends post-pandemic.
- It is also important to assess how Covid-19 and the associated lockdown affected pollution rates and whether this has been maintained following the re-opening of society.
- Regarding the data, the ability to assess air pollution levels across the region is still very challenging, given that air pollution sensors only capture the air quality in specific locations and the data from which is not easy to obtain. Work is going on to try and change this to give a clearer picture of air pollution hotspots in the region.
- There is also a gap in monitoring regional water quality. We engaged with the Environment Agency in 2019 to determine if there was a way to monitor overall water quality in the West Midlands and it was very challenging to obtain and analyse the data. Further investigation needs to take place as to what can be realistically monitored on a regional basis.

7.5. Summary

Further action is needed in order to meet the 2030 targets based on trend analysis since 2010.

Status: more action needed

8. Sustainable Growth: GVA per head

8.1. 2030 Vision Statement

To increase GVA per head by 40% from the 2019 levels by 2030, across the West Midlands

Status: unknown



8.2. Methodology

The indicator GVA (Gross Value Added) is used to assess economic productivity; it refers to a measure in economics of the value of goods and services produced in an area or sector of the economy. Although not without its critics on the type of economic growth it measures, it is a recognised indicator used by Government and useful when considered along with other social and environmental measures. The data is hosted by the Office for National Statistics (ONS).

However, during the research period for this report, the dataset that we have historically used to assess this metric was not updated since 2018. After further liaison with ONS, it has since transpired that the 'income approach measure' which is what we have used since 2010 has been discontinued, and the only GVA metric is now a 'balanced approach' using both 'income and production approaches.' While this dataset is still potentially useful as an indicator to economic growth, the uncertainty around the differences between the two datasets means we currently cannot qualify our target and whether it needs to change as a result.

Therefore, as a result of this, we have decided to discontinue monitoring GVA for now, especially as we have an additional metric that we can now measure against this Roadmap priority (see section 9 below). There was always a little 'controversy' in measuring GVA as an indicator of 'sustainable' growth in any case, therefore this being superseded by a dataset focusing on Low Carbon Goods and Services (LCEGS) is likely to provide stronger evidence of sustainable growth than GVA alone.

As described in section 9, should the LCEGS dataset not be updated annually, we may revisit GVA as a measure against Sustainable Growth, but only if necessary.

8.3. Findings

The previous findings were analysed against our 2020 Roadmap target, and showed that we were exceeding progress in this area. The analysis can be found in our [previous report](#). However, given the economic impact that Covid-19 has had on the region, we cannot assume that this is still the case. We will continue to analyse the growth or otherwise in the LCEGS sector using the dataset outlined below.

Status: unknown

9. Sustainable Growth: Sales in the LCEGS sector

9.1. 2030 Vision Statement

By 2030, sales in the Low Carbon Goods and Services sector will reach £40 billion.

Status: sustain current action



9.2. Methodology

This target is new for 2021 and has been derived via analysis into the Midlands' Low Carbon Goods and Services Sector, [published in April 2021](#). This study analysed the state of the sector in great depth and SWM was directly involved, leading on stakeholder engagement. Consultants kMatrix carried out the data analysis, and it is with their advice that we are able to establish this new target which gives us a strong ambition to accelerate sales in the LCEGS sector by 2030. kMatrix provided us with a summary of their projections for 2030 on sales and their reasoning behind this.

9.3. Findings

kMatrix looked at the value of sales for the West Midlands for 2017/18, 2018/19 and 2019/20 and extrapolated where sales could expect to be in 2030 to be in line with Net Zero targets. The LCEGS sales in those years specified were as follows for the whole of the West Midlands:

- 2017/18 sales were £16.0bn
- 2018/19 sales were £16.9bn
- 2019/20 sales were £18.0bn

The drop in 2020/21 sales for the West Midlands region as a result of Covid-19 is estimated to be 12.2%, but kMatrix is confident that the region is well placed to bounce back from it, meaning the drop is likely to be forgotten in time. Therefore, by 2030 projections show that we should expect LCEGS sales of £38.9bn, so it was deemed realistic to be slightly more ambitious and push this up to £40bn in line with achieving Net Zero in the region.

9.4. Recommendations

- The key risk here is that there is no guarantee that updates to these data will be available annually. The Midlands Energy Hub funded this study, so we will need a similar commitment in 2022 to ensure the data can be updated so we can continue to monitor the target.
- Analysis at LEP and local authority level is also possible, but would take kMatrix a long time to do, and we do not have the jurisdiction to ask them to do this. It would, therefore, be beneficial to include an easier way of analysing the data at a more granular level in the next update, so we can target locations where progress is slower.
- kMatrix has predicted the likely decline in LCEGS sales as a result of Covid-19 as fairly modest and temporary; we need to ensure this is the case, otherwise our 2030 target may be unrealistic. Again, repeating this exercise annually is the only way this will be ascertained.

9.5. Summary

Based on the information we have available, we are currently on track to achieve the 2030 target of £40bn sales in the LCEGS sector and current action should be sustained.

Status: sustain current action

10. Social Equity and Health: Health inequality

10.1. 2030 Vision Statement

To achieve a 40% reduction in male and female health inequality from the 2019 levels, by 2030 across the West Midlands

Status: more action needed to meet the target



10.2. Methodology

Data reflecting health inequality was extracted [from Local Authority Health Profiles](#) hosted by Public Health England. The life expectancy gap between the richest and poorest areas was identified for both males and females within the West Midlands, broken into local authority areas and a regional average calculated. Male and female rates are shown below, followed by a comparative graph with both genders plotted.

10.3. Findings

Figure 9 illustrates the average **male** life expectancy gap measured in years between the most and least deprived areas in the West Midlands between 2010 to 2018. From 2010/11 to 2014 there is a decrease in the male life expectancy gap, showing the desired trend to meet the 2030 target. However, the gap has increased from 2014, when the gap was 7.0 years, to 2018 when the gap is 8.2 years. This suggests that the gap will continue to increase in future. As a result, if this trend continues it is unlikely a 40% reduction in male health inequality will be met by 2030, showing more focus needs to be placed on reducing health inequality in males within the West Midlands.

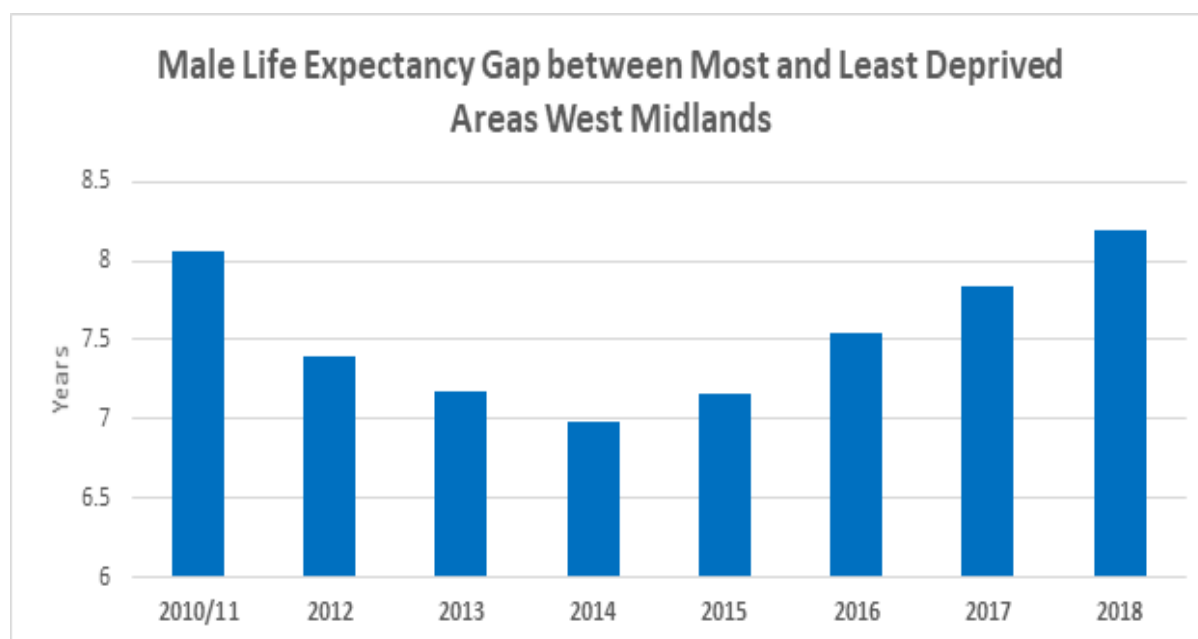


Figure 9: Male life expectancy gap, 2010-18, years.

Figure 10 shows the average **male** life expectancy gap between the most and least deprived areas in the West Midlands broken into LEP level between the years 2010-2018. This shows how each of the

LEPs fluctuate in male health inequality throughout the years, with Marches LEP illustrating the lowest levels of inequality on average, and Greater Birmingham and Solihull exhibiting the highest average levels of inequality. Within this, there are clear dips in health inequality, with improvement shown in the years of 2013 to 2015 in particular for Coventry and Warwickshire, Marches, and Stoke-On-Trent and Staffordshire. Black Country shows a less fluctuating trend, with a clear decline in the life expectancy gap from 2010/11 to 2017, and rise in 2018. As the target aims to reduce the life expectancy gap, this graph shows that the health inequality target is unlikely to be met by 2030 across all LEP areas.

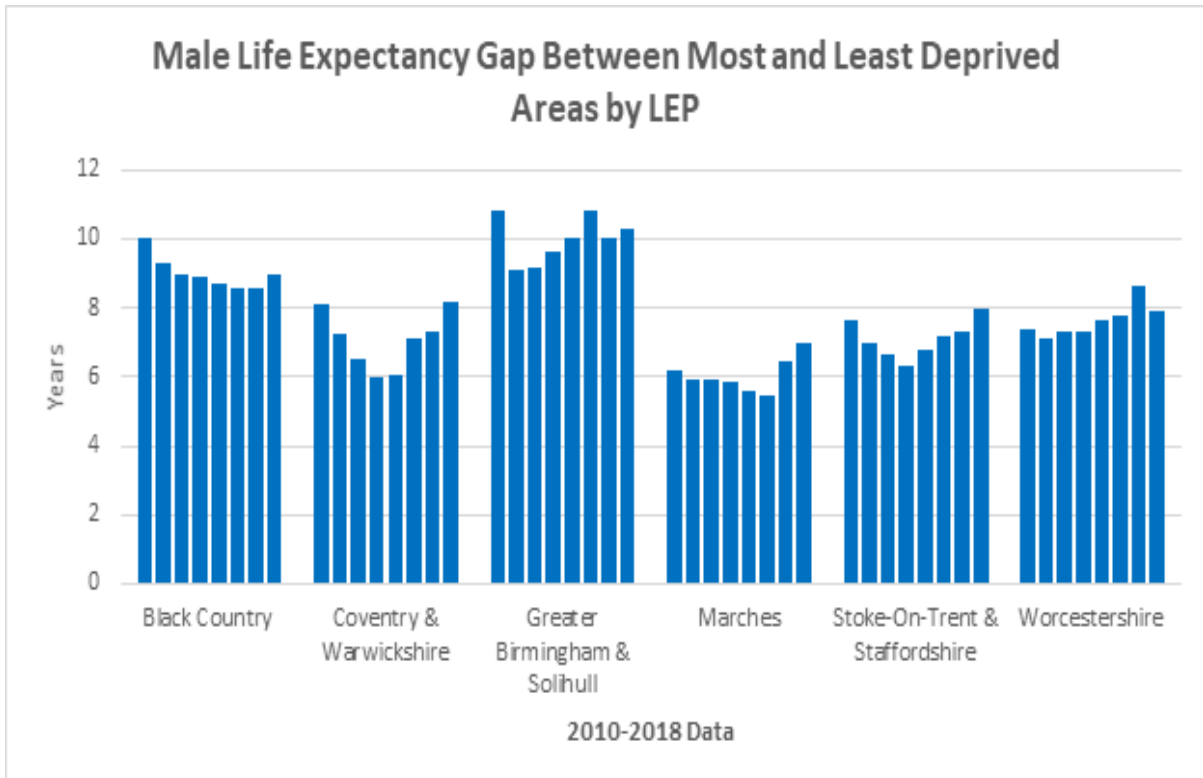


Figure 10: Male life expectancy gap by LEP area, 2010-18, years.

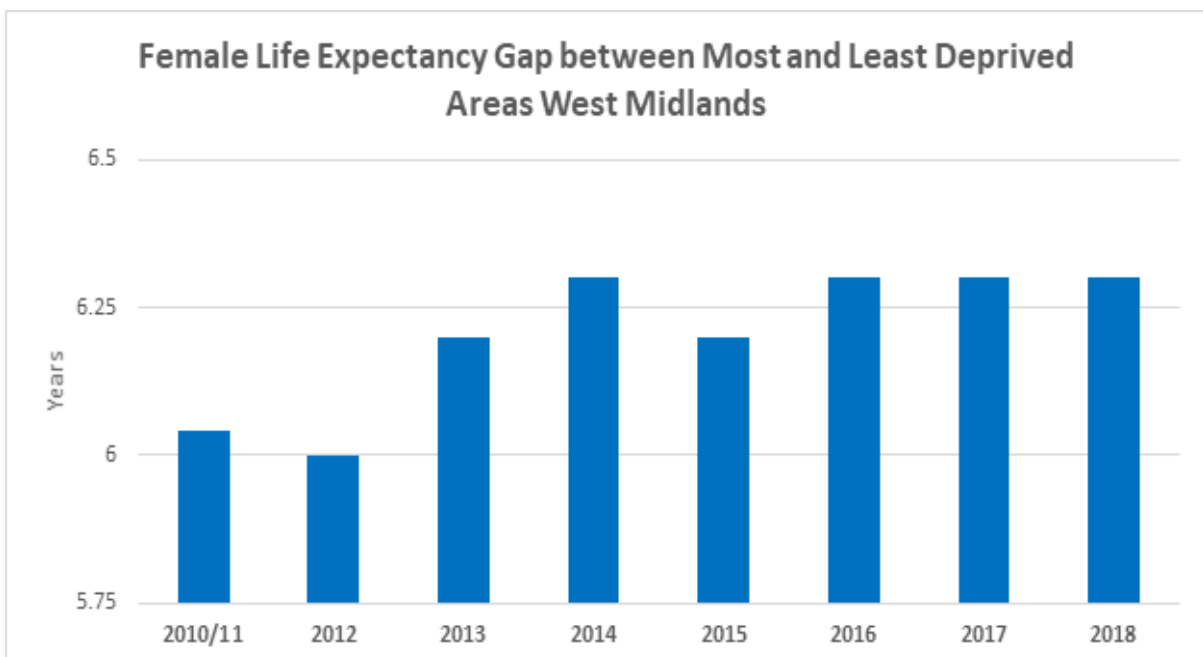


Figure 11: Female life expectancy gap, 2010-18, years.

Figure 11 shows the average **female** life expectancy gap between the most and least deprived areas across the West Midlands. In contrast to the male life expectancy gaps, the female levels fluctuate within the years of 2010-2016. The lowest average female life expectancy gap is illustrated in 2012 with a value of six years, whereas the highest level of 6.3 years was identified with the years of 2014, 2016, 2017 and 2018. This shows the female life expectancy gap has remained fairly stable since 2014 and suggests that the 2019 level will be a similar value, but still showing that action needs to be taken to meet the 40% reduction target for females by 2030.

Figure 12 shows the **female** life expectancy gap broken into LEP area. On average, the highest female life expectancy gap is found in Greater Birmingham & Solihull with an average of 8.3 years from 2010-2018. By contrast, the lowest life expectancy gap for females is found in the Marches with an average of 3.7 years. Within each LEP there is a fluctuating trend, with three LEPs illustrating a slight decline in the life expectancy gap between 2010-2018 whilst the other three increase, reflecting the average stable trend across the whole region. However, similar to the male life expectancy gap, the 40% reduction in female health inequality is unlikely to be met by 2030 if this trend continues.

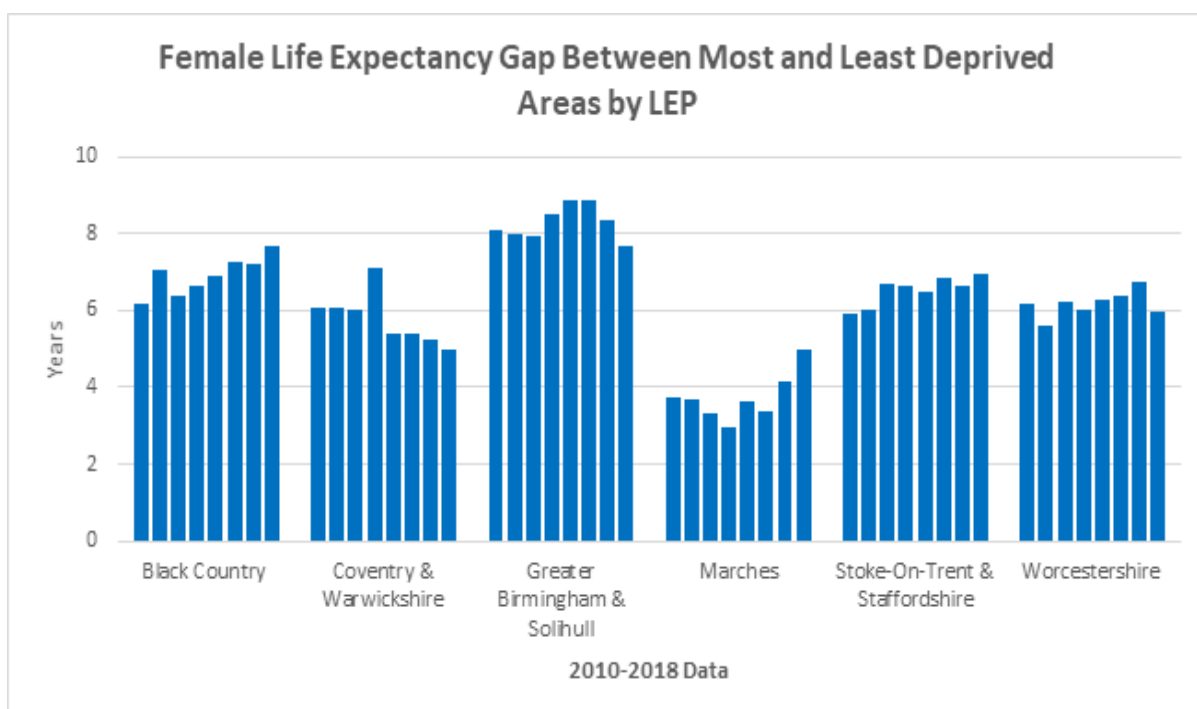


Figure 12: Female life expectancy gap by LEP area, 2010-18, years.

Figure 13 shows the comparison between the male and female life expectancy gap between the most and least deprived areas in the West Midlands between 2010 and 2018. As figure 13 shows, males have a slightly higher life expectancy gap than females within the West Midlands, usually between about one and two years each year. The female levels tend to be more stable, however the male trends decrease then increase over time, and therefore there is evidence the gap between males and females is increasing.

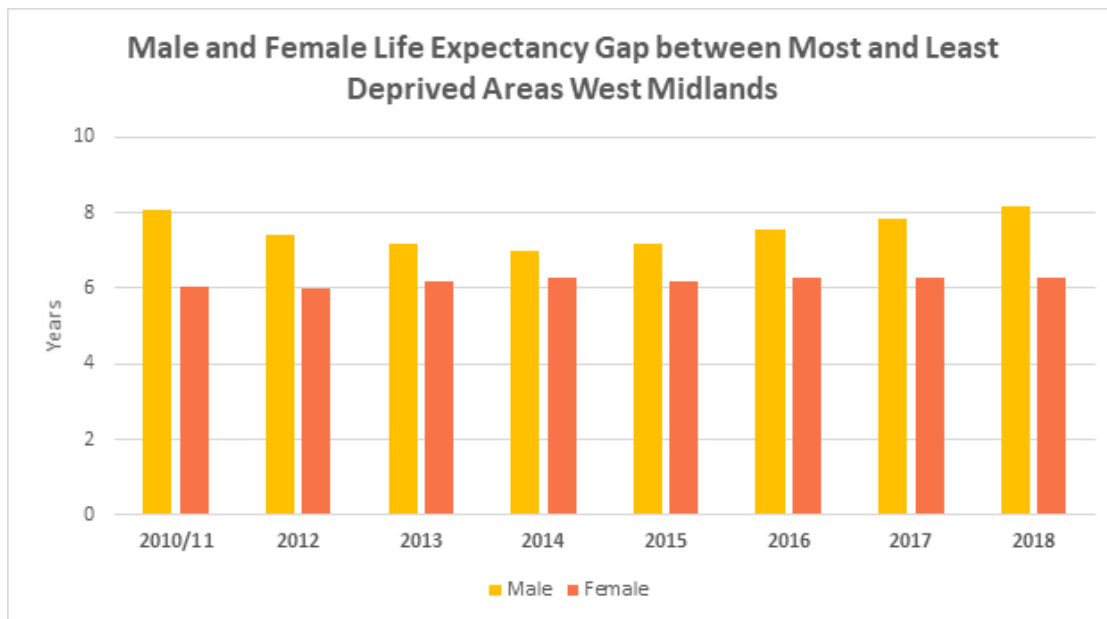


Figure 13: Gap between male and female life expectancy gap, 2010-18, years.

10.4. Recommendations

- In future reports, it may be useful to include a graph comparing the West Midlands health inequality levels against other regions and the UK as a whole, to give insight into whether the West Midlands is the only region experiencing a lack of progress on this issue.
- Health inequality levels have consistently been steady or rising since we commenced analysis of this metric back in 2010. In response to this, we launched two health [networks](#) (one for the NHS and one for public health practitioners) back in 2014 to catalyse action in these areas, but further work needs to be done to reverse this trend.
- As with many other Roadmap metrics, the Covid-19 pandemic may have had a profound effect on health inequality. Analysis of any changes needs to take place to ascertain why and how they may have occurred.

10.5. Summary

It is unlikely the goal for 2030 health inequality will be reached based on trends since 2010, therefore further action is necessary to meet the target.

Status: more action needed

11. Social Equity and Health: Fuel Poverty

11.1. 2030 Vision Statement

To reduce the proportion of households in fuel poverty by 50% from the 2019 levels across the West Midlands by 2030

Status: sustain current action



11.2. Methodology

The data for this Roadmap priority were gathered from '[fuel poverty sub regional statistics](#)' collated by BEIS and the data are broken down into local authority areas. The graphs produced identify the percentage of households in fuel poverty within the West Midlands, and the other showing fuel poverty at LEP geography. A trendline was generated to predict the 2030 value (see annex for detailed methodology).

11.3. Findings

Figure 14 displays the percentage of households in fuel poverty across the West Midlands. It shows the highest percentage of 16.2% in 2011, and the lowest of 10.6% in 2018. This downward trend can be represented with a line of best fit and the equation for this line is $y = -0.0057x + 0.1513$. The 2030 target is 50% of the 2019 value, therefore the target number of households in fuel poverty by 2030 is currently 5.0%. Utilising the equation again, the 2030 value can be projected to be 3.7%. This is lower than the target set, suggesting that current trends will lead to the region slightly exceeding the current 2030 target.

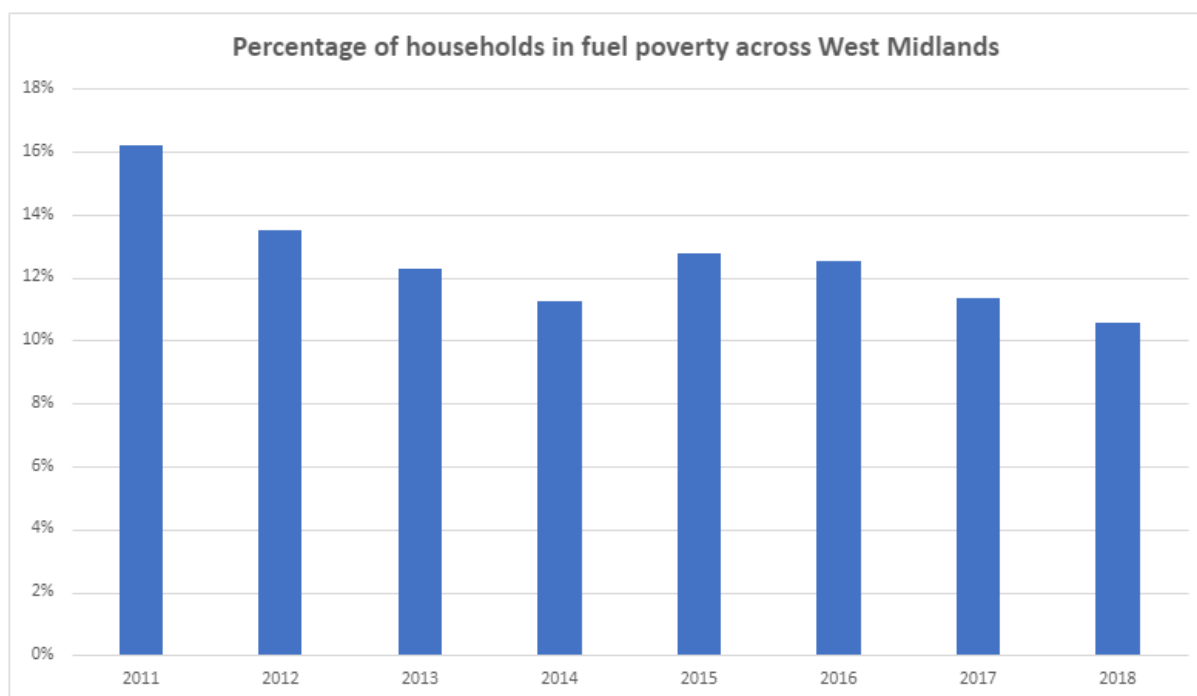


Figure 14: Households in fuel poverty, 2010-18, %.

Figure 15 shows the percentage of households in fuel poverty by LEP area. All LEPs display similar data trends, however, the Marches area has a much higher percentage of households in fuel poverty

in 2011 compared to the other five LEPs. Each LEP area displays a similar pattern, with a slight spike around 2014/15, which may have been due to changes in fuel prices or how the Government measure fuel poverty levels (or both). All sets of data show a downward trend which indicates fuel poverty levels are likely to decline sufficiently to meet the 2030 target. Therefore, current efforts should be upheld to ensure these targets are met.

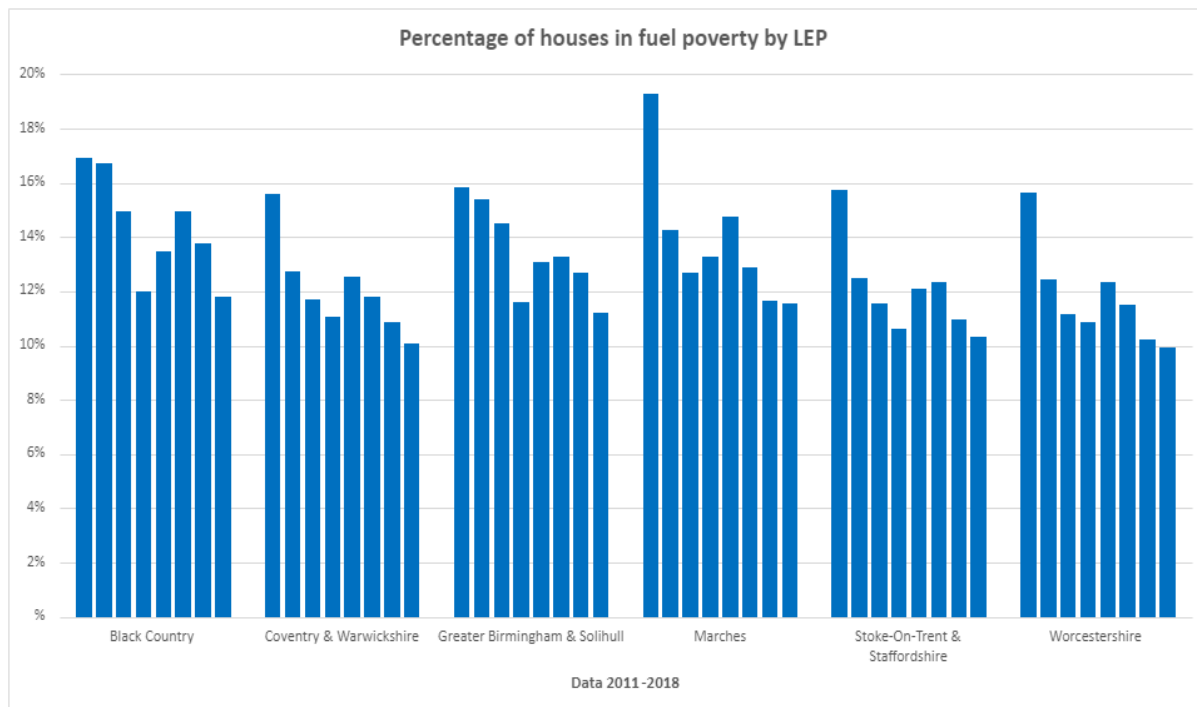


Figure 15: Households in fuel poverty by LEP area, 2010-18, %.

11.4. Recommendations

- In future reports, it may be useful to include a graph comparing the West Midlands fuel poverty levels against other areas and the UK as a whole to give insight into how the region is performing against other areas.
- The region's efforts to decarbonise and retrofit homes to meet Net Zero targets could indirectly impact on fuel poverty levels. There is an opportunity to ensure that homes that are prioritised for measures are those that have historically suffered from fuel poverty. The impact of such measures should be monitored in these terms using this dataset, as well as analysing regional carbon emissions.

11.5. Summary

The fuel poverty target is on track to be achieved by 2030 if current declining trends continue, therefore current action to address fuel poverty should be sustained.

Status: sustain current action

12. Sustainable Energy Use

12.1. 2030 Vision Statement

By 2030 achieve a 79% increase in the amount of energy generated by renewables from 2019 levels

Status: unknown



12.2. Methodology

This target was set ahead of the publication of our 2030 Roadmap in consultation with National Grid, utilising their Future Energy Scenarios data, and other local experts. However, it has since transpired that the data that is available to monitor renewable energy generation, [compiled by BEIS](#), does not allow for this target to be adequately monitored. The reason for this is that the data compiled by BEIS only focuses on renewable **electricity** data, rather than all energy, including heat. Therefore, the target in place cannot be monitored at present.

We have sought clarification from National Grid to resolve this matter in one of the following ways: either 1) to source data that reflects all renewable energy generation data rather than just electricity, or 2) to instead set a target for renewable **electricity** rather than energy as a whole. We believe that the latter is likely to be more realistic, however until we have received the required help from National Grid, we do not have the necessary expertise or advice to hand to be able to come up with an alternative target. We have been attempting to gain help from National Grid since February 2021 but have had no success so far.

As a result of this, we have not monitored the latest renewable electricity data this year and will attempt to continue our liaison with National Grid, or other stakeholders if necessary, to identify a target that can be monitored.

12.3. Recommendations

- Clearly, the first step is to obtain the correct dataset or alter the target so that it can be monitored from next year.
- The region's Net Zero targets will have a significant impact on our energy make-up, and visa-versa, therefore energy trends need to be monitored alongside both carbon emissions and fuel poverty data to ensure the right responses are being targeted in the right areas.

Status: unknown

13. Adapting to Climate Change

13.1. Overview

We are in a climate emergency. Climate change is happening and the West Midlands is experiencing its impact, just as other areas around the world are. We are seeing more extreme weather events such as flooding and heatwaves, which cause huge impacts on the way we live our lives by affecting supply chains, damaging infrastructure, and putting pressure on health services. We are wedded to a certain degree of climatic change and are arguably already at a point where we are unable to reverse some of the effects. It is for this reason why we must be prepared for an ever-changing environment and adapt the way we live. We can no longer ignore the issue or hide behind its inconvenience.



This is why one of our Roadmap priorities is climate change adaptation and SWM is working with stakeholders on various projects that aim to accelerate action on adaptation across the West Midlands and wider (see section 2). However, to date we have yet to establish a suitable target that reflects progress in this area.

In 2019, we engaged with the Environment Agency to try and establish a target around flood risk, in terms of whether there were any data that could show how many properties in the region were at risk, to then set an appropriate target. Such data are available but we could not obtain historic data to enable monitoring trends over time, or granular enough data to look for vulnerable areas. There are also potential gaps for monitoring other metrics too, such as those around overheating and water scarcity, but as yet data that can adequately reflect progress on such issues is not available.

13.2. Recommendations

- Continue engagement with the Environment Agency on sourcing flood risk data.
- Continue seeking potential guidance on other data sources that could be used.

14. Natural Environment

14.1. Overview

Our natural environment continues to support us, providing us with happiness, joy, relaxation and more. However, many would argue that as a species, human beings have abused our access to nature and used it for our own betterment, whilst simultaneously damaging it against our best interest through over-development, causing climate change and pollution; the UK's overall decline in biodiversity is evidence of this. We need to be striving to create a world where we leave the environment around us in a better state than we found it. Without a happy and healthy environment, our lives will become drastically different changing the way we live forever.












Our Roadmap target around this is hugely important, but as with adaptation at present we do not have access to data sources that are monitorable to enable target setting. We had managed to access a Defra dataset which reflected '[Sites in Positive Conservation Management](#).' This is defined as those sites which are being managed in order to conserve their nature conservation interest. This dataset was useful as it was broken down into local authority area and has been collected for many years. However, local authority reporting on this issue ceased to be mandatory some years ago, and therefore the data are very patchy and are not very meaningful. We decided, therefore, not to use this dataset to form a target.

14.2. Recommendations

- Given the push on tree planting and the WMCA's [Virtual Forest](#) initiative, it may be that data on the number of trees planted are becoming more available. We will investigate this in time for next year's analysis.
- Defra [also publishes](#) biodiversity statistics that we could investigate, to determine if the data are granular enough for analysis. Again, this will be investigated in future.

15. Summary of progress

The following table summarises the progress the region is making against each of the targets that we measure against our 2030 Roadmap.

Roadmap priority	Target	Progress
	Net Zero by 2050	Sustain current action
	By 2030, achieve a household recycling rate of 55%	More action needed
	By 2030, one third of all trips made by walking or cycling.	Accelerate progress
	By 2030, 50-70% of new car sales should be Ultra Low Emission Vehicles	Accelerate progress
	By 2030, reduce mortality as a result of PM2.5 pollution exposure by 75% from 2019 levels	More action needed
	None at present	-
	By 2030, increase GVA per head by 40% from 2019 levels.	Unknown
	By 2030, sales in the Low Carbon Goods and Services sector will reach £40 billion.	Sustain current action
	By 2030, achieve a 40% reduction in male and female health inequality from 2019 levels	More action needed
	By 2030, reduce the proportion of households in fuel poverty by 50% from 2019 levels	Sustain current action
	By 2030 achieve a 79% increase in the amount of energy generated by renewables from 2019 levels	Unknown
	None at present	-

Annex: Regression line methodology

In order to calculate the figures against each metric that we would need to see to have met our 2030 Roadmap targets (or 2050, in the case of Net Zero emissions), a line of best fit was found for each dataset using Microsoft Excel. Using the graphical tools provided by Excel, a trendline could be added to the graph which shows how the different levels change over time.

This trendline has an equation in the form $y = mx + c$, also generated by Excel, where:

- y = the metrics on the y-axis of the graph
- x = the year, where the earliest year is converted to 1. For example, 2010=1, 2011=2, 2012=3...2030=29.
- m = the gradient of the line
- c = a constant.

Both m & c are automatically generated by Excel. As m , x and c are all known, y can be calculated. This has been done to see whether or not the set 2030 targets are likely to be met based on current trends.