Oxfordshire
Joint Strategic Needs Assessment
2024

Overview of facts and figures about

Climate and health

WORKING DRAFT

Oxfordshire

JSNA

Introduction

- This pack is part of the 2024 update of the Oxfordshire Joint Strategic Needs Assessment and covers data on climate and health.
- It builds on the evidence gathered to inform the Director of Public Health Annual Report 2023-24 on Climate and Health
- The full set of JSNA resources is available at Joint Strategic Needs Assessment | Oxfordshire Insight

Contents

Summary – Carbon emissions, energy, temperature, and fuel poverty

Carbon emissions and energy

- As of 2021, the total domestic greenhouse gas emissions in Oxfordshire was 1,063 tCO2e, down from 1,625 in 2008 (-35%).
- Per dwelling emissions have reduced by 42%, from 6.0 to 3.5 tCO2e per dwelling.
- The district with the lowest domestic emissions per dwelling was Oxford followed by Cherwell.
- Road transport emissions accounted for 32% of greenhouse gas emissions in 2021. The number of licensed plug-in cars in Oxfordshire has been increasing.

Temperature

- Average annual temperatures continue to rise in Oxfordshire.
- Oxford University Hospitals NHS Foundation Trust reported the highest burden of overheating events across the southeast region in 2022 and was ranked sixth in England with 85 events across four sites.
- Across Oxfordshire, the majority of healthcare facilities find themselves in areas of medium or high heat risk.
- Oxford City's facilities are the worst affected by heat risk, with almost all (84%) being in areas of high risk.

Fuel poverty

- Fuel poverty across all districts in Oxfordshire has worsened since last year, with each district seeing an increase in the proportion of homes which are classified as fuel poor.

Summary – air, water, food and nature

Air

- There are 11 designated Air Quality Management Areas (AQMAs) in Oxfordshire. 2022 monitoring showed that 3 areas (Banbury, Botley and The Plain in Oxford) exceeded the national target for NO2 of 40 µg/m3. In 2023 The Plain in Oxford was within the legal limit.
- It is estimated that fine particulate air pollution's effect on mortality in Oxfordshire was equivalent to 354 deaths in 2022. Note that this is not an estimate of deaths directly caused by air pollution but a total representing the contribution of air pollution to all deaths.

Water

- Areas of Oxfordshire at higher risk of flooding include some of the county's most deprived areas.
- Across Oxfordshire, most healthcare facilities find themselves in areas of medium or high flood risk.
- Cherwell and Oxford's facilities are the worst affected by flood risk.

Food

- The number of people in 'food insecure' households rose to 7.2 million in 2022/23, an increase of 2.5 million people since 2021/22.
- According to the Priority Places for Food Index (PPFI), Oxford contains the greatest number of highest priority areas (rank 1) both as an absolute number (10) and as a percentage of the total in the district (12%).
- Both Cherwell and Oxford contain both the greatest number and proportion of high priority areas. Of the 39 areas that are ranked as priority 3 or higher, 34 of these are in Cherwell (13) or Oxford (21).

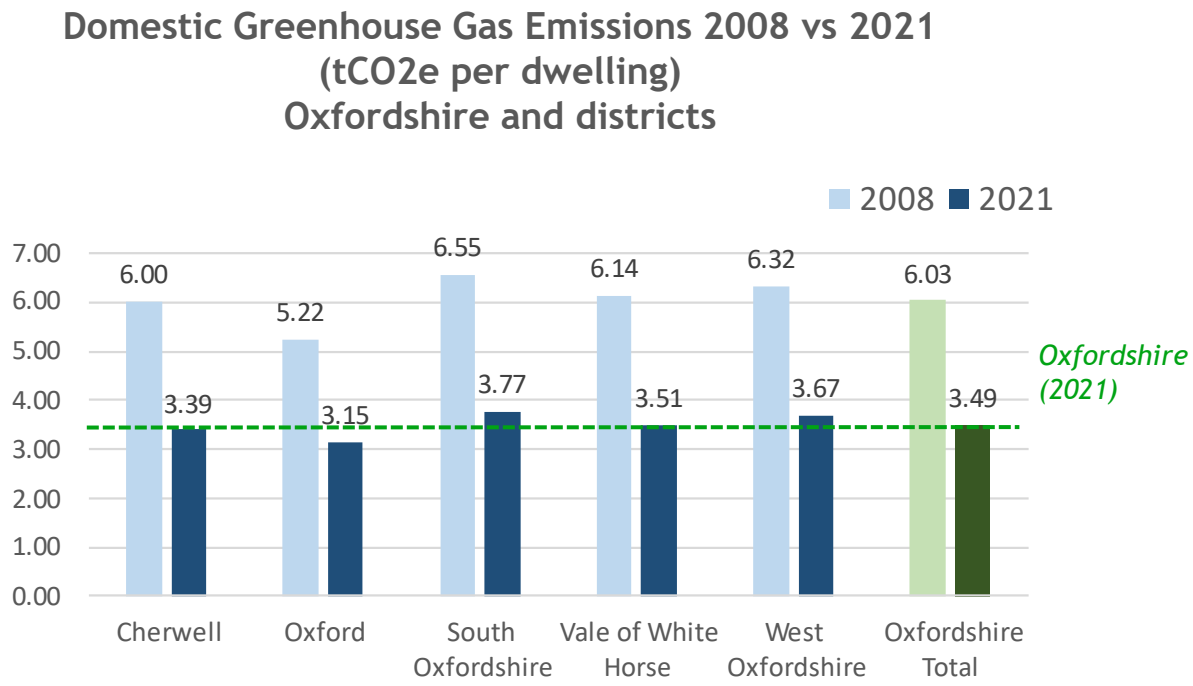
Nature

- National data shows that:
  - the increase in visits to nature during COVID lockdowns may have been temporary.
  - those taking more time to "notice and engage" with nature, has remained similar since 2020 at just over two thirds of respondents.
- Oxfordshire's greenspace-deprived neighbourhoods are in the more deprived areas of Barton, Littlemore, Northfield Brook and Blackbird Leys.

2. Carbon emissions and energy

Total domestic greenhouse gas emissions trend – by district

- As of 2021, the total domestic greenhouse gas emissions in Oxfordshire was 1,063 tCO2e, down from 1,625 in 2008 (-35%).
- Per dwelling emissions have reduced by 42%, from 6.0 to 3.5 tCO2e per dwelling.
- The district with the lowest domestic emissions per dwelling was Oxford followed by Cherwell.
- This difference by district will be influenced by the differing profiles of type of dwelling.
  - In Oxford, almost a third (31%) of households were living in a flat or apartment compared with 16% for Oxfordshire as a whole.
  - Oxford and Cherwell each had the lowest proportion of detached housing.



Department for Energy Security and Net Zero

UK local authority and regional greenhouse gas emissions national statistics, 2005 to 2021 - GOV.UK (www.gov.uk) published June 2023

*2008 is the baseline year for the Oxfordshire Energy Strategy emission reduction target

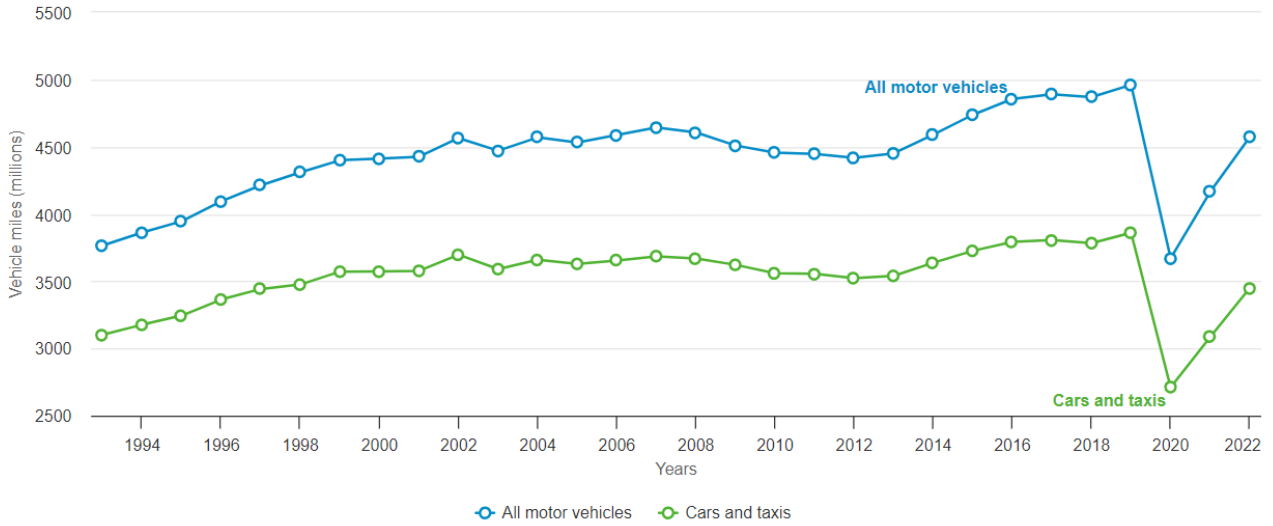
Denominators: ONS 2011 Census dwellings and ONS 2021 Census dwellings

Road use and plug-in cars

- In 2021, road transport emissions accounted for 32% of greenhouse gas emissions (within LA influence) in Oxfordshire.[1]
- There were a total of 4.57 billion vehicle miles travelled on roads in Oxfordshire in 2022[2]. This was below the pre-pandemic level of 4.96bn in 2019.
- The number of licensed plug-in cars in Oxfordshire has been increasing.
  - As of end of December 2023, there was a total of 16,228 licensed plug-in cars in Oxfordshire, up from 3,112 at the end of December 2019[3].
- Cherwell district had the greatest number of licensed plug-in cars of Oxfordshire districts, equivalent to 4.2% of population aged 17+ years compared with 2.7% in Oxfordshire and 2.9% in England.

Annual traffic by vehicle type in Oxfordshire

Traffic in Great Britain from 1993 to 2022 by vehicle type in vehicle miles (millions)



Licensed plug-in cars by fuel type, end December 2023 Oxfordshire districts[3]

	Battery electric	Plug-in hybrid electric (diesel)	Plug-in hybrid electric (petrol)	Range extended electric	Total	*% Plug in cars per population aged 17+ years*
Cherwell	2,940	23	2,442	56	5,461	*4.2%*
Oxford	1,167	14	619	31	1,831	*1.3%*
South Oxfordshire	2,251	19	1,243	55	3,568	*2.9%*
Vale of White Horse	1,974	22	1,043	45	3,084	*2.7%*
West Oxfordshire	1,357	10	871	36	2,274	*2.4%*
Oxfordshire	**9,694**	**88**	**6,223**	**223**	**16,228**	***2.7%***
England	841,089	10,054	471,311	8,831	1,331,285	*2.9%*

[1] UK local authority and regional greenhouse gas emissions national statistics: 2005-2021

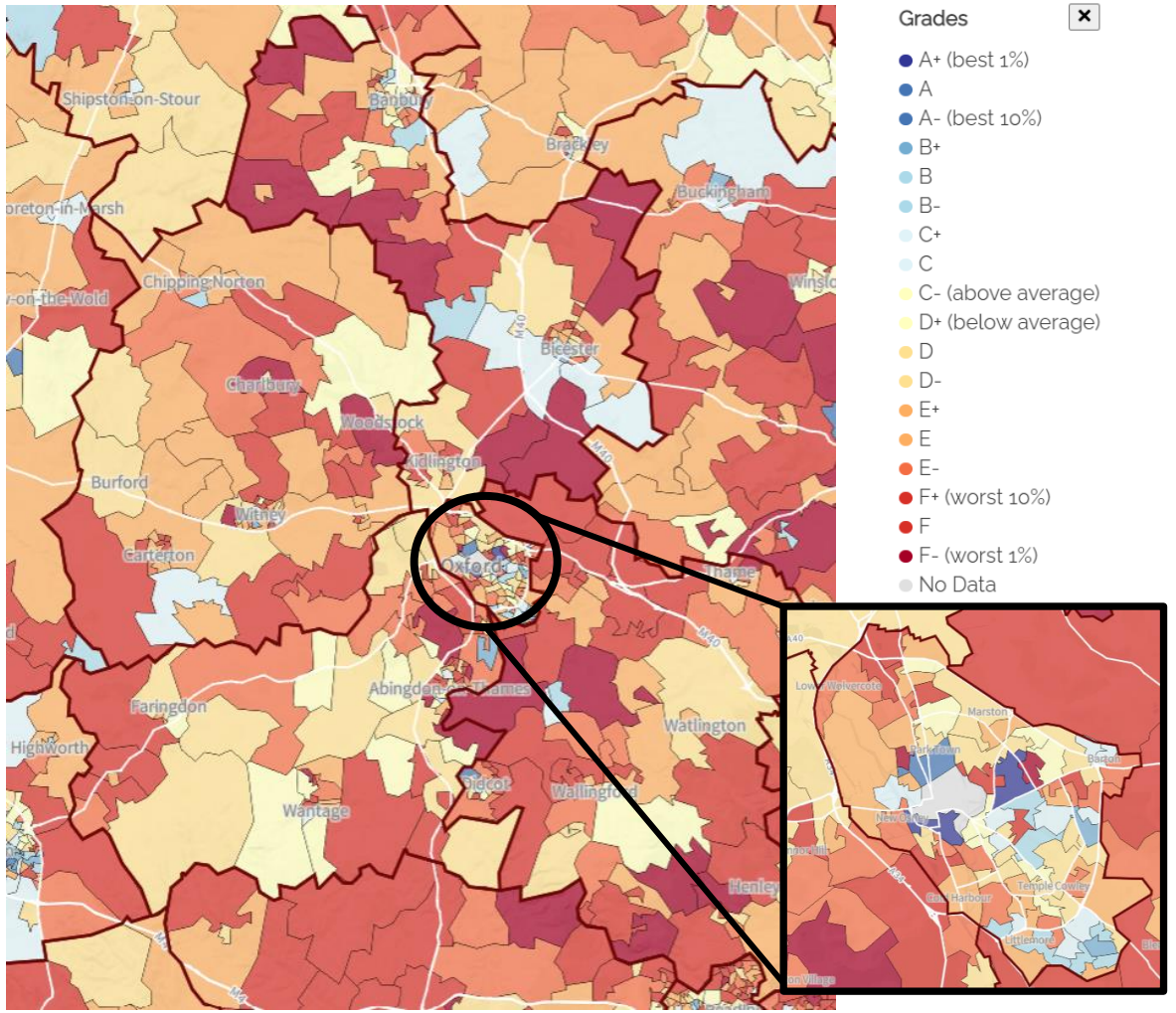
[2] Road traffic statistics - Local authority: Oxfordshire (dft.gov.uk)

[3] Vehicle licensing statistics data tables - GOV.UK (www.gov.uk)

Population denominator ONS mid-2022 from www.nomisweb.co.uk

Place-based carbon calculator

- The Place-Based Carbon Calculator estimates the average (consumption based) carbon footprint per person for each LSOA* in England.
- 22 of Oxfordshire's 407 LSOAs were rated in the worst 1% in England with a grading of F- "high emissions".
- These areas of high emissions include rural parts of Cherwell and South Oxfordshire; a mix of rural and urban areas of Vale of White Horse and West Oxfordshire, and parts of North ward and Headington in Oxford City.



Place-based carbon calculator last updated 08/09/2022 A place-based carbon calculator for England | Zenodo

*LSOA = Lower Super Output Area with an average of 1,300 residents

Contribution of the NHS to carbon emissions

- The NHS overall contributes to around 4% of England's carbon emissions[1] and has embedded net zero into legislation, through the Health and Care Act 2022. The Delivering a Net Zero National Health Service report is now issued as statutory guidance.
- This places duties on NHS England, and all trusts, foundation trusts, and integrated care boards to contribute towards statutory emissions and environmental targets.
- The NHS green plans for Oxfordshire are:
  - Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System Green Plan: Our Strategy towards Net Zero
  - Oxford University Hospitals NHS FT Building a Greener OUH 2022 to 2027
  - Oxford Health NHS FT Green Plan 2022-2025

[1] https://www.england.nhs.uk/greenernhs/national-ambition/

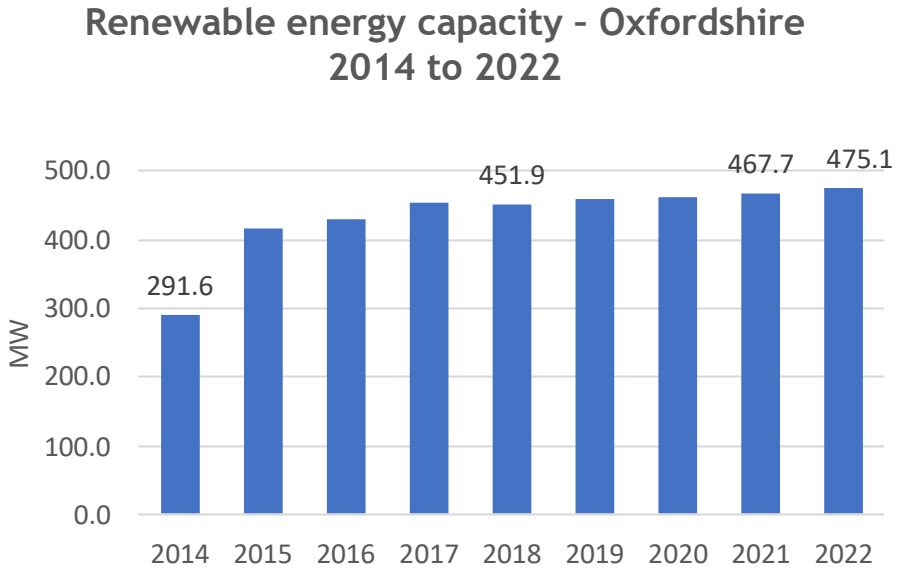
Renewable energy capacity and generation

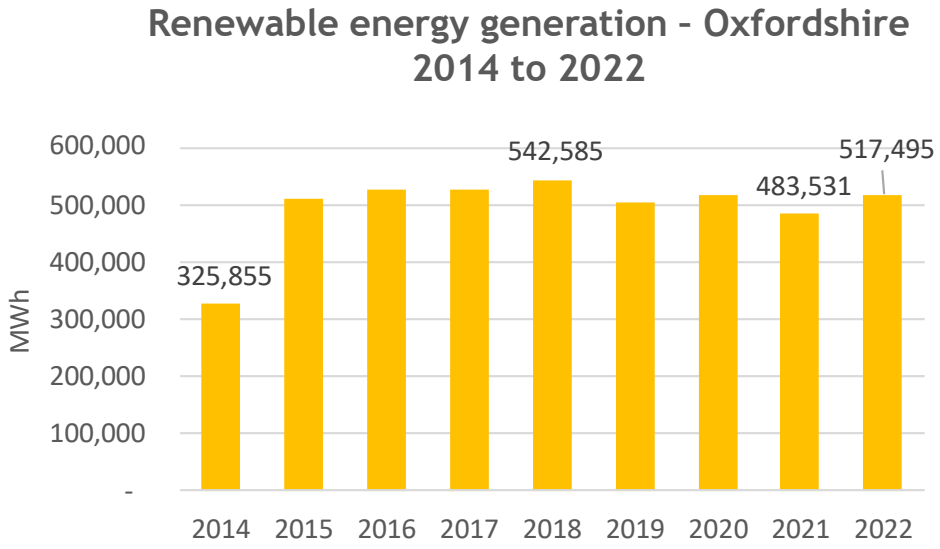
Capacity

- As of 2022, Oxfordshire had a total installed renewable energy capacity of 475 MW, up from 291.6 MW in 2018 (+5%) and 2% above the total in 2021.
- The majority of the capacity in 2022 was provided by photovoltaic (85%), followed by municipal solid waste (6%) and Landfill gas (5%)
- The districts with the highest proportion of installed renewable capacity were Vale of White Horse (45% of Oxfordshire) and Cherwell (28% of Oxfordshire)

Generation

- The amount of renewable energy generated depends on capacity and on the weather conditions.
- In 2022, the total renewable energy generated was 517,495 MWh in Oxfordshire. This was slightly below the total in 2018 of 542,585 MWh (-5%) and above the total in 2021 (+7%).



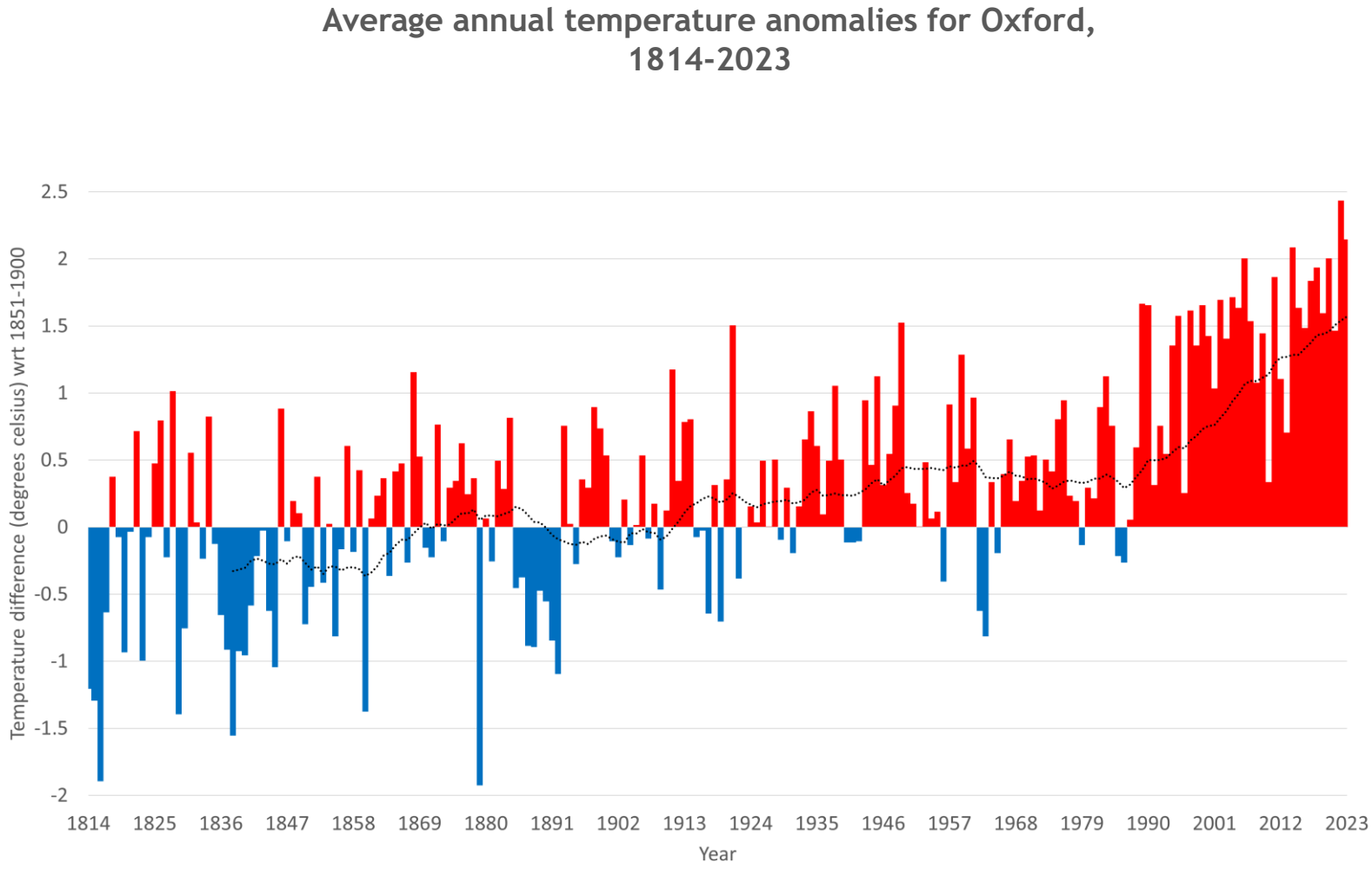


Source: Renewable electricity by local authority 2014 – 2022, published Sept23, next update Sept24

3. Temperature

Average temperatures

- Average annual temperatures continue to rise in Oxfordshire.
- The differences here are calculated against the average annual temperature for the period 1851-1900.
- The last time a negative difference was recorded was in 1986.
- Since that time, the difference has exceeded two degrees Celsius on three occasions:
  - 2006: +2.00˚C
  - 2022: +2.43˚C
  - 2023: +2.14˚C

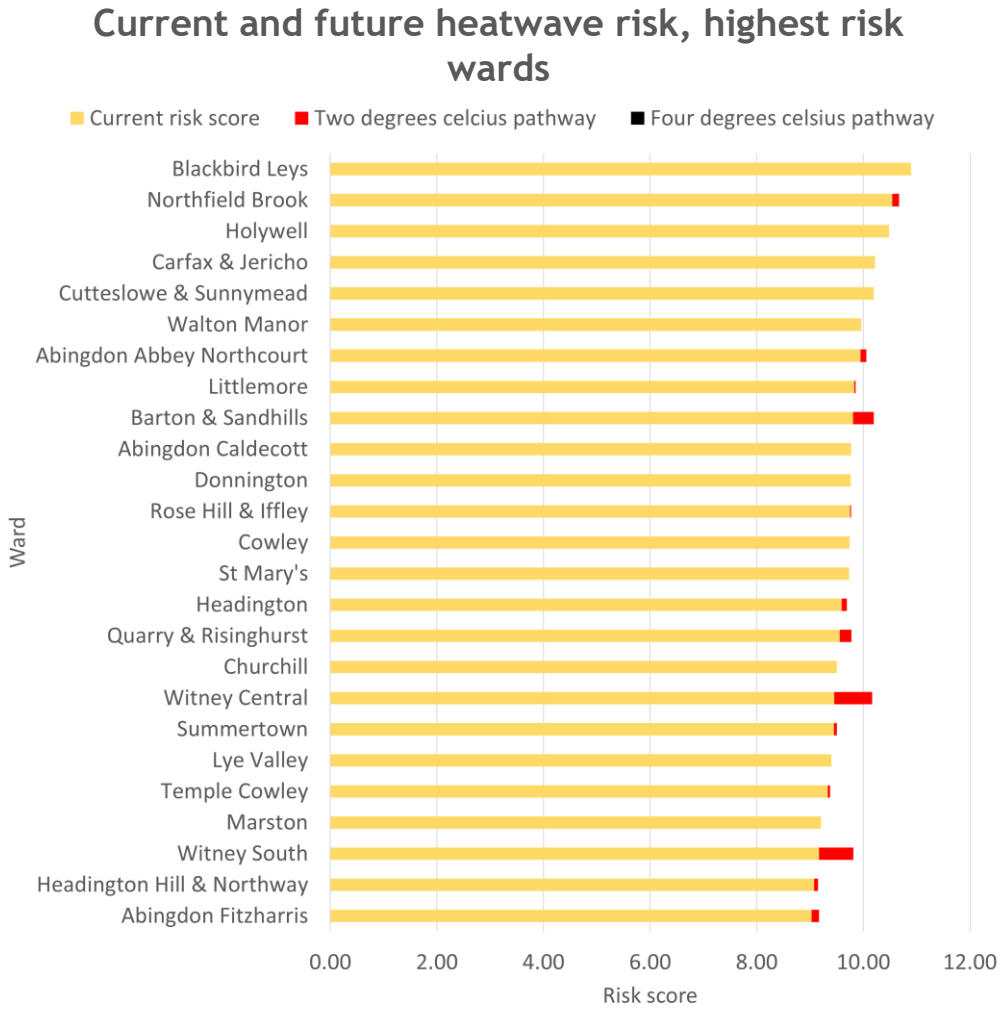


Source: *Oxford Weather and Climate since 1767*: https://www.geog.ox.ac.uk/research/climate/rms/oxford-weather.html

Data available at: https://www.geog.ox.ac.uk/research/climate/rms/monthly-annual.html

Higher risk areas for heat risk - detail

- This graph details those wards currently at a high heatwave risk. Wards are classified as high risk if their overall risk score is 9 or more (see below for explanation about scoring).
- The risk score for a ward is based on three variables: hazard, exposure, and vulnerability. Each of these is scored from 0-5. Once aggregated, they form the overall score which ranges from 0-15. It is these scores which are used to represent risk in the following slides.
- The overall score considers factors such as:
  - *Urban heat island (percentage of urban/suburban land cover)*
  - *Percentage of greenspace*
  - *Percentage of population under 15*
  - *Percentage of population over 75*
  - *Percentage with disability under the Equality Act 2011*
  - *Index of multiple deprivation*
- Note that these modelled scenarios and risk scores are based on projections about the demographics of Oxfordshire, where this data is available. [1]



Note: The four degrees Celsius pathway shows no increased risk score for the wards selected for this view.

Source*:* Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

[1] See page 116 of the above report for detailed information about where data was available for the purposes of forecasting.

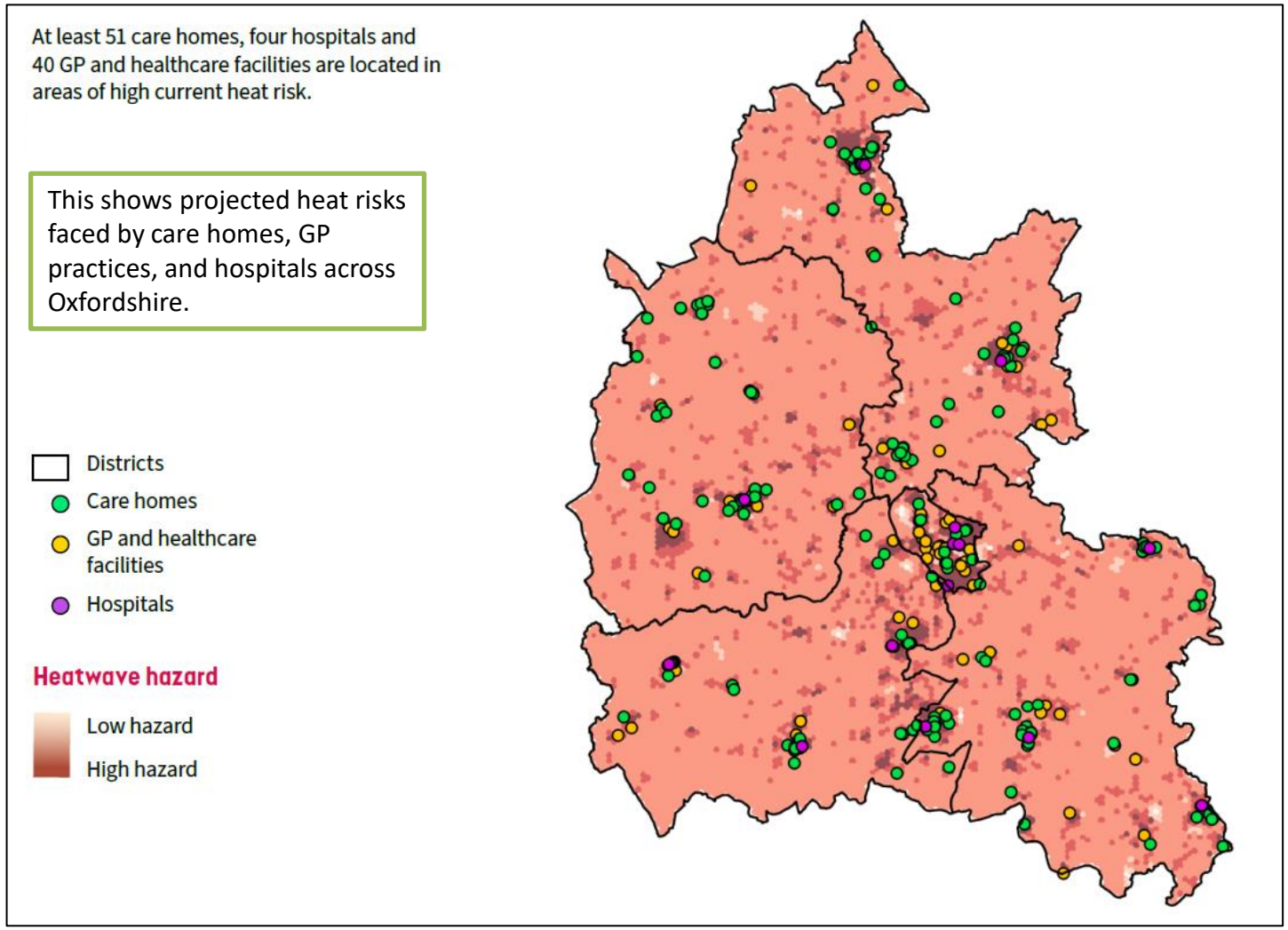
Heat-related excess deaths

- Hot weather impacts on health and social care services, and the health care system's ability to respond and provide routine care.
- Nine in 10 UK hospitals, including hospitals in Oxfordshire, are currently susceptible to overheating due to their architectural design, poor ventilation, and lack of cooling systems. This has doubled in the past five years.
- Oxford University Hospitals NHS Foundation Trust reported the highest burden of overheating events across the southeast region in 2022 and was ranked sixth in England with 85 events across four sites.
- Across England, total costs of heat-related deaths from climate change and related socioeconomic change has been estimated at £6.8 billion per year in the 2020s, rising to £14.7 billion per year in the 2050s.

Source: Cleaner, Healthier, Faster: Climate Action for Health Oxfordshire. Director of Public Health Annual Report on Climate Change and Health, 2023-24

Heat severity and infrastructure

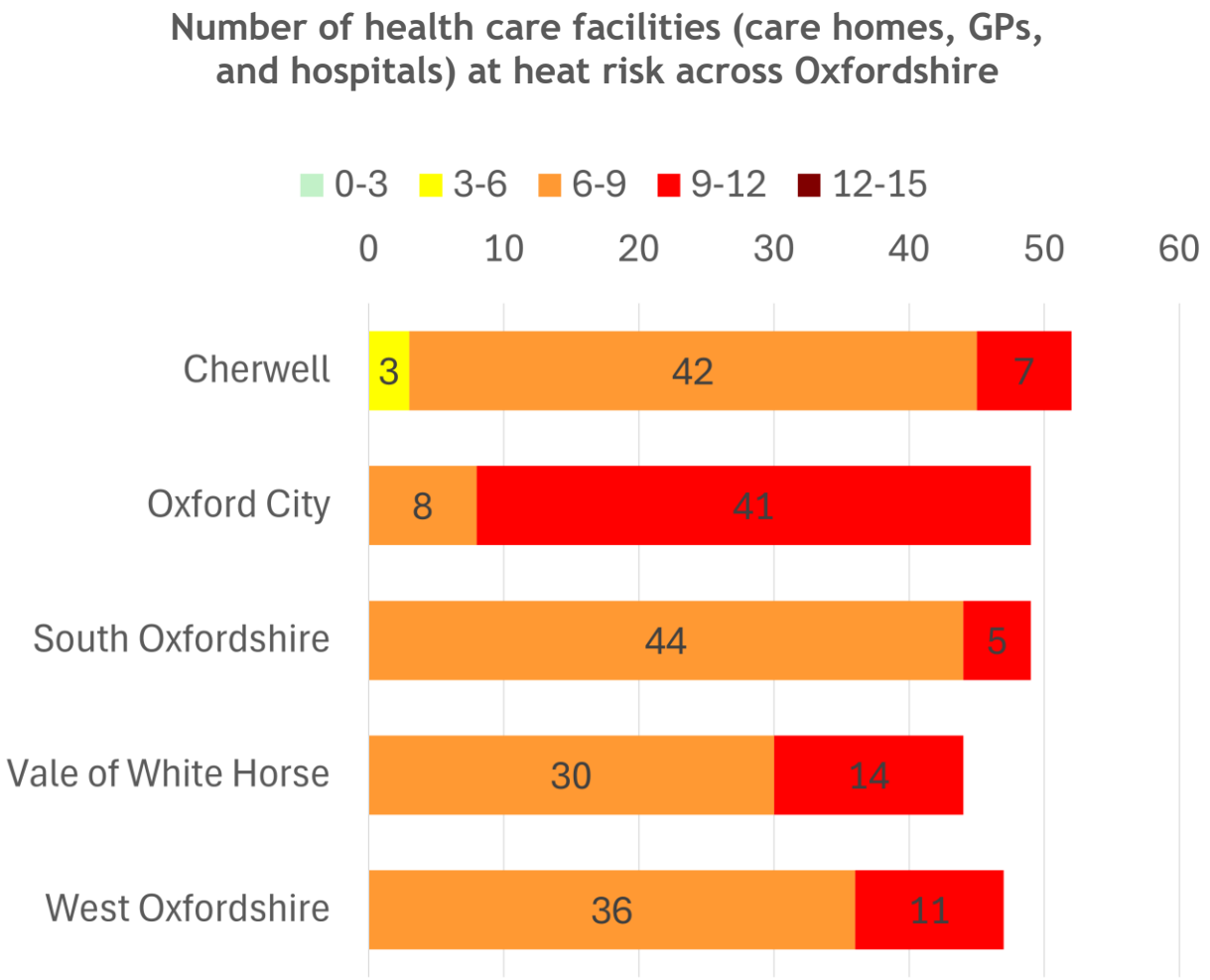
- The map here considers only the heatwave hazard risk of specific geographies across Oxfordshire.
- The data in the following two slides considers the overall risk score for each of the facilities' locations (hazard, exposure and vulnerability).



Source: Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

Heat severity and infrastructure

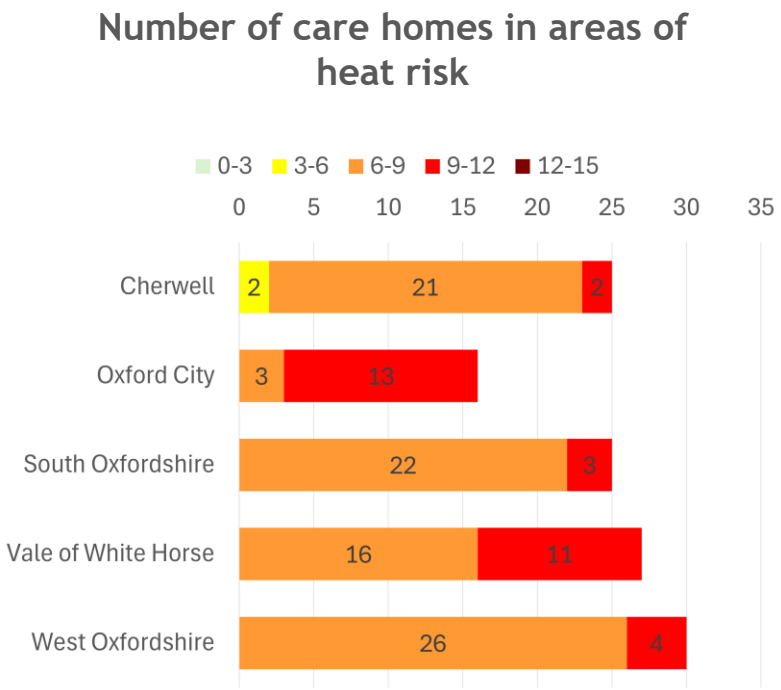
- This data considers the overall heatwave risk for the location of each of the facilities, not just the hazard score.
- Across Oxfordshire, the majority of healthcare facilities find themselves in areas of medium or high risk.
- Oxford City's facilities are the worst affected by heat risk, with almost all (84%) being in areas of high risk. All the facilities in low-risk areas (3) are in Cherwell.
- Across the county, 3 facilities are in low-risk areas (1%) , 160 in medium-risk (66%), and 78 in high-risk (32%).

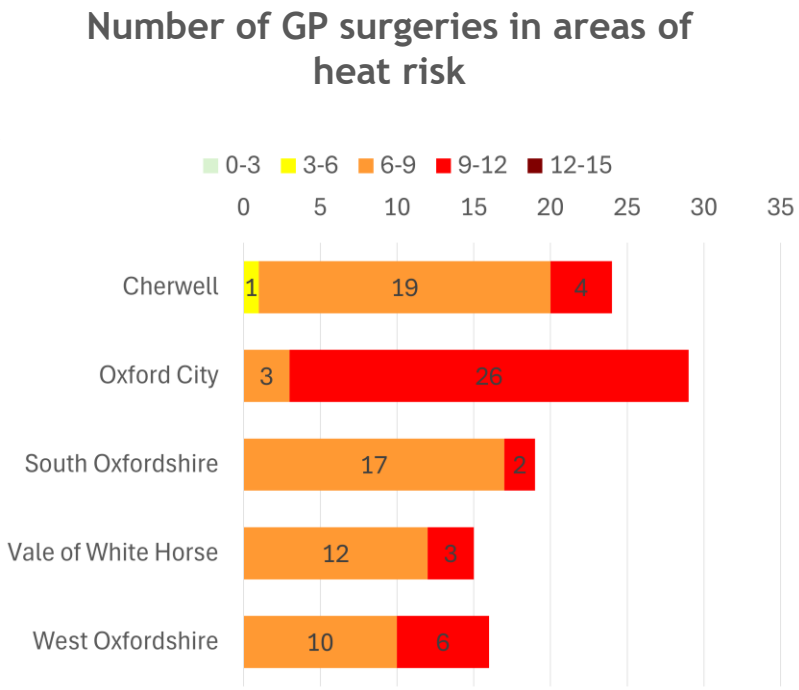


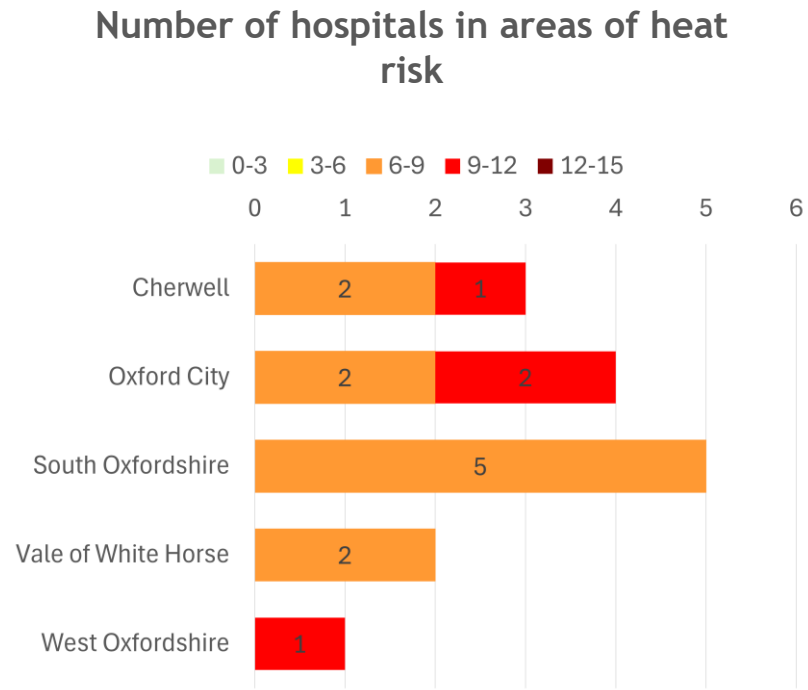
Source: Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

Heat severity and infrastructure

- The data below disaggregates that from the previous slide to look at the heat risk posed to specific types of facility.







- 33 care homes (27%) are in areas of higher risk, 88 (72%) in medium risk and 2 (2%) in lower risk areas.
- 41 GP surgeries (40%) are in areas of higher risk, 61 (59%) in medium risk and 1 (1%) is in a lower risk area.
- 4 hospitals (27%) are in areas of higher risk and 11 (73%) are in medium risk areas. There are no hospitals in lower risk areas.

Source*:* Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

Future temperature – modelled scenarios

- This table outlines projections for 2055 and 2085 based on different climate scenarios.
- RCP 4.5 is the intermediate climate scenario, corresponding to average global temperature rises of around 2°C.
- RCP 8.5 is an extreme climate scenario, corresponding to average global temperature rises of 4°C.
- Therefore, under the latter scenario, in 2085 there is a 4% chance that we will see temperatures reach 41.7°C, with a lower bound of 40.2°C and an upper bound of 43.7°C.

Modelled climate scenarios for average global temperature increases of 2°C and 4°C

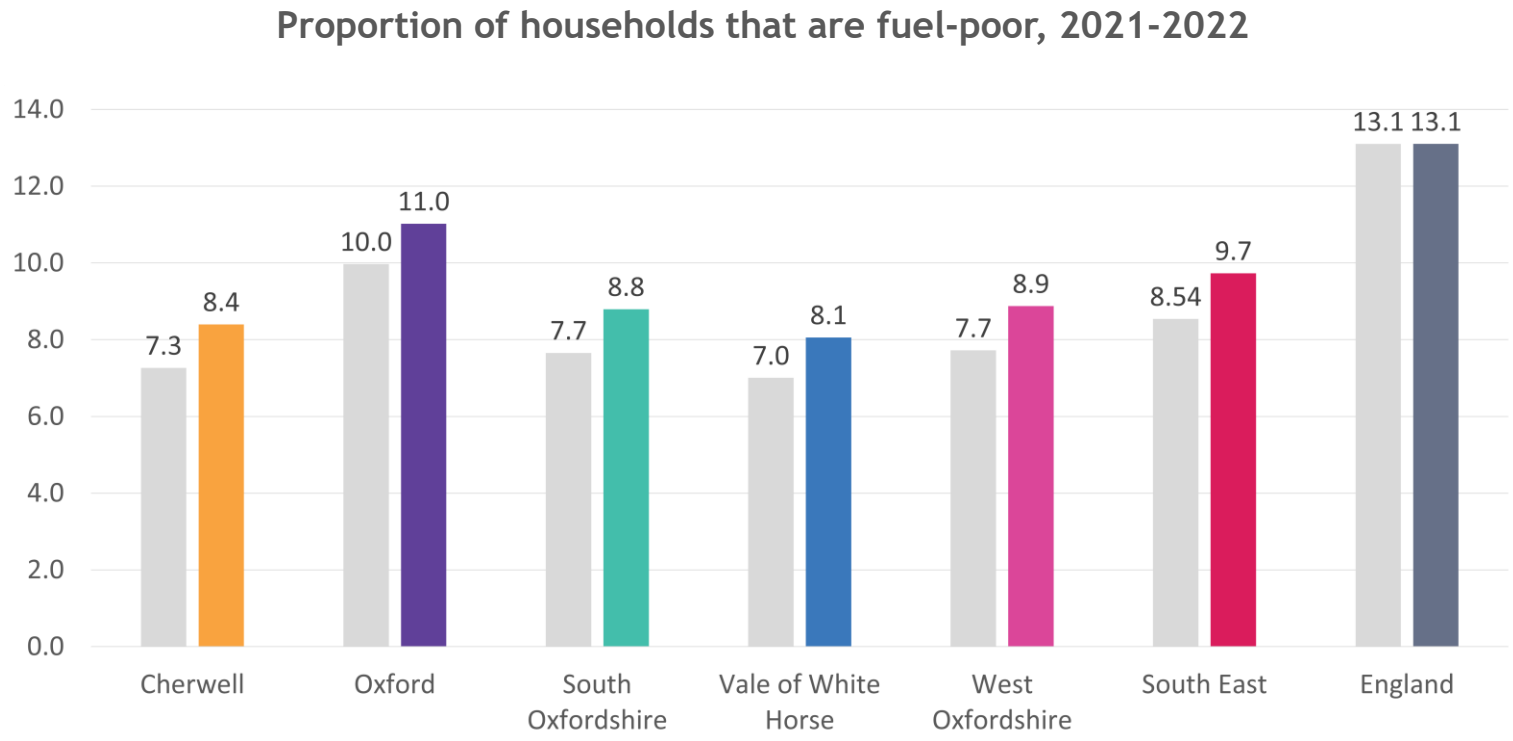
Scenario	Annual probability %	Mean (°C)	Min (°C)	Max (°C)	Range (°C) (spatial variability)
2020s 1 in 2	50%	33.1	31.6	34.3	2.7
2020s 1 in 25	4%	37.5	36.0	39.5	3.5
2020s 1 in 50	2%	38.2	36.7	41.0	4.3
2020s 1 in 100	1%	38.8	37.2	42.5	5.3
rcp4.5_2055_25rp	4%	38.5	36.9	40.4	3.5
rcp4.5_2055_50rp	2%	39.2	37.6	42.0	4.3
rcp4.5_2055_100rp	1%	39.8	38.2	43.5	5.3
rcp4.5_2085_25rp	4%	39.5	38.0	41.5	3.5
rcp4.5_2085_50rp	2%	40.2	38.7	43.0	4.3
rcp4.5_2085_100rp	1%	40.8	39.2	44.5	5.3
rcp8.5_2055_25rp	4%	39.3	37.7	41.2	3.5
rcp8.5_2055_50rp	2%	40.0	38.5	42.8	4.3
rcp8.5_2055_100rp	1%	40.6	39.0	44.3	5.3
rcp8.5_2085_25rp	4%	41.7	40.2	43.7	3.5
rcp8.5_2085_50rp	2%	42.4	40.9	45.2	4.3
rcp8.5_2085_100rp	1%	43.0	41.4	46.7	5.3

Source: Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

Fuel poverty - trend

A household is considered fuel poor if: (a) they have a fuel poverty energy efficiency rating (FPEER) of band D or below; and (b) if they were to spend their modelled energy costs, they would be left with a residual income below the official poverty line.

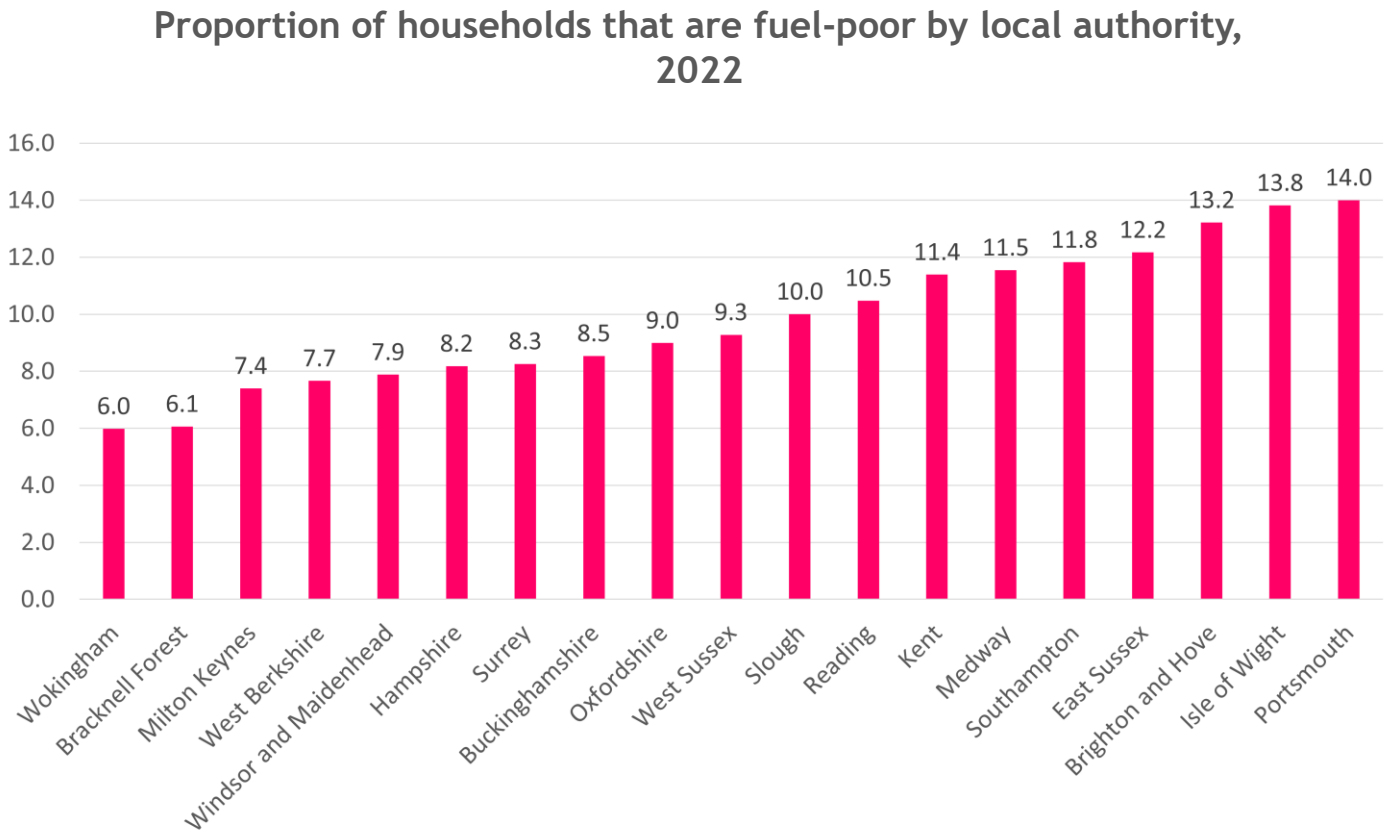
- Between 2021 and 2022, the number of households in Oxfordshire classified as "fuel poor" increased from 7.9% to 9% (+3,502, +1.1%). There were 26,699 homes in fuel poverty in Oxfordshire in 2022.
- Oxford City remains significantly worse than the regional average on fuel poverty. Other Oxfordshire districts are each significantly better than the regional average of 9.7%.



Source: Dept for Business, Energy and Industrial Strategy Fuel poverty sub-regional statistics - GOV.UK (www.gov.uk).
Updated 25th April 2024.

Fuel poverty - trend

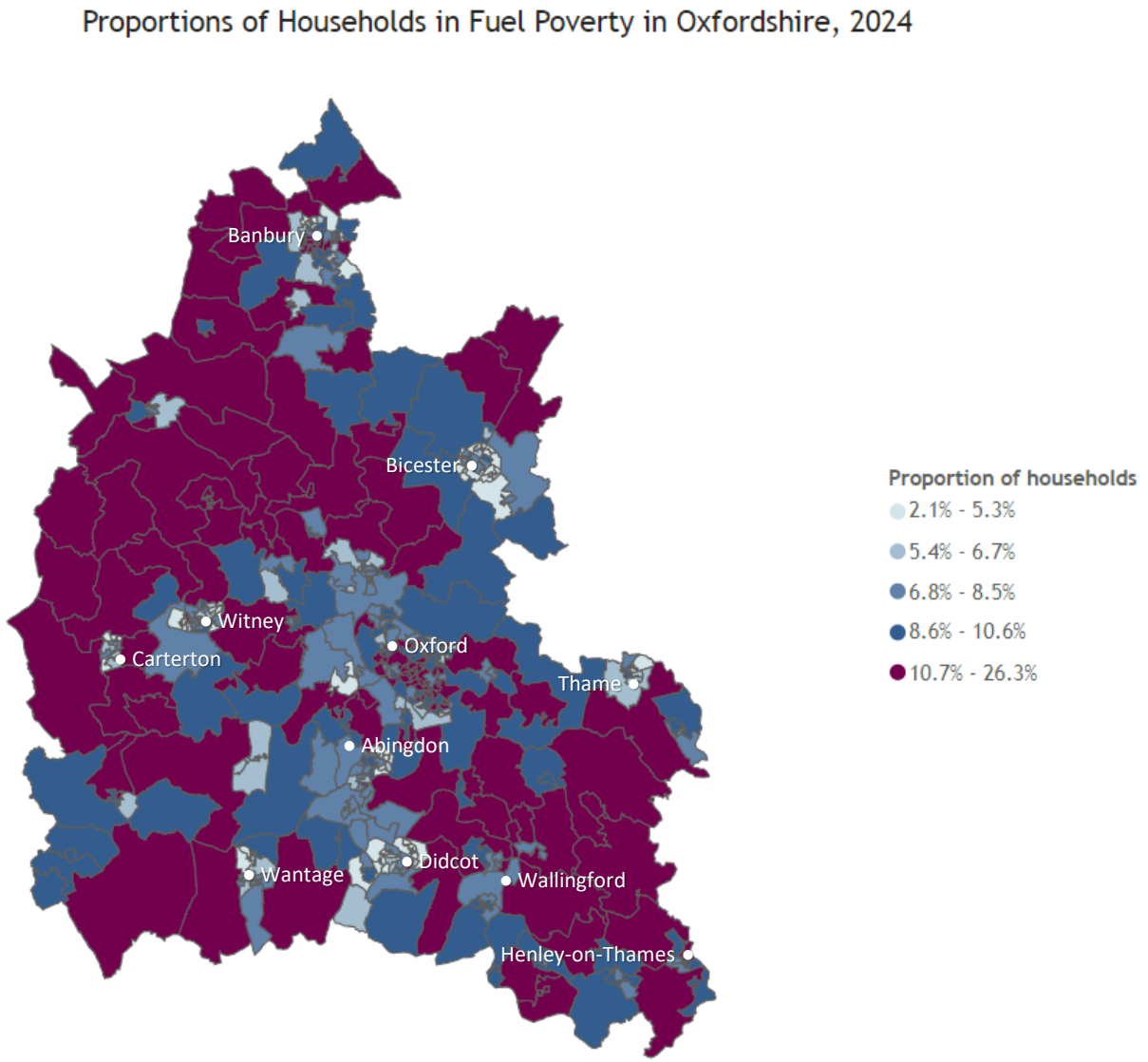
- The average for the South-East is 9.8%, an increase of 1.3% since the previous year (8.5%). Oxfordshire's proportion of fuel-poor homes increased by 1.1% across the same period.
- At 9%, Oxfordshire is almost one percentage point below the regional average (-0.8%).



Source: Dept for Business, Energy and Industrial Strategy Fuel poverty sub-regional statistics - GOV.UK (www.gov.uk).
Updated 25th April 2024.

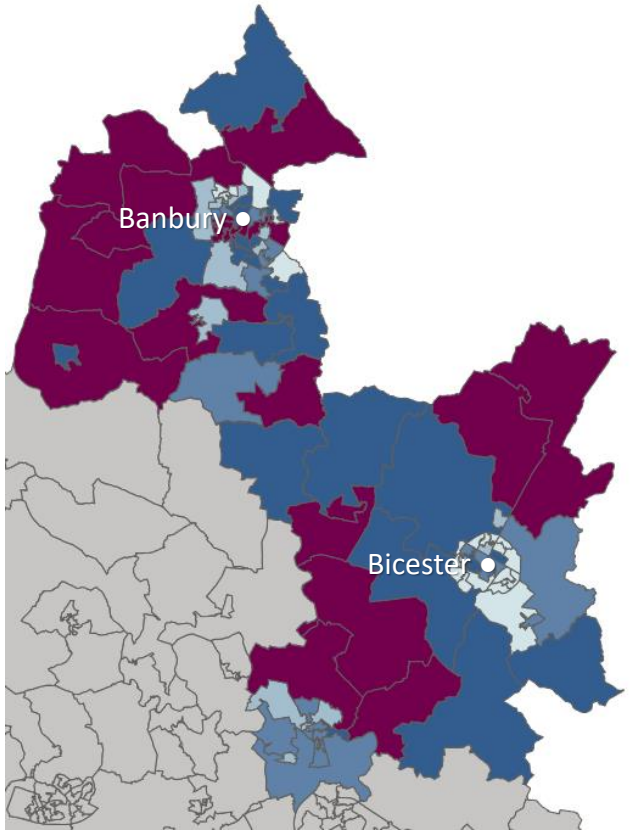
Fuel poverty

- Fuel poverty across all districts in Oxfordshire has worsened since last year.
  - *Cherwell has increased from 7.3% to 8.4% (+1.1%)*
  - *Oxford has increased from 10% to 11.2% (+1.2%)*
  - *South Oxfordshire, has increased from 7.7% to 8.8% (+1.1%)*
  - *Vale of White Horse, has increased from 7% to 8.1% (+1.1%)*
  - *West Oxfordshire has increased from 7.7% to 8.9% (+1.2%).*



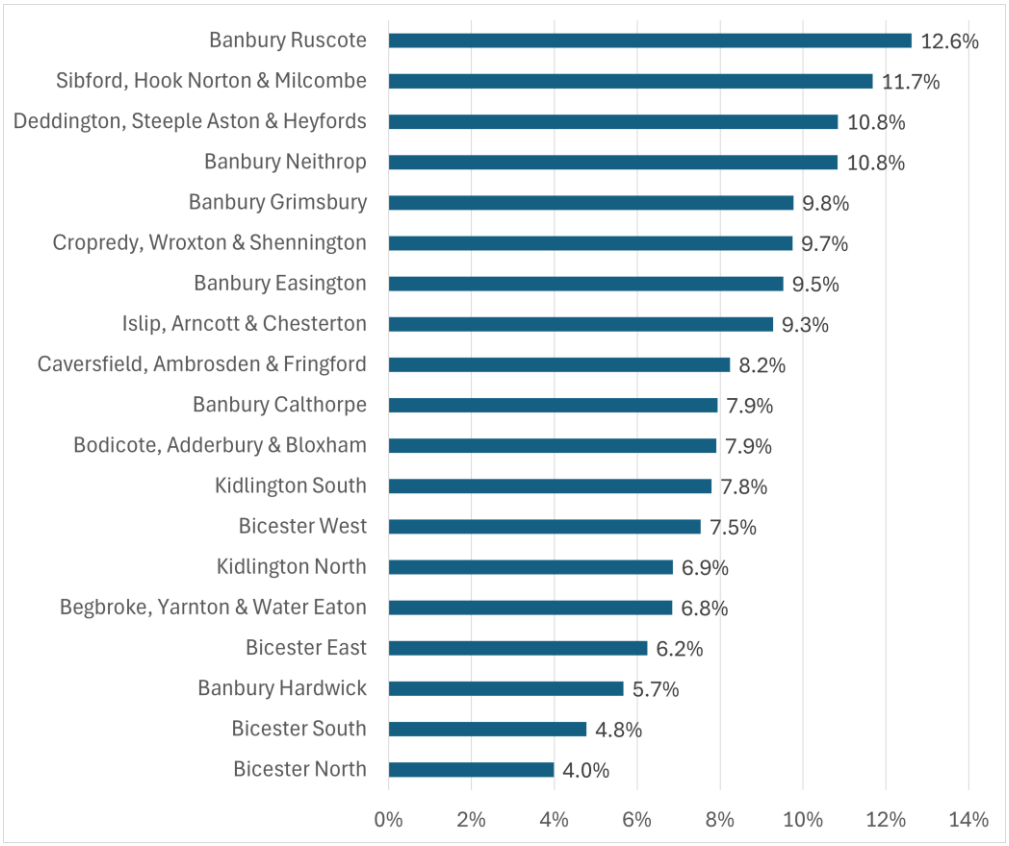
Source: https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-2024-2022-data

Fuel poverty – District view, Cherwell



Proportion of households
- 2.1% - 5.3%
- 5.4% - 6.7%
- 6.8% - 8.5%
- 8.6% - 10.6%
- 10.7% - 26.3%

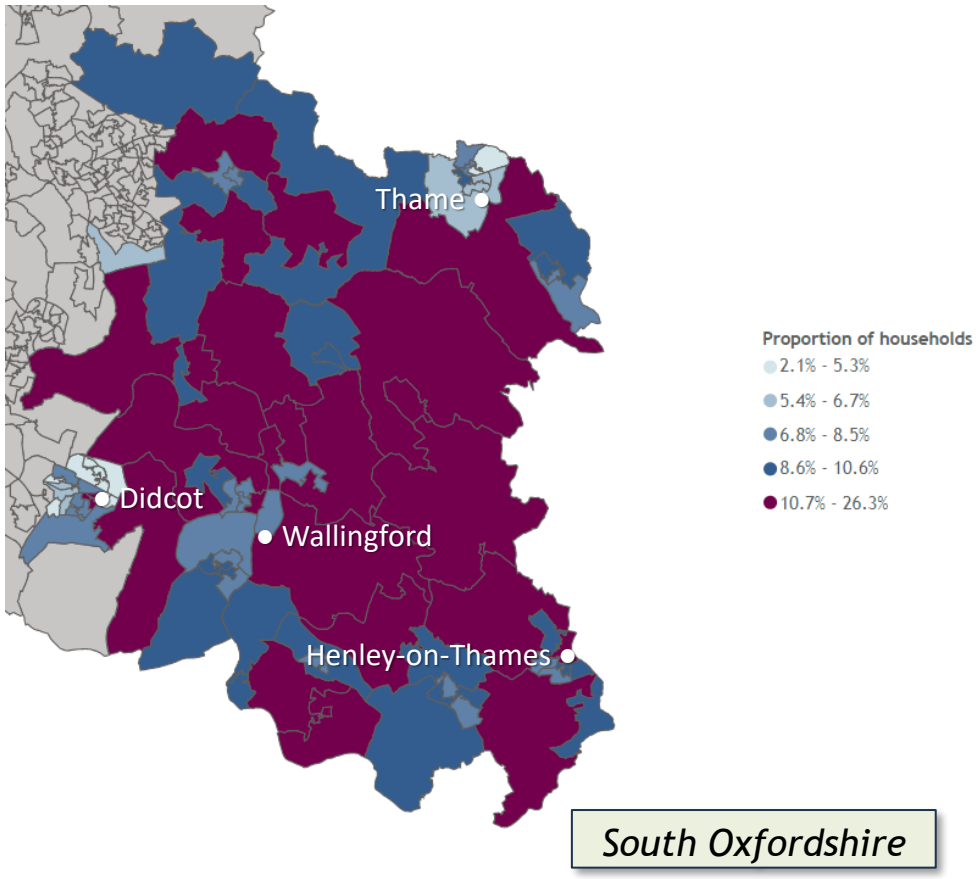
Cherwell



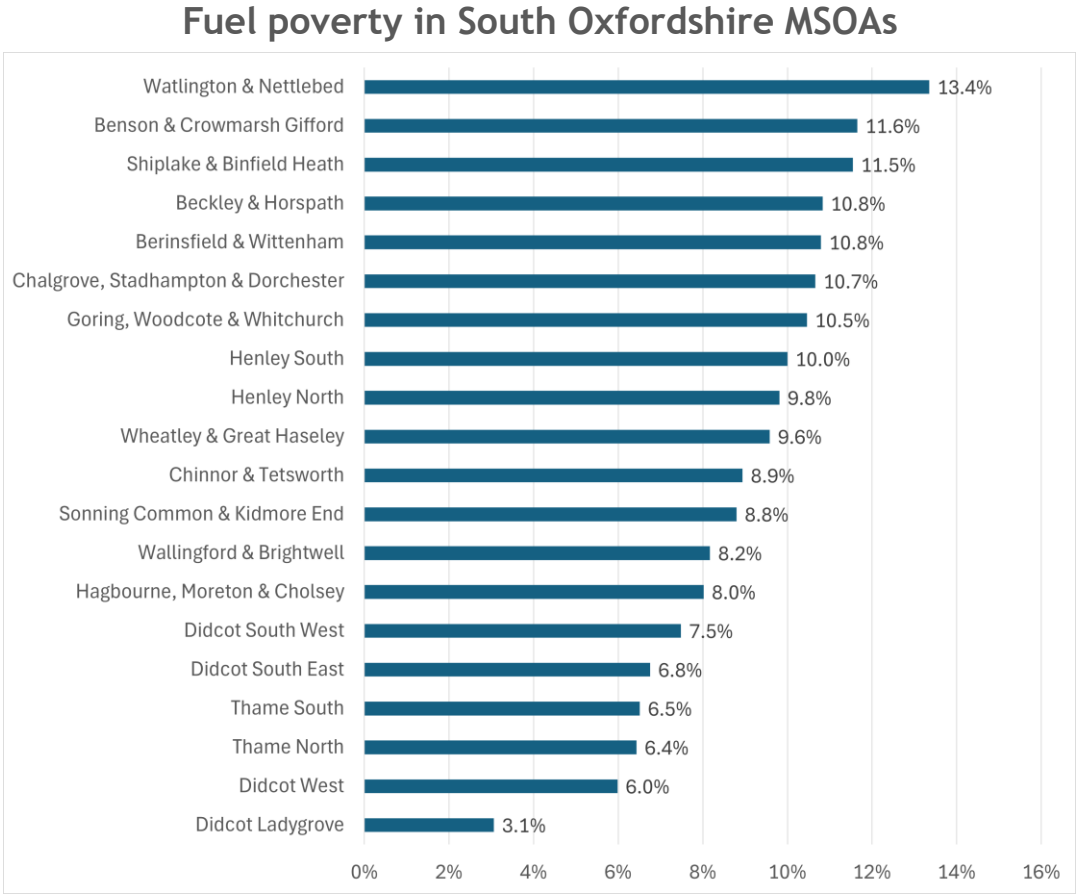
- Four areas in Cherwell have more than 10% of their households in fuel poverty. The range from highest proportion (Banbury Ruscote) to lowest (Bicester North) is 8.6%.

Source: https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-2024-2022-data

Fuel poverty – District view, South Oxfordshire



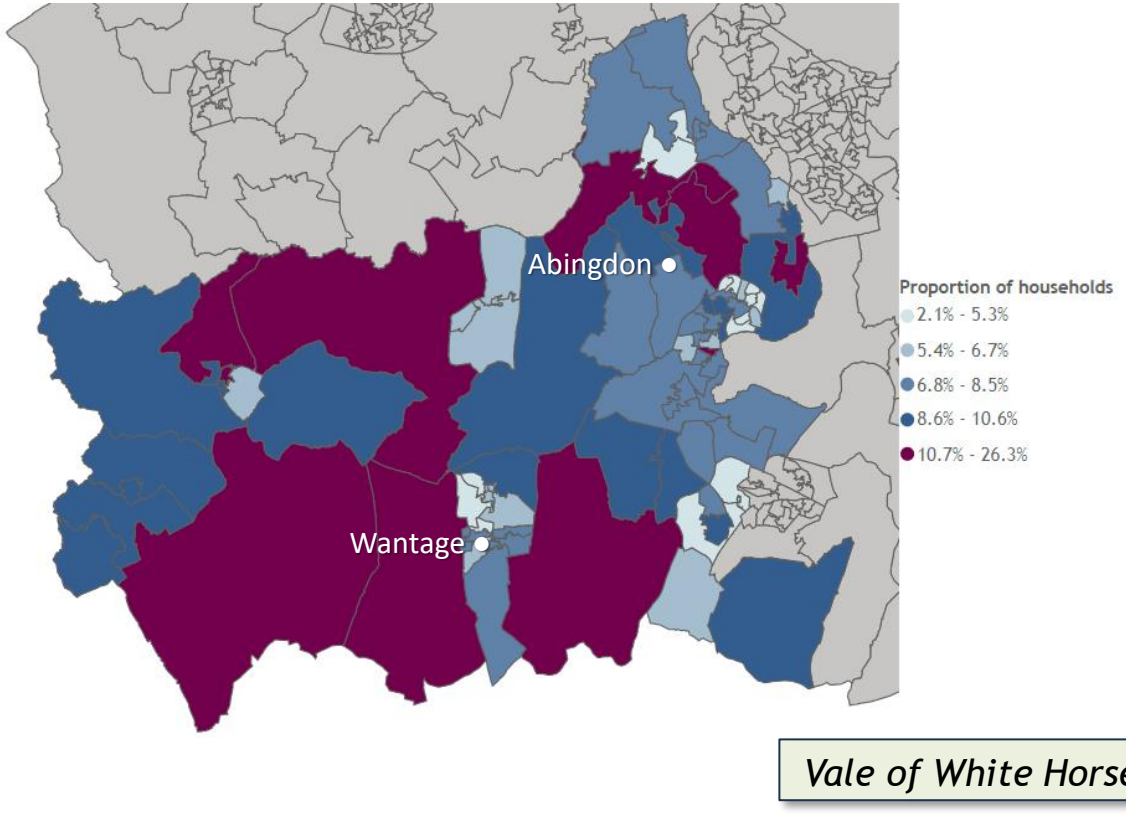
South Oxfordshire



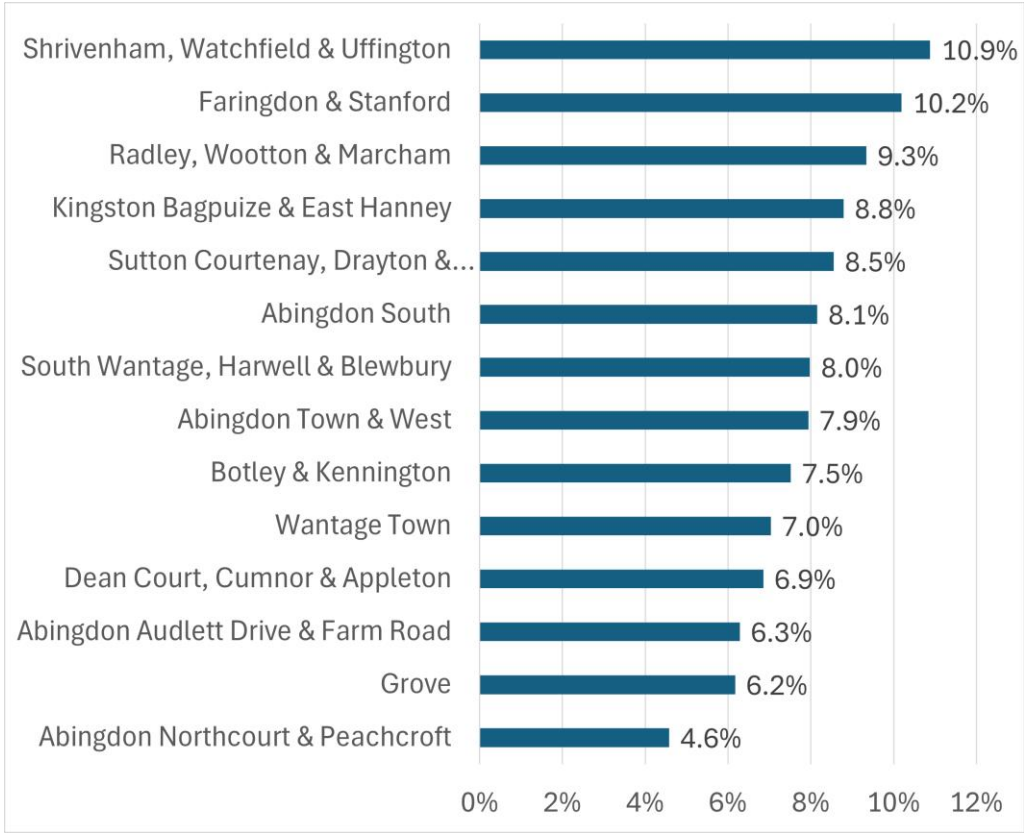
- Eight areas in South Oxfordshire have more than 10% of their households in fuel poverty. The range from highest proportion (Watlington and Nettlebed) to lowest (Didcot Ladygrove) is 10.1%.

Source: https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-2024-2022-data

Fuel poverty – District view, Vale of White Horse



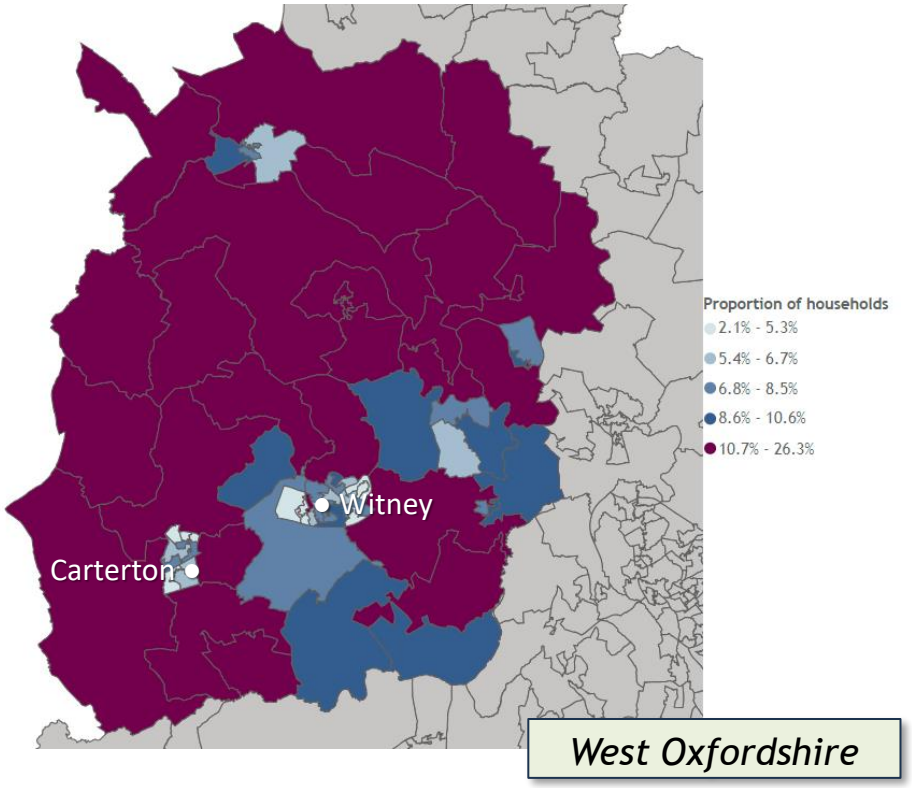
Vale of White Horse

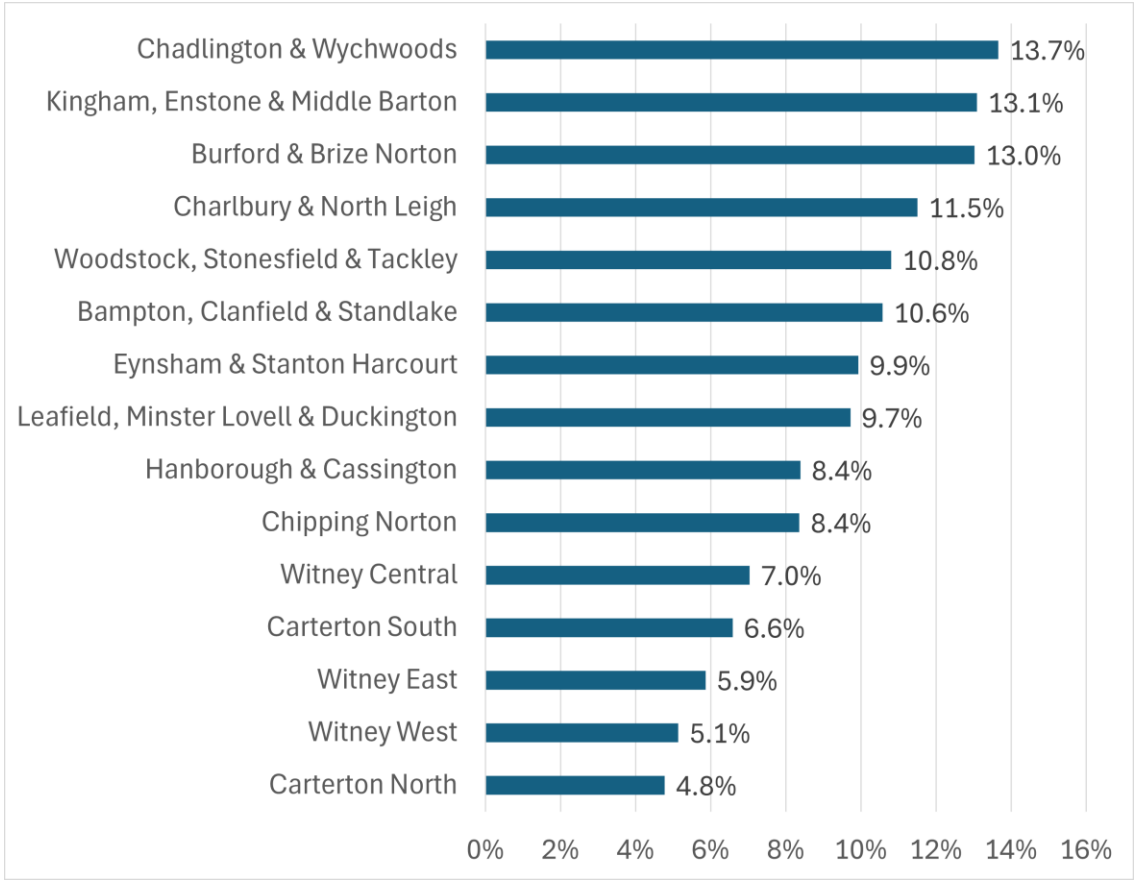


- Two areas in Vale of White Horse have more than 10% of their households in fuel poverty. The range from highest proportion (Shrivenham, Watchfield, and Uffington) to lowest (Abingdon Northcourt and Peachcroft) is 6.3%.

Source: https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-2024-2022-data

Fuel poverty – District view, West Oxfordshire

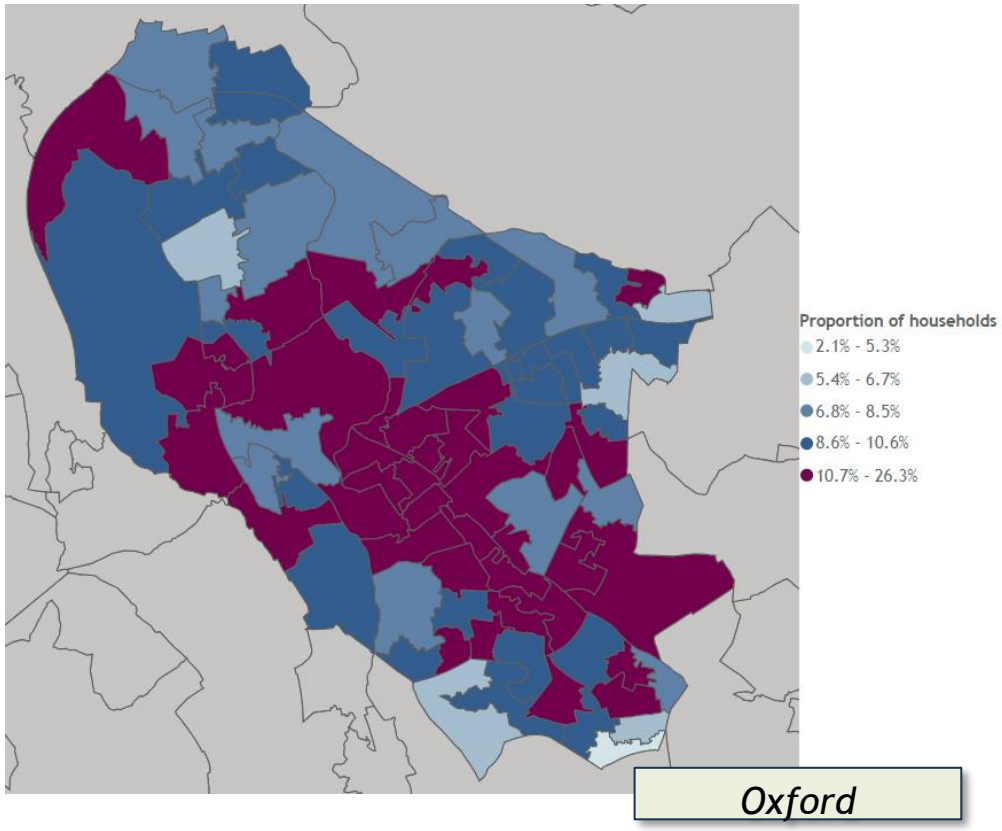


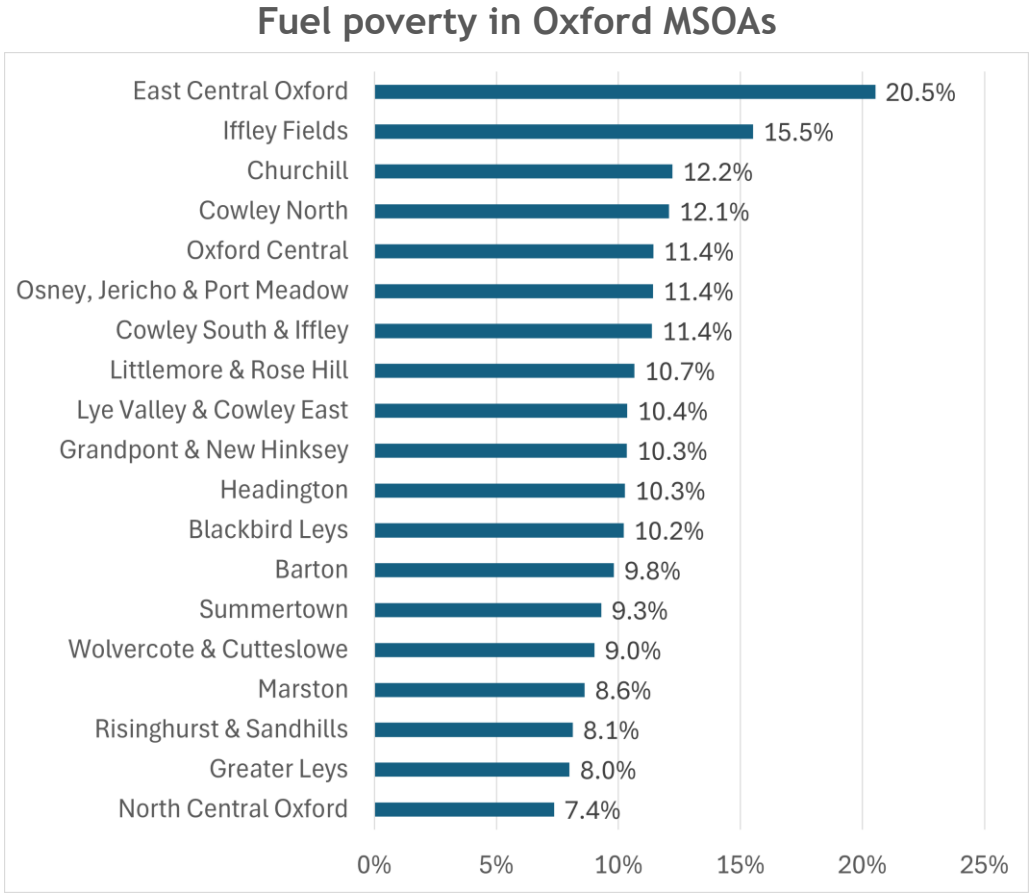


- Six areas in West Oxfordshire have more than 10% of their households in fuel poverty. The range from highest proportion (Chadlington and Wychwoods) to lowest (Carterton North) is 8.9%.

Source: https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-2024-2022-data

Fuel poverty – District view, Oxford





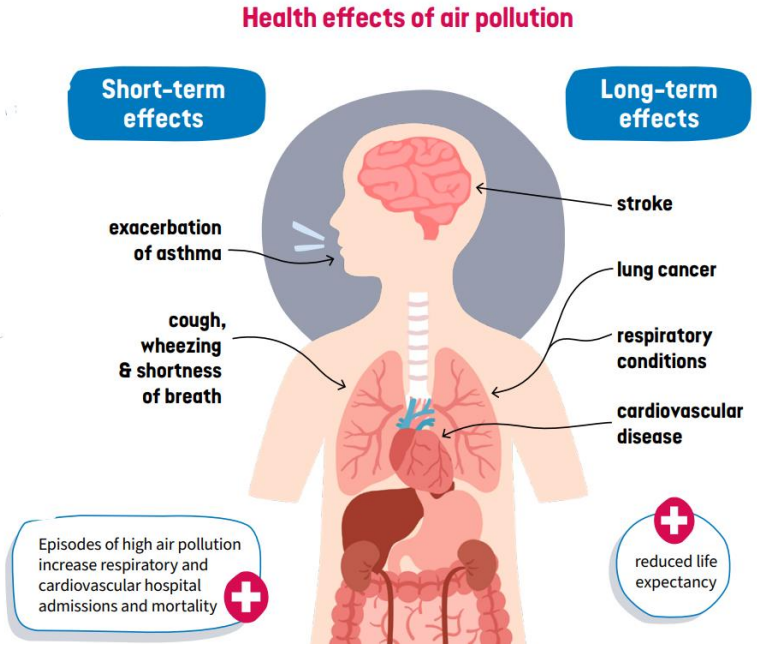
- Twelve areas in Oxford have more than 10% of their households in fuel poverty. The range from highest proportion (East Central Oxford) to lowest (North Central Oxford) is 13.1%.

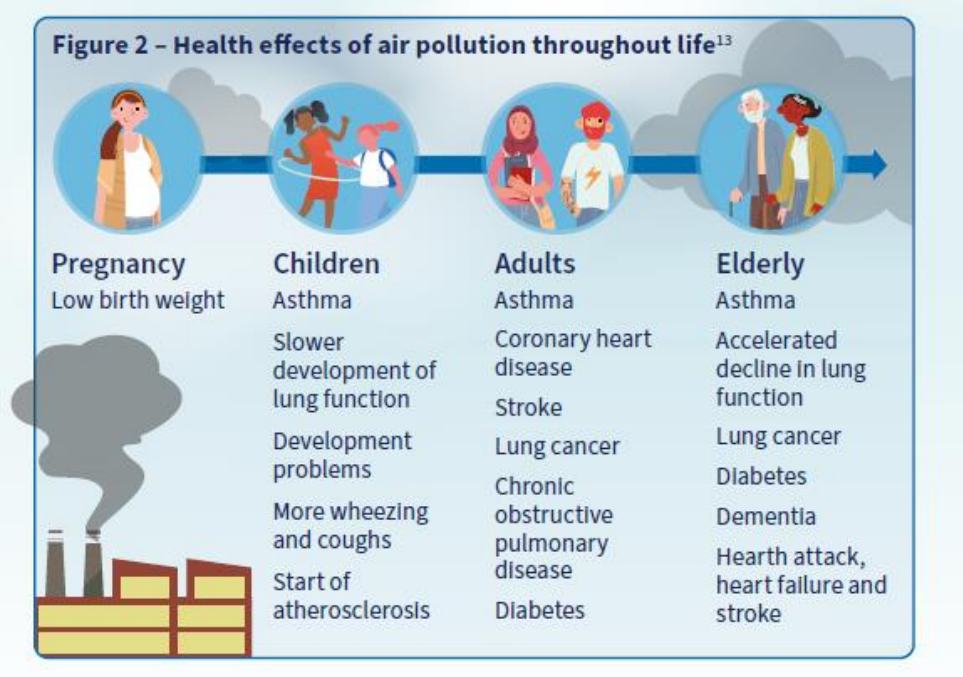
Source: https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-2024-2022-data

4. Air

Air quality and health

- Short term increases in air pollution can have immediate health impacts, including impaired lung function, exacerbation of asthma and increases in respiratory and cardiovascular hospital admissions and deaths.
- The health impact of long-term exposure to air pollution in England is estimated to be equivalent to between 26,000 and 38,000 deaths per year. **Most of this health impact is attributable to long-term PM2.5 exposure.**
- In addition, long-term exposure to air pollution can cause chronic conditions and has negative effects on physical and mental health throughout the course of our lives.





Chief Medical Officer's annual report 2022: air pollution

Air Quality Management Areas in Oxfordshire

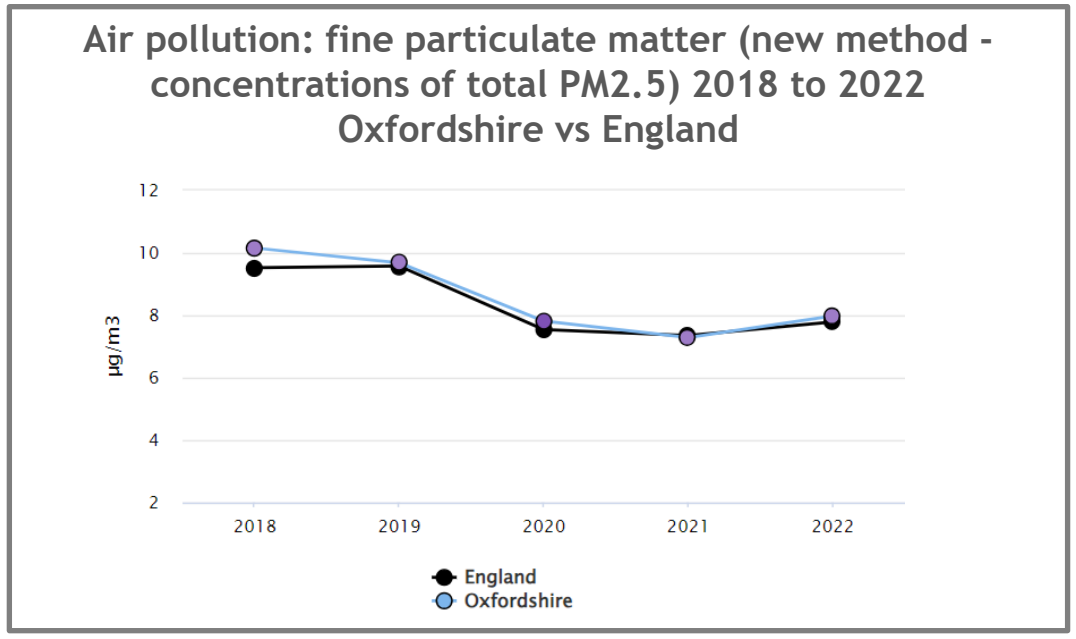
An Air Quality Management Area (AQMA) must be declared where a Local Authority finds that the national air pollution targets are not likely to be achieved. The area can be one or two streets, or much larger.

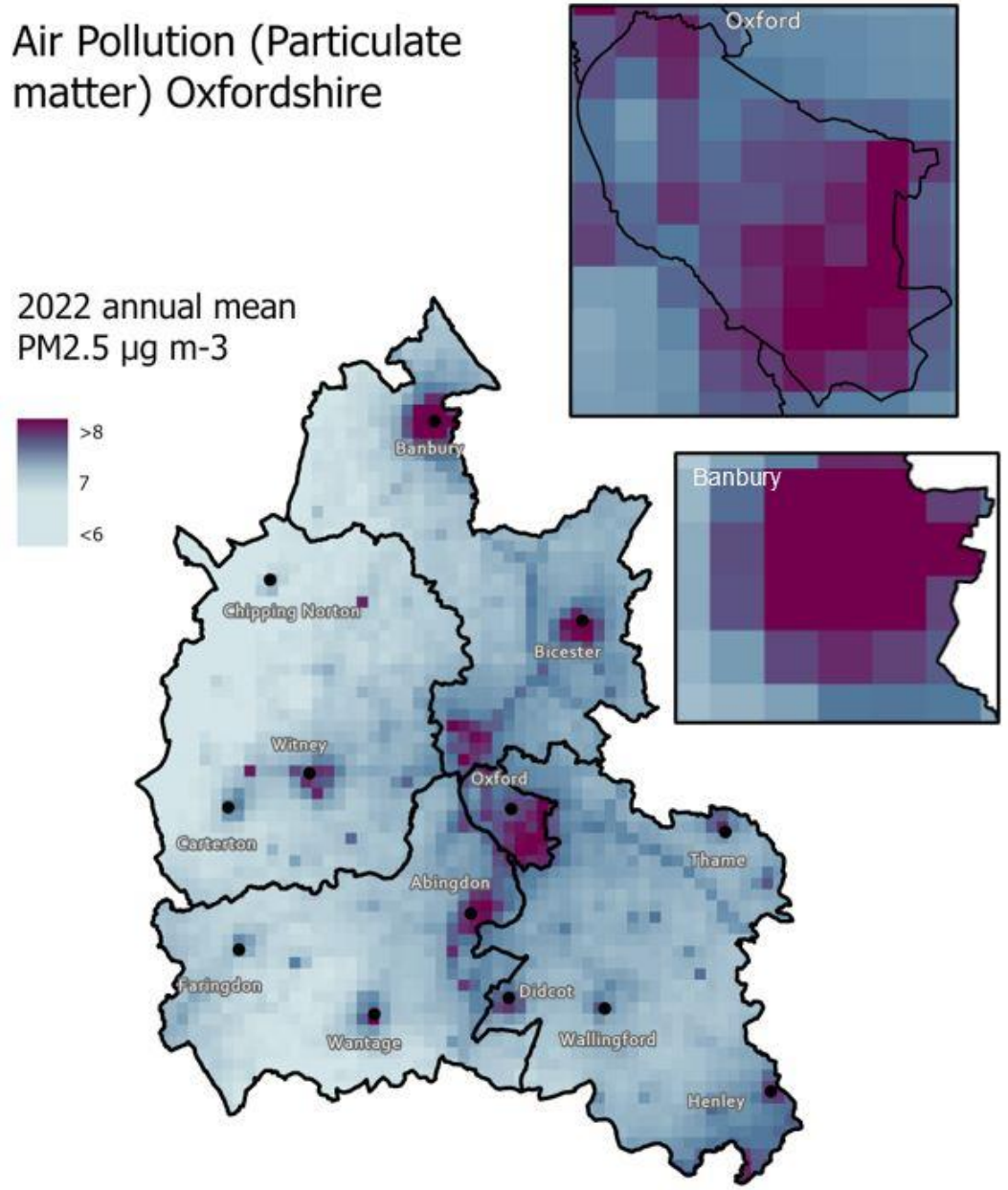
- According to the latest published Air Quality Annual Status Reports (accessed August 2024), there are 11 designated Air Quality Management Areas (AQMAs) in Oxfordshire. 2022 monitoring showed that 3 locations (Banbury, Botley and The Plain in Oxford) exceeded the national target for NO_2 of 40µg/m3. In 2023 The Plain in Oxford was within the legal limit, at 38µg/m3.

- **Cherwell** has 2 AQMAs, see Air Quality Action Plan 2024 in Banbury (Hennef Way) and Bicester (Kings End/Queens Avenue), down from 4 previously declared.
  - 2022 monitoring of NO_2 showed 1 of the 2 AQMAs exceeded the target – at Hennef Way in Banbury.
- The whole of the city of **Oxford** is designated as an AQMA, see 2024 Air Quality Annual Status report
  - Throughout 2023, NO2 was measured at 128 sites across Oxford. Between 2022 and 2023, NO2 levels decreased (on average) by 14% across the city. This compares with an average decline of 8% and 9% across the UK.
- **South Oxfordshire and Vale of White Horse** currently have 6 AQMAs, see SODC-VOWH-ASR-2023.pdf (whitehorsedc.gov.uk) in Abingdon, Botley (close to A34), Marcham, Henley, Wallingford and Watlington.
  - 2022 monitoring of NO_2 showed no areas of South Oxfordshire exceeded the target for NO_2 levels. Two exceedances were recorded in Vale of White Horse, both within the Botley AQMA.
- **West Oxfordshire** has 2 AQMAs, see Air Quality Annual Report 2023 (westoxon.gov.uk) in Chipping Norton and Witney
  - 2022 monitoring showed no areas of West Oxfordshire district exceeded the target for NO_2 levels

Particulate air pollution (PM2.5)

- At a county level the concentration of fine particulate matter (PM2.5) in Oxfordshire increased slightly from 7.3 µg/m3 in 2021 to 8.0 µg/m3 in 2022.





Based on 1km x 1km grid
Defra modelled background pollution data 2022 AQMA

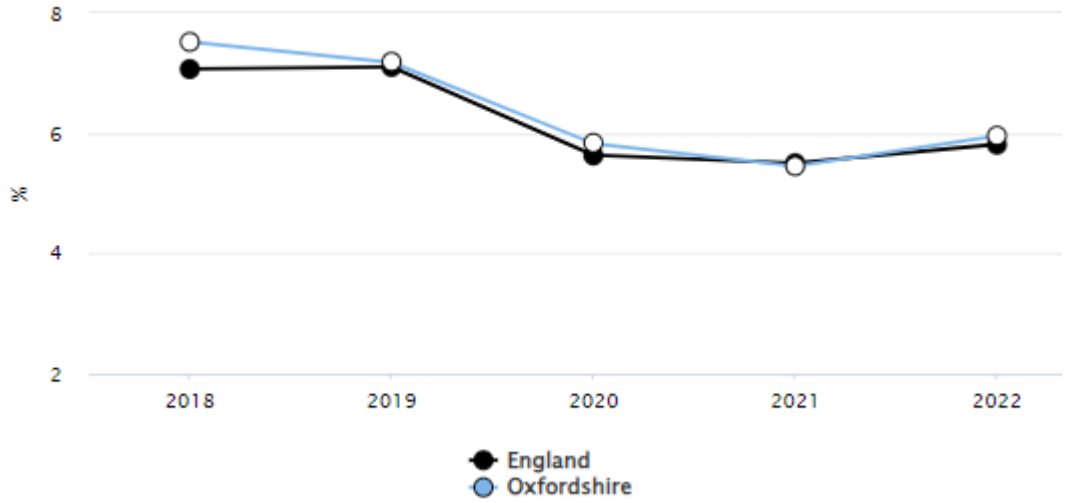
Source: DEFRA & Air Quality and Public Health, UK Health Security Agency from fingertips.phe.org.uk
Public health profiles - OHID (phe.org.uk)
Population-weighted annual average concentrations of PM2.5 were provided by Ricardo Energy and Environment for all lower tier and unitary LAs within England.
PM2.5 means the mass (in micrograms) per cubic metre of air of individual particles with an aerodynamic diameter generally less than 2.5 micrometers. PM2.5 is also known as fine particulate matter.

Mortality attributable to particulate air pollution (PM2.5)

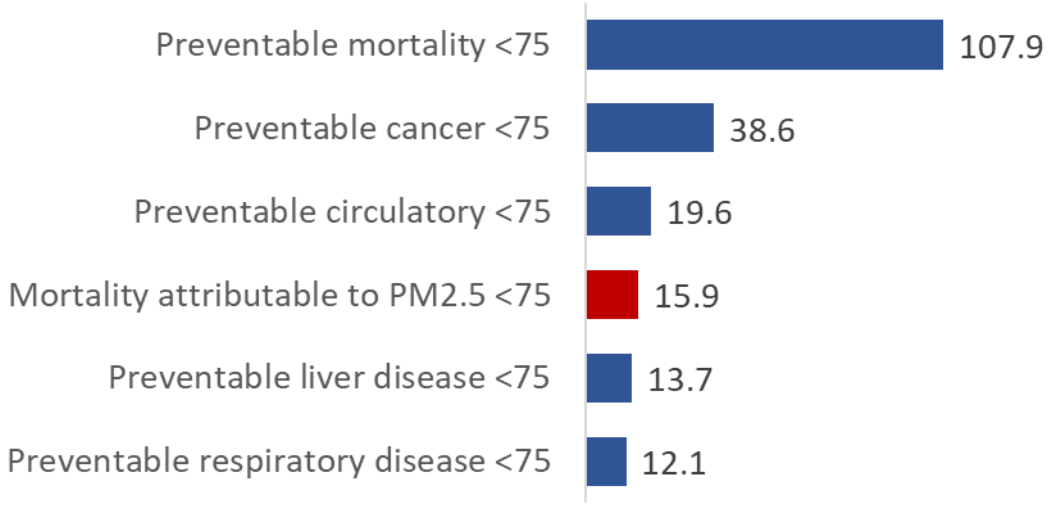
- Using the concentrations of total PM2.5 to estimate the mortality burden attributable to particulate air pollution, shows that, as of 2022, the value for Oxfordshire was 6.0%, slightly above the South East average (5.7%) and similar to the England average (5.8%).
- Rates of mortality due to fine particulates is estimated to be similar to the mortality rate from preventable liver disease (aged under 75) and the mortality rate from preventable respiratory diseases (aged under 75).
- It is estimated that fine particulate air pollution's effect on mortality in Oxfordshire was equivalent to 354 deaths at typical ages in 2022. Note that this is not an estimate of deaths directly caused by air pollution but a total representing the contribution of air pollution to all deaths.

Source: DEFRA & Air Quality and Public Health, UK Health Security Agency from fingertips.phe.org.uk Public health profiles - OHID (phe.org.uk)
Population-weighted annual average concentrations of PM2.5 were provided by Ricardo Energy and Environment for all lower tier and unitary LAs within England.
Mortality burden associated with long-term exposure to anthropogenic particulate air pollution at current levels, expressed as the percentage of annual deaths from all causes in those aged 30+. PM2.5 means the mass (in micrograms) per cubic metre of air of individual particles with an aerodynamic diameter generally less than 2.5 micrometers. PM2.5 is also known as fine particulate matter. Methodology from Air Quality - A guide for directors of public health (local.gov.uk), Particulate air pollution: quantifying effects on mortality - GOV.UK (www.gov.uk)

Fraction of mortality attributable to particulate air pollution 2018 to 2022 Oxfordshire vs England



Oxfordshire age standardised mortality rates per 100,000 (2022)



Air quality resources

- Oxfordshire Air Quality Strategy 2023-2026: Air Quality Strategy 2023 to 2030 (oxfordshire.gov.uk) and Clean Air Routemap 2023 (oxfordshire.gov.uk)
- Air Quality Information for Oxfordshire www.oxonair.uk

Latest published air quality reports for Oxfordshire districts:

  - Cherwell – Air Quality Annual Status Report 2023 (June 2023)
  - Oxford City – 2024 Air Quality Annual Status report (June 2024)
  - South and Vale - SODC-VOWH-ASR-2023.pdf (whitehorsedc.gov.uk) (June 2023)
  - West Oxfordshire - Air Quality Annual Report 2023 (westoxon.gov.uk) (June 2023)

- List of Local Authorities with AQMAs - Defra, UK

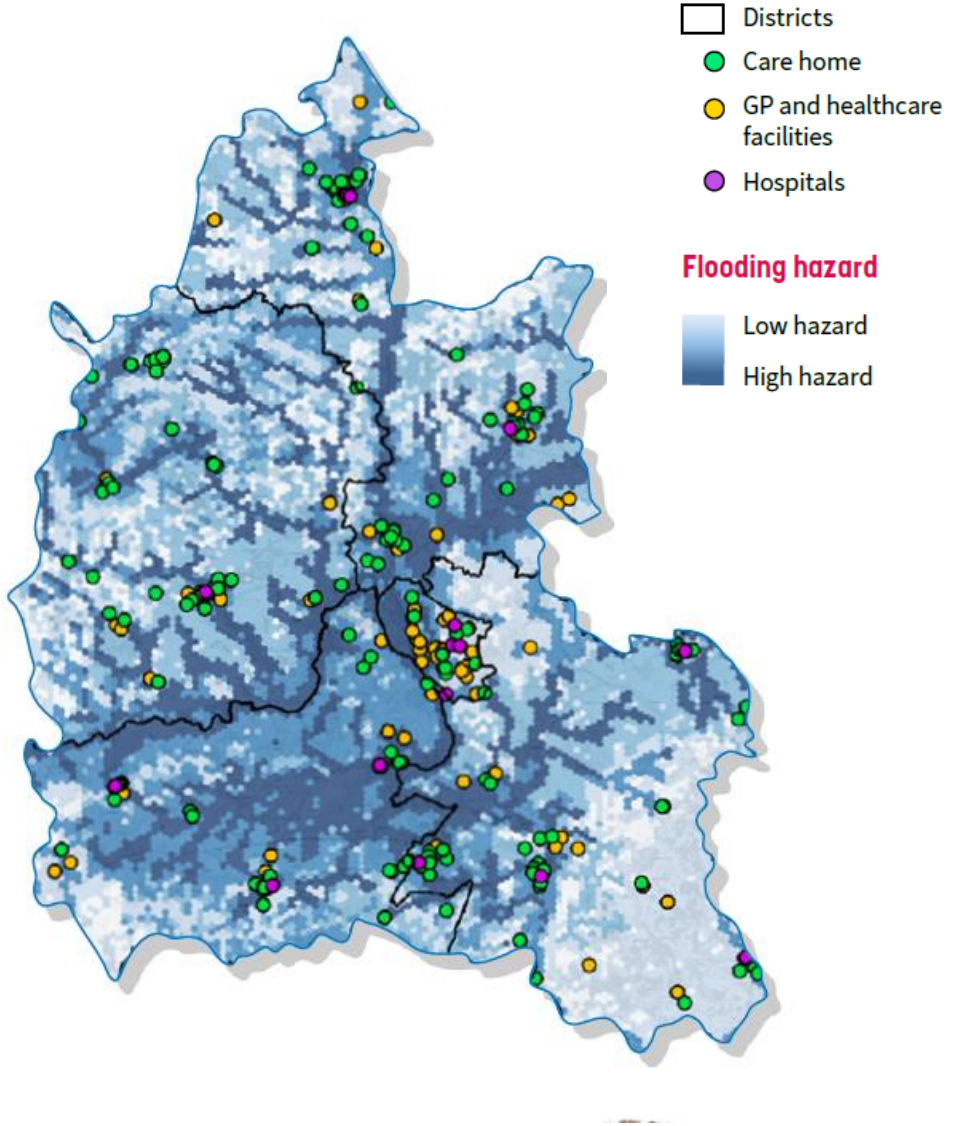
Other

- Air Quality - A guide for directors of public health (defra.gov.uk)
- Tool showing air quality data mapped 2003 to 2022 UK Ambient Air Quality Interactive Map (defra.gov.uk)
- Local Transport and Connectivity Plan 2022 – 2050 (July 2022) Local Transport and (oxfordshire.gov.uk)
- Respiratory disease - Data | Fingertips | Department of Health and Social Care (phe.org.uk)

5. Water

Facilities in Oxfordshire at higher risk of flooding

- Since 2007, the county has experienced 20 significant flood events, 12 named storms, 8 cold snaps, 4 major heatwaves and 3 periods of drought. Recent flooding in January 2024 led to 32 flood alerts for Oxfordshire, widespread flooding and major transport disruption.
- The flooding risk score is calculated using three variables: hazard, exposure, and vulnerability. Each of these is scored from 0-5. Once aggregated, they form the overall score which ranges from 0-15. Lower scores represent lower risks and vice versa.
- The definition of risk used in these slides – a combination of vulnerability, exposure and hazard – is used for climate adaptation planning to improve understanding of areas where climate adaptation and resilience measures can be most effective and should be prioritised. It should be noted that for other flooding-related planning, such as the Local Flood Risk Management Strategy, a different definition of risk is used, reflecting different requirements.
- The map on the right considers only the flooding hazard risk (0-5) of specific geographies across Oxfordshire.



Source: Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

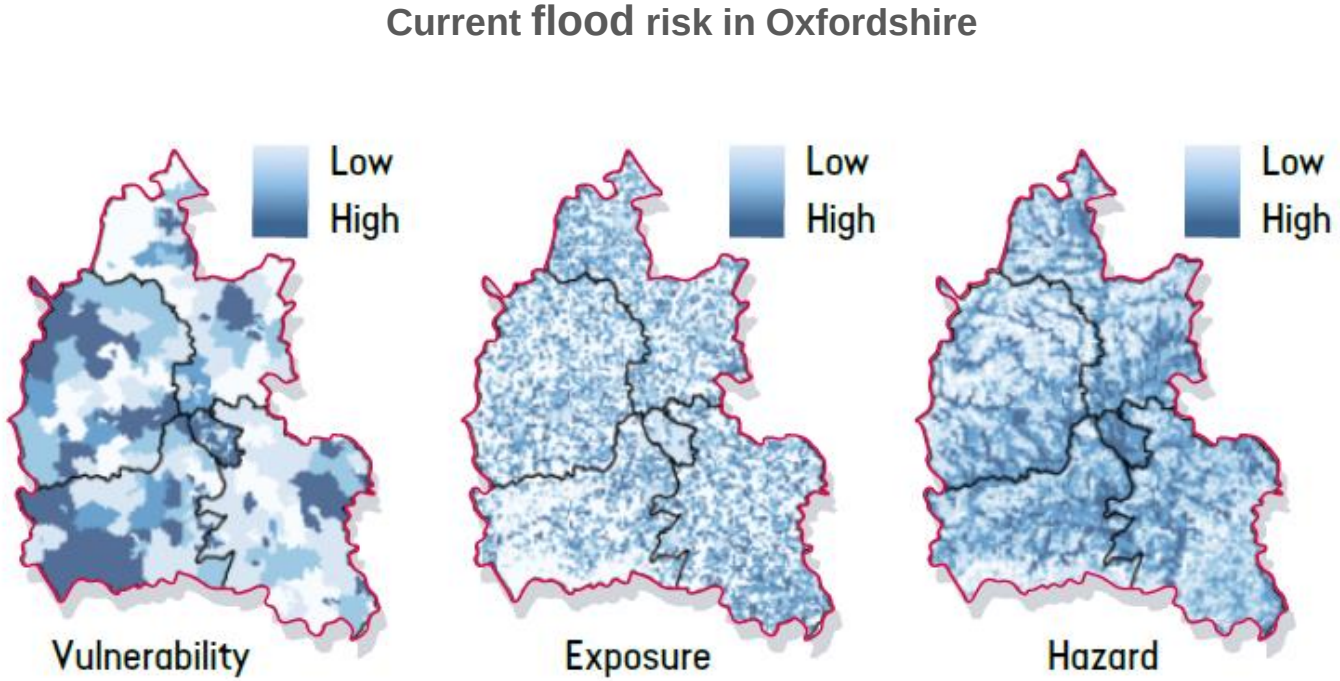
Flooding and deprivation

- Areas of Oxfordshire at higher risk of flooding include some of the county's most deprived areas (marked with an asterisk).

Oxford
- Blackbird Leys*
- Holywell
- Hinksey Park
- Littlemore*
- Marston
- Northfield Brook*

Vale of White Horse
- Abingdon Caldecott*

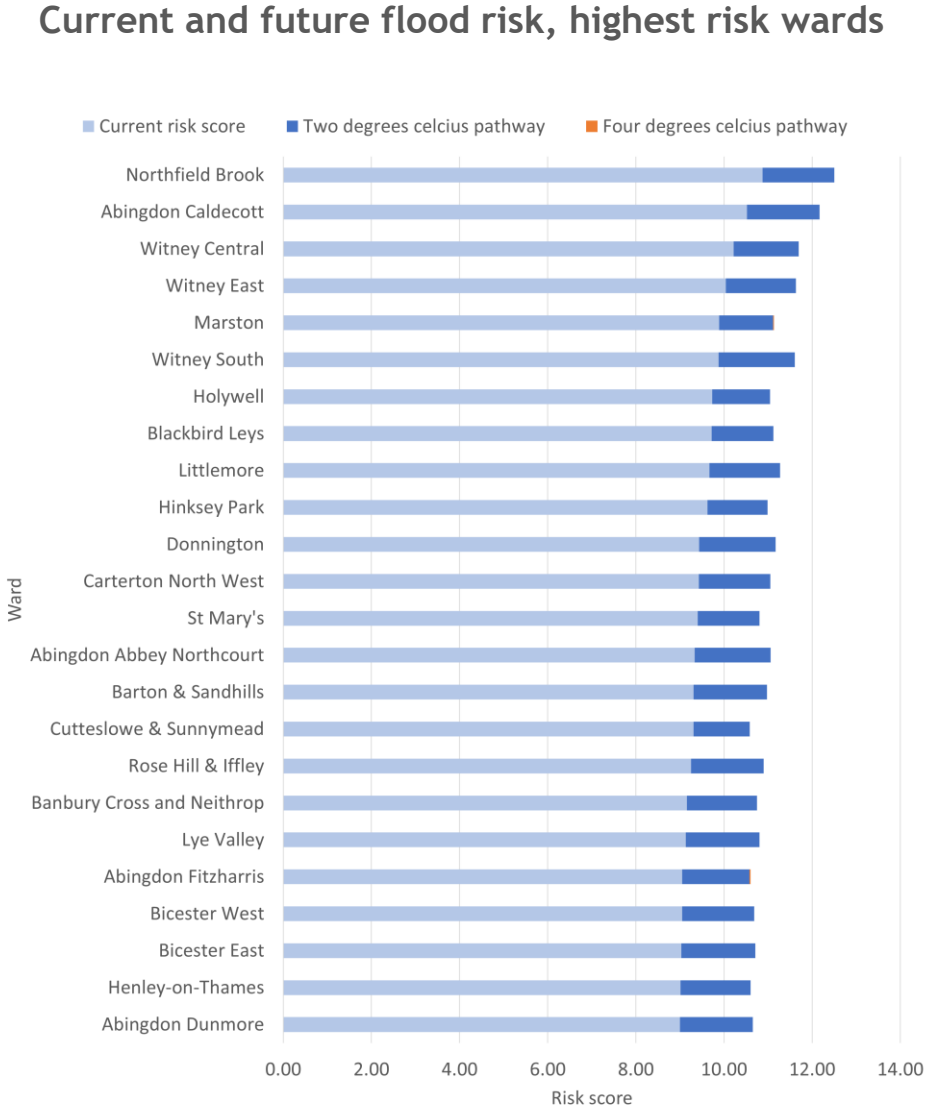
West Oxfordshire
- Witney Central, South and East



Source: Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

High risk areas for flood risk - detail

- This graph details those wards at a higher risk of flooding. Wards are classified as higher risk if their overall score is 9 or more.
- In a similar way to the heatwave risk, the flooding risk score for a ward is based on three variables: hazard, exposure, and vulnerability. Each of these is scored from 0-5. Once aggregated, they form the overall score which ranges from 0-15. It is these scores which are used to represent risk in the following slides.
- The overall score considers factors such as:
  - *Risk of flooding from rivers and sea*
  - *Building heights*
  - *Percentage of population under 15*
  - *Percentage of population over 75*
  - *Percentage with disability under the Equality Act 2011*
  - *Index of multiple deprivation*

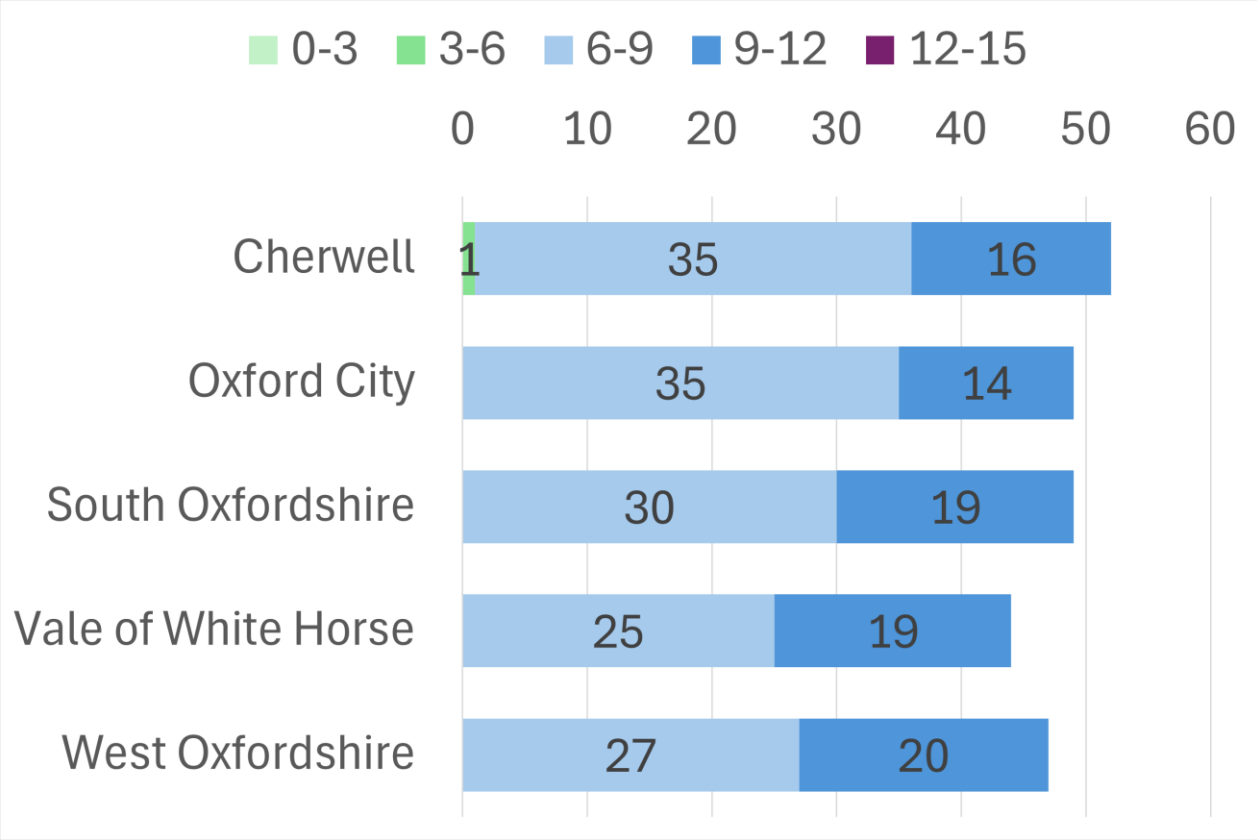


Source: Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

Flood risk and infrastructure

- Across Oxfordshire, most healthcare facilities find themselves in areas of medium or high risk.
- This data considers the overall flood risk for the location of each of the facilities, not just the hazard score.
- Cherwell and Oxford's facilities are the worst affected by flood risk. The only facility in a low-risk area is in Cherwell.
- Across the county, just 1 facility is in a lower risk area (<1%) , 152 in medium-risk (63%), and 88 in higher risk (37%).

Number of health care facilities (care homes, GPs, and hospitals) at flood risk across Oxfordshire

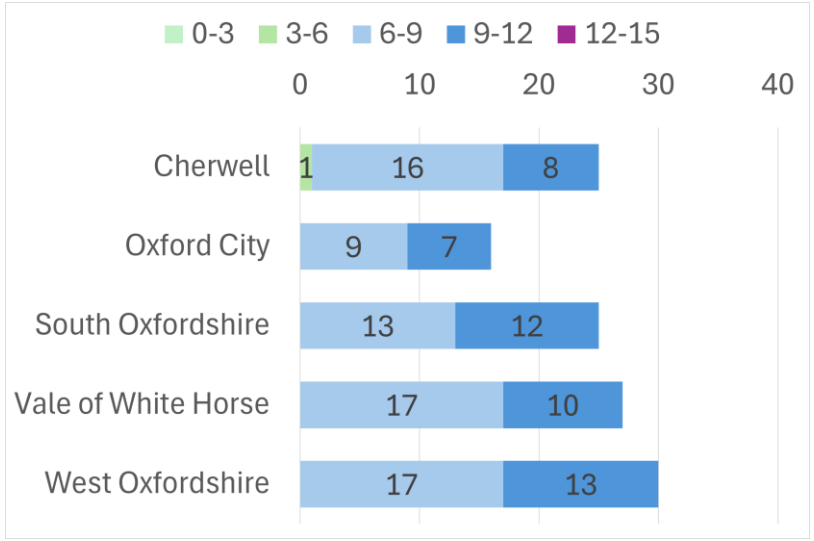


Source: Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

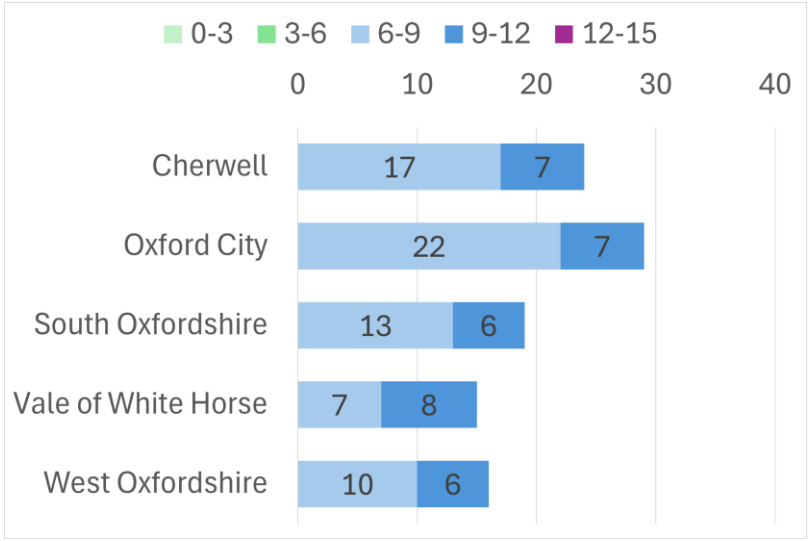
Flood risk and infrastructure

- The data below disaggregates that from the previous slide to look at the flood risk posed to specific types of facility.

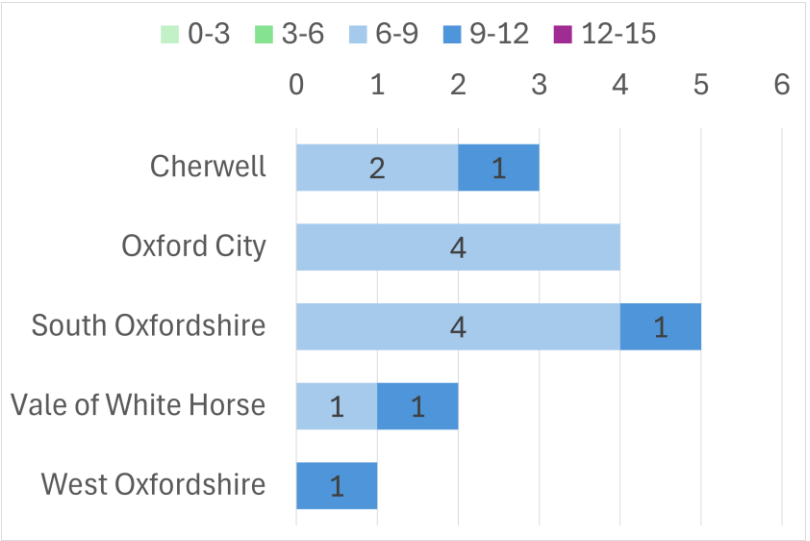
Number of care homes in areas of flood risk



Number of GP surgeries in areas of flood risk



Number of hospitals in areas of flood risk



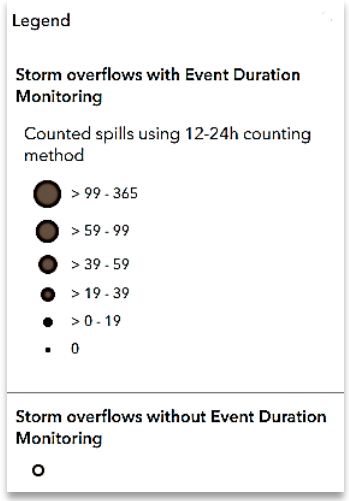
- 50 care homes (41%) are in areas of higher risk, 72 (59%) in medium risk and 1 (<1%) is in a lower risk area.
- 34 GP surgeries (33%) are in areas of higher risk, 69 (67%) in medium risk. There are no GP surgeries in lower risk areas.
- 4 hospitals (36%) are in areas of higher risk and 11 (73%) are in medium risk areas. There are no hospitals in lower risk areas.

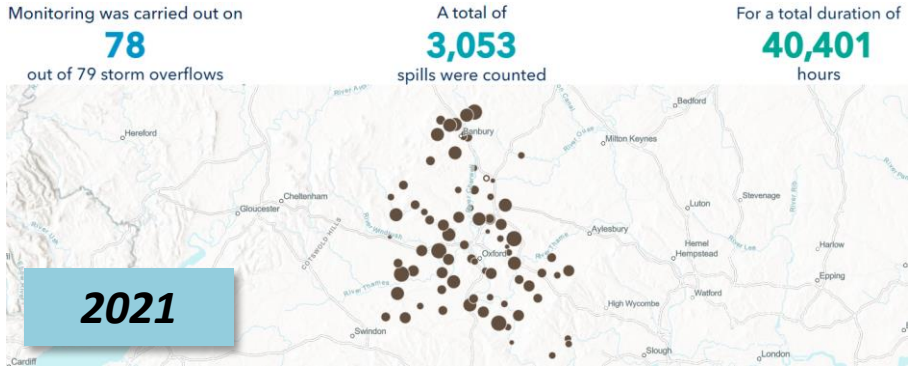
Source: Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

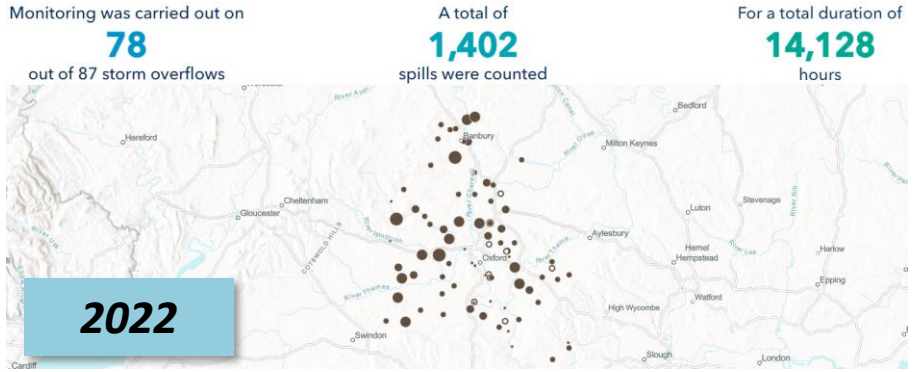
Sewerage spills

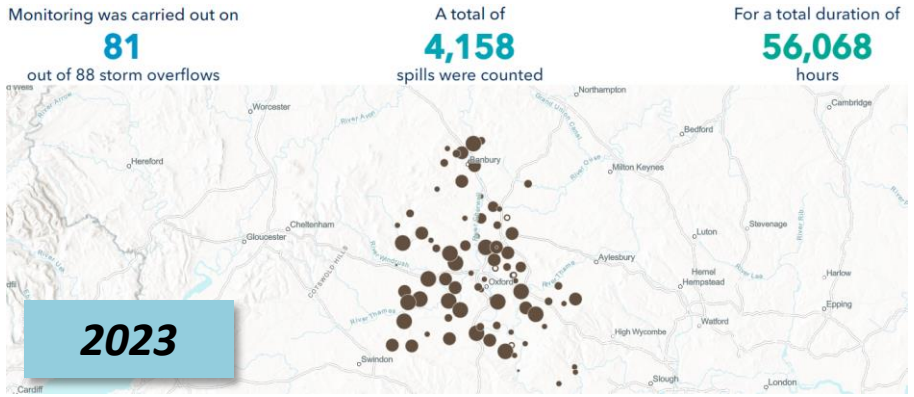
- The following maps show known sources of untreated sewage pollution from sewer storm overflow. There are many more sources of pollution which are not mapped because the data isn't collected or shared. This includes things like agricultural runoff, badly managed septic tanks, industrial waste, road runoff and misconnected domestic drains.
- Comparing 2021 to 2023 there were 1,105 more sewer storm overflow spills counted, an increase of 36%.
- This amounts to a 15,667-hour increase for the time that untreated sewage flows directly into the environment.

Source: Sewage Map | The Rivers Trust









Water – statistics and resources

- The Campaign to Protect Rural England (CPRE) Oxfordshire
- Oxfordshire's Flooding & Pollution Report 2021
- The English National Study of Flooding and Health
- EDM Map | Storm discharge data | River health | Thames Water
- Sewage Map, The Rivers Trust

6. Food

Food Security

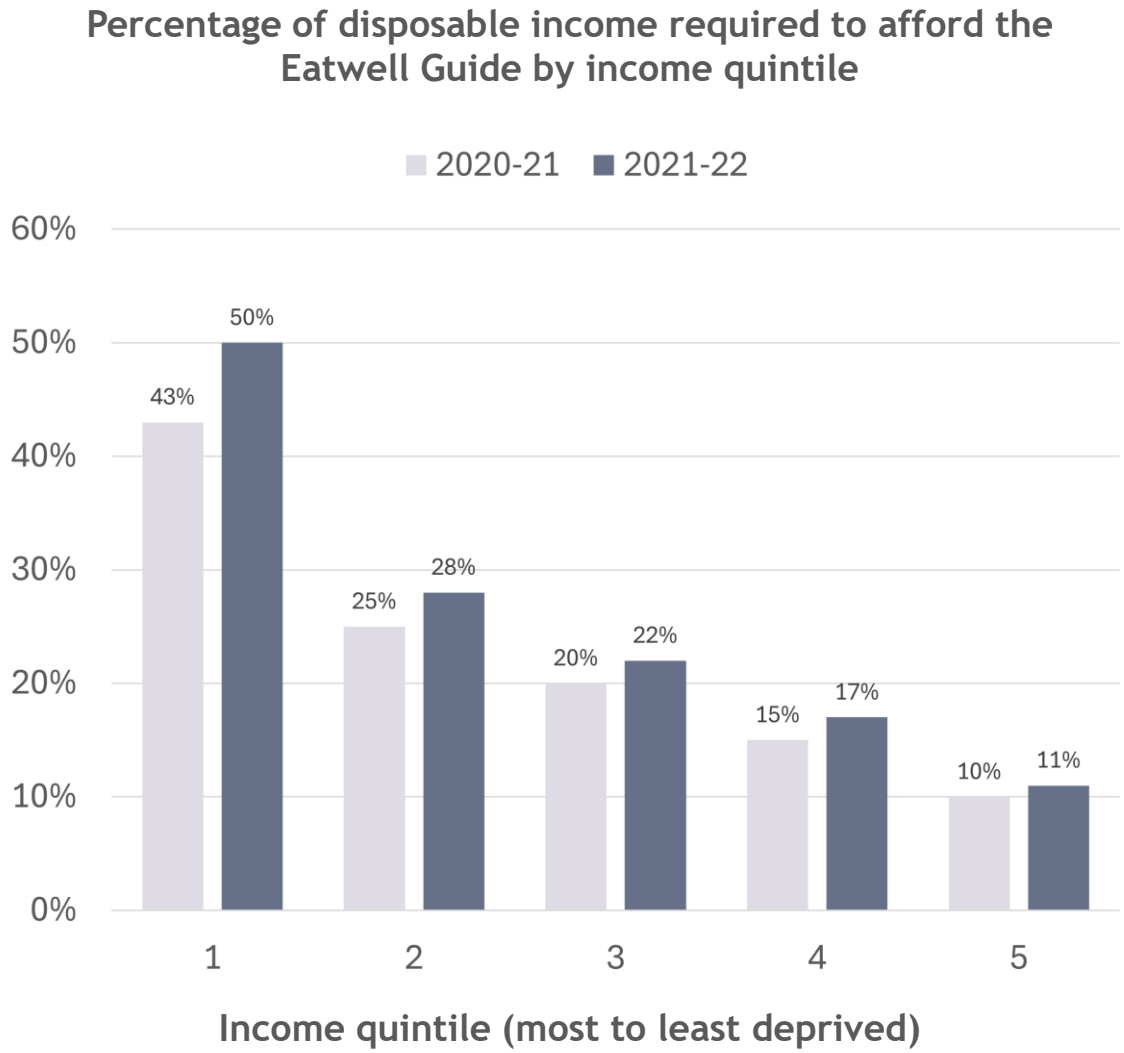
- Food security is defined when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. There are four main dimensions of food security:

Physical availability	Economic and physical access	Food utilisation	Stability of other dimensions
• *This is the 'supply side' of food security. It's determined by the level of production, stock levels, and net trade.*	• *This is concerned with how incomes, expenditure, markets and prices help us to achieve food security objectives.*	• *This is the way the body makes the most of nutrients in food. This is a result of good care and feeding practices, food preparation, diversity of diet, and intra-household distribution of food.*	• *The other three dimensions must be stable over time. For example, if you have inadequate food access on a periodic basis, this risks a deterioration of your nutritional status, and you would be considered food insecure.*

Source: What is Food Security? There are Four Dimensions (worldbank.org)

Food insecurity - national

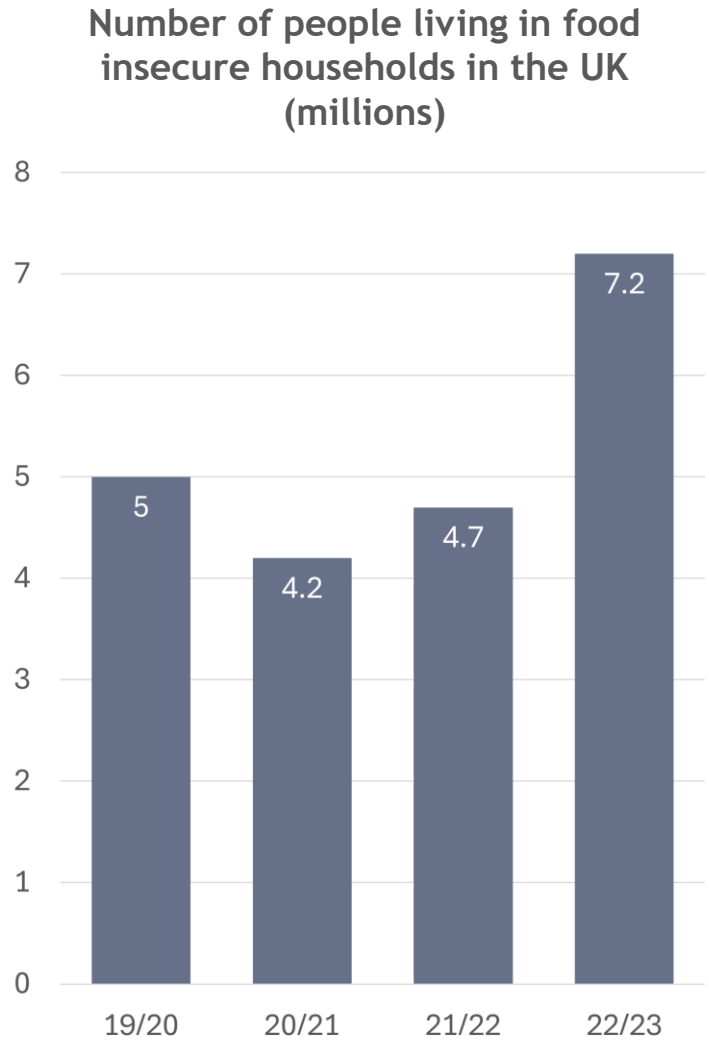
- Affordability can play a significant role in determining the food that people purchase. The ability to afford a healthy and sustainable diet is affected by:
  - *food prices*
  - *household income*
  - *costs of other essentials*
- For some people, a healthy diet may be out of reach financially. Even for people with higher incomes, it may be a less appealing option as it is more expensive.
- The most deprived fifth of the population would need to spend 50% of their disposable income on food to meet the cost of the Government recommended healthy diet. This compares to just 11% for the least deprived fifth.



Source: The Broken Plate 2023, The State of the Nation's Food System

Food insecurity - national

- *Household food insecurity is defined in broadly the same way across several countries and split into two categories:*
  - *'Low food security' means that the household reduces the quality, variety, and desirability of their diets.*
  - *'Very low food security' means that household members sometimes disrupt their eating patterns or reduce their food intake because they lack money or other resources for food.*
- Across the UK, the number of people in 'food insecure' households rose to 7.2 million in 2022/23, an increase of 2.5 million people since 2021/22.[1]
- The main reason for an increase in food insecurity was a sharp increase in food prices in 2022/23.
- Data from the Office for National Statistics shows that food and drink price inflation increased at the highest rate since 1977.[2]



[1] Who is experiencing food insecurity in the UK? House of Commons Library
[2] Consumer Price Inflation, ONS

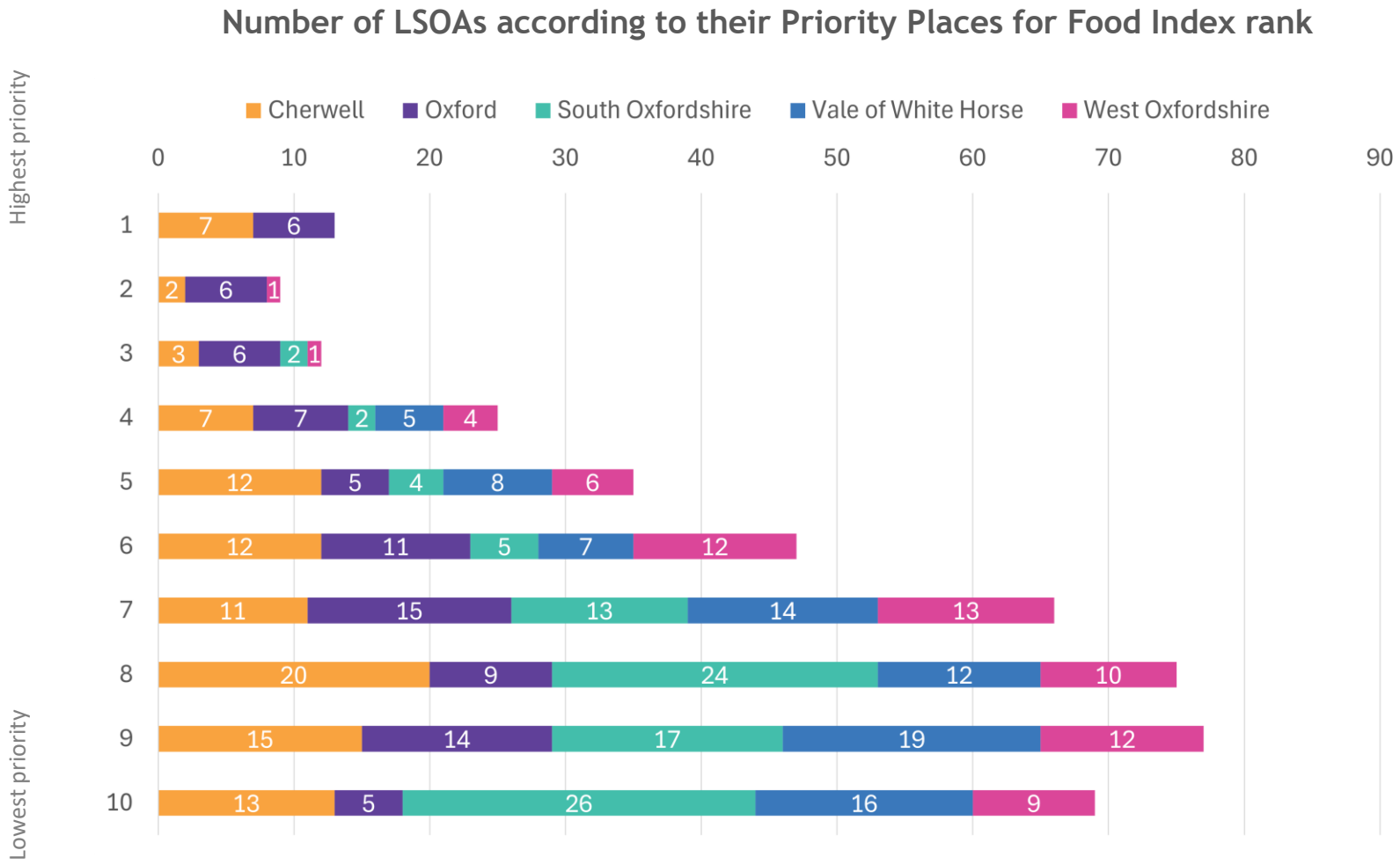
Priority Places for Food Index - Oxfordshire

- The Priority Places for Food Index (PPFI) was initially developed in response to the 2022 cost of living crisis which has put many communities under severe financial pressure and at an increased risk of food insecurity.
- The index is constructed using open data to capture complex and multidimensional aspects of food insecurity risk. Seven of these dimensions are included in the PPFI. They include factors such as:
  - accessibility to supermarkets
  - household access to a car
  - family food support
- These are weighted and combined to form an overall index. Using this index, it is possible to rank different areas of the country.
- The index ranks areas on a scale from 1 (highest priority) to 10 (lowest priority).
- The data refers to lower layer super output areas (LSOAs) within Oxfordshire.

Source: Priority Places for Food Index

Priority Places for Food Index - Oxfordshire

- Cherwell contains the greatest number of highest priority areas (7). While Oxford has the highest percentage of the total in the district (7%).
- Both Cherwell and Oxford contain both the greatest number and proportion of high priority areas. Of the 34 areas that are ranked as priority 3 or higher, 30 of these are in Cherwell (12) or Oxford (18).
- The Vale of White Horse's highest priority areas begin at rank 4 which, relatively speaking to the rest of the county, makes it less of an urgent concern.
- West Oxford is in a similar position with one rank 2 area and one rank 3 area.



Source: Priority Places for Food Index

Food – statistics and resources

Cost of living - food

- https://www.ons.gov.uk/economy/inflationandpriceindices/articles/costoflivinginsights/food

Food insecurity

- Characteristics of adults experiencing energy and food insecurity in Great Britain: 22 November to 18 December 2022 | ONS
- Who is experiencing food insecurity in the UK? | House of Commons Library
- Household food insecurity in the UK: data and research landscape | Food Standards Agency
- A Food Poverty Plan for Oxfordshire (2021)

7. Nature

Green space contributes to better physical and mental health and wellbeing

- Human health is dependent on flourishing natural systems and biodiversity – which means that nature recovery is vital for human survival. The 2023 State of Nature report[1] shows that, since 1970, UK species have declined by about 19% on average, and nearly 1 in 6 species (16.1%) are now threatened with extinction.
- Public Health evidence[2] shows that that greener neighbourhoods and more exposure to green space correspond to better physical and mental health and wellbeing including:
  - better self-assessed general and mental health
  - reduced all-cause and cardiovascular mortality
  - reduced stress
  - reduced incidence of low-birth weight
  - maintaining a healthier weight
- Ways that greenspace can promote positive health and wellbeing outcomes include:
  - **Physical activity** – there are indications that people may enjoy and be more likely to repeat an activity if it takes place in a natural setting.
  - **Recreational activities** – data from the Monitor of Engagement with the Natural Environment indicates that adults who had 2 hours of recreactional activity per week in greenspace were more likely tohave better self-reported wellbeing than those who do not.
  - **Nature connection** – people who report feeling more connected to nature tend to have a more positive outlook on life
  - **Community and social cohesion** – natural spaces help bring communities together
  - **Developing children's skills and capabilities** – a greener school environment has been linked to better attention, behaviour and learning outcomes
  - **Mediating potential harm** from air pollution, noise, urban heat and flood risk

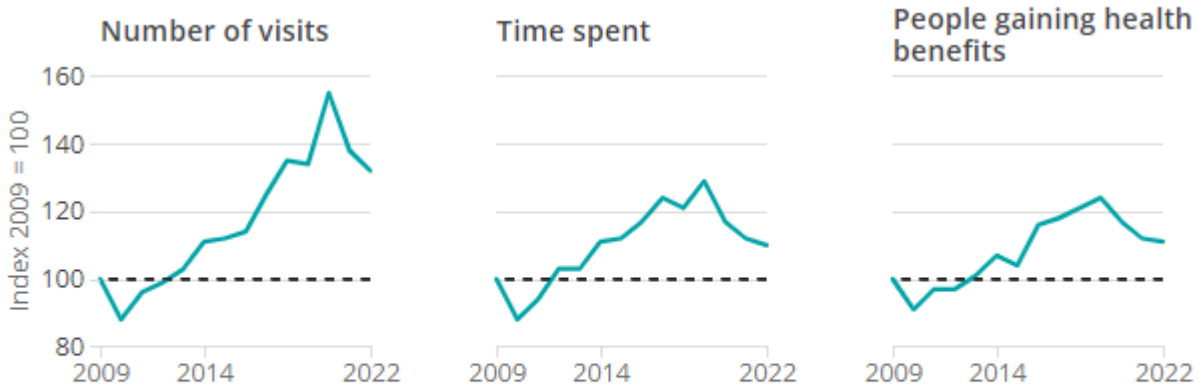
[1] State of Nature

[2] From Improving access to greenspace, A new review for 2020, Public Health England

UK data shows that since COVID-19, people are spending less time in natural environments

- According to ONS, official survey data covering the period between 2009 and 2018 show that the number of visits to nature, and time spent in it, rose over the decade. This resulted in more people gaining health benefits from this exposure.
- Since 2020, however, separate survey data have shown a decline in such activity.
- This downward trend since 2020 suggests that an increase in the number of visits to nature witnessed during the coronavirus (COVID-19) pandemic may have been temporary.

Change in number of visits to, time spent in, and people gaining health benefits from nature, UK 2009 to 2022



Source: Natural Capital Accounts (based on recreation surveys from UK public bodies) from the Office for National Statistics

From ONS health benefits of nature article Nov 2023

Two thirds of people who had not visited a green space would like to spend more time outside

- *The England People and Nature Survey[1] (which replaced the Monitor of Engagement with the Natural Environment) is an online panel survey. It is one of the main sources of data and statistics on how people experience and think about the environment in England.*

Key findings from 2022-23 included:

- Almost two in three (65%) adults had visited a green and natural space in the previous 14 days in Year 3. This was higher than in Year 2 (63%) and in Year 1 (62%).
- In Year 3, 65% of people agreed that local green and natural spaces are within easy walking distance. This was similar to the two previous years.
- 65% of people used an active travel mode (on foot, by bike, or by mobility aid) in their most recent visit to a green and natural space.
- Getting fresh air and physical health and exercise were the main reasons for people taking a visit to a green and natural space.
- Of the people who had visited a green space in the last 14 days, 91% agreed it was good for their physical health and 92% agreed it was good for their mental health.
- 67% of adults who had not visited a green space in the last 14 days would have liked to spend more free time outside.

Main reasons for visiting a green and natural space (2022-23) England

[1] Natural England Adults' Year 3 Annual Report (April 2022 - March 2023) (Official Statistics) - GOV.UK (www.gov.uk) (published Sept23)

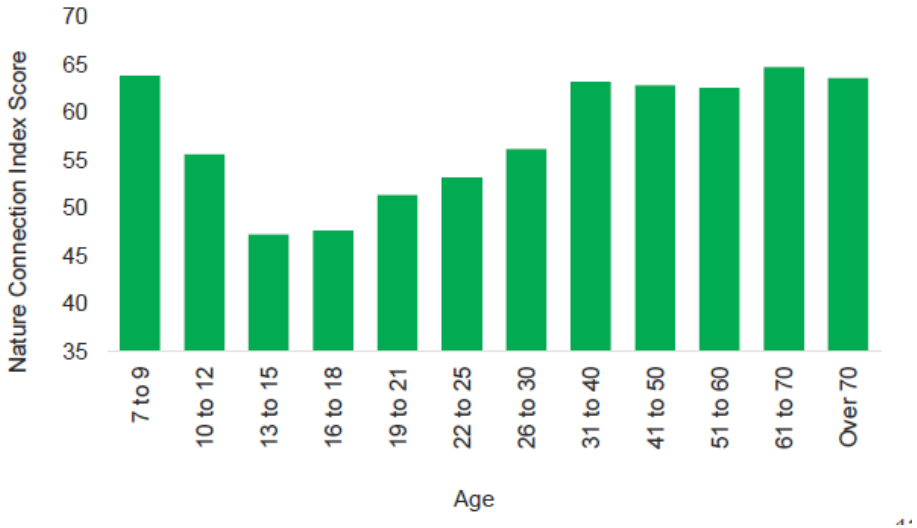
Connection to nature by demography - national

The 2020 Natural England report on nature connectedness[1] reported that nature connectedness is influenced by factors other than (simply) frequency of visits.

Analysis by population group found:

- Age: The most notable relationship seen in the analyses of the Nature Connection Index (NCI) against demographics with was with age (see chart).
- Family: There was a positive relationship between the level of nature connectedness among children and adults in the same household.
- There was only a limited relationship between Nature connectedness and socio-economic group or gender:
  - Income: adults from lower socio-economic groups tended to have lower nature connectedness than adults from higher socio-economic groups and
  - Gender: adult males tended to have lower nature connectedness than adult females.
- Ethnicity: There was little or no relationship between a person's nature connectedness and their ethnicity.

Nature Connection Index score by age (England)



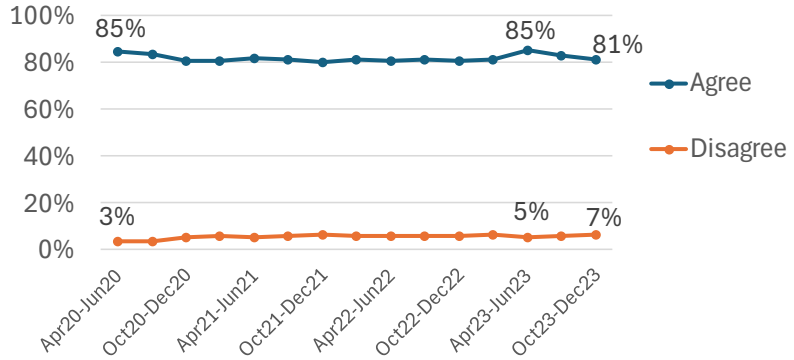
Analysis showed a clear dip in levels of nature connectedness around the early teenage years, with high nature connectedness being more likely among children aged 7-9, levels dipping at age 10-12 and being lowest among 13-15 and 16-18-year olds.

[1] Natural England Report on Nature Connectedness among Adults and Children in England based on data from the Monitor of Engagement with the Natural Environment survey, published March 2020

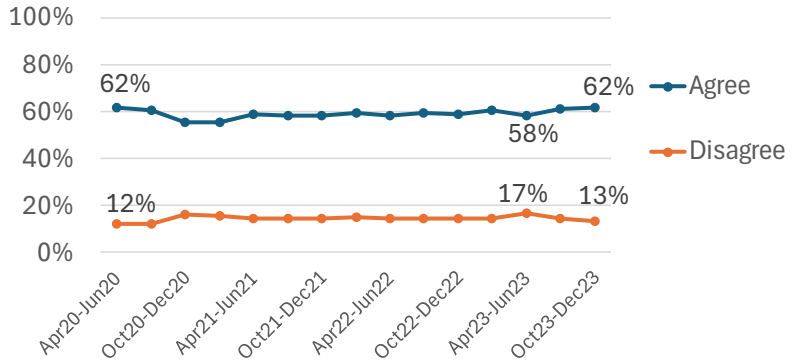
Nature connectedness – England trend

- Responses to the three dimensions of "nature connectedness" from the latest People and Nature survey quarterly data (Oct-Dec23) for England shows:
  - 81% agree* and 7% disagree# that *"being in nature makes me happy"*
  - 62% agree* and 13% disagree# that *"I feel part of nature"*
  - 69% agree* and 10% disagree# that *"I am taking more time to notice and engage with everyday nature (e.g. listening to birdsong, noticing butterflies)"*

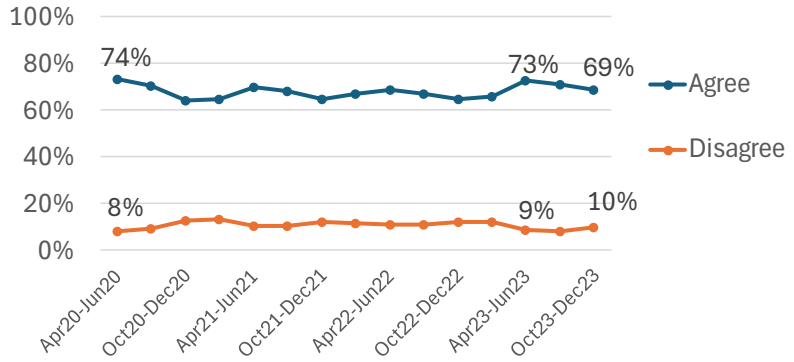
Being in nature makes me happy



I feel part of nature



I am taking more time to notice and engage with everyday nature (e.g. listening to birdsong, noticing butterflies)



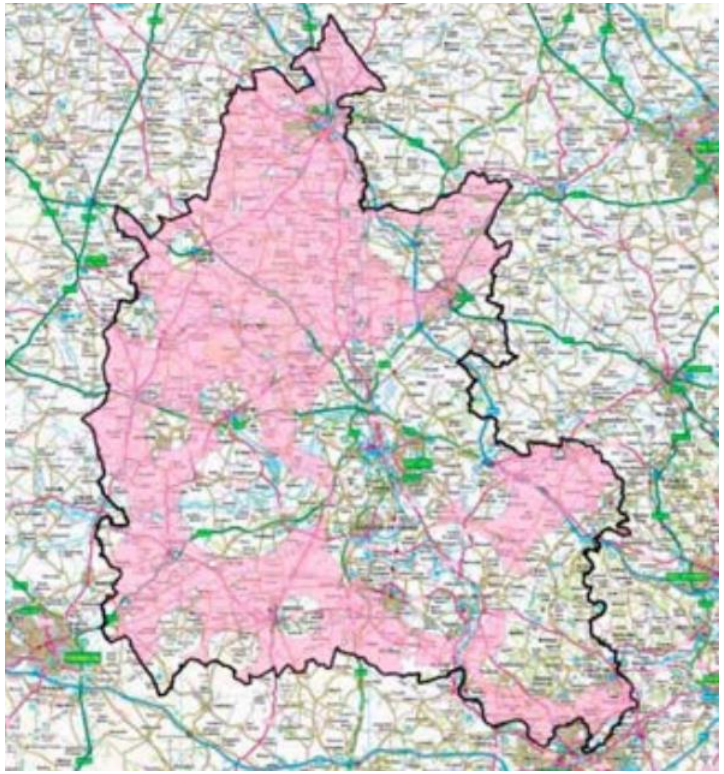
People and Nature surveys for England (accessed August 2024, including data for Oct-Dec23)
Base Oct23 to Dec 23 = 1,239;
*Agree = Completely agree + Strongly agree + agree
#Disagree = Completely disagree + Strongly disagree + disagree

Priority greenspace-deprived neighbourhoods in urban areas of Oxfordshire

- *A March 2024 report[1] on greenspace-deprived neighbourhoods was carried out to identify:*
  - *Oxfordshire neighbourhoods that are both socio-economically deprived and*
  - *have poor provision of local, accessible greenspace.*
- *Greenspaces are described as being accessible if they are freely open to the public without payment and with what amounts to no time restrictions; e.g. if a park is locked overnight it would still be described as accessible, whereas a private estate that is open to the public 2-3 days a year would not be considered accessible.*
- The study found Oxfordshire's accessible greenspace is not evenly distributed, and over 50% of land area in the county (51% to 66%) does not meet any of the Accessible Greenspace Standards.
- In terms of local greenspace provision there are 33 neighbourhoods that met at least two of this project's criteria for concern; 16 of these are in the most deprived 30% of neighbourhoods in England, and are considered priority neighbourhoods.
- The priority greenspace-deprived neighbourhoods are exclusively in urban areas, with clusters in Bicester, Banbury and Oxford, especially the wards of Barton & Sandhills, Littlemore, Northfield Brook and Blackbird Leys.
- Note that further work is needed to verify this desk-based study with the picture "on the ground" and to understand quality of greenspace and the extent to which our existing greenspaces have the potential to positively influence health and wellbeing.

Source: Crockatt et al Oxfordshire's greenspace-deprived neighbourhoods (March 2024) GI Mapping Analysis (naturalengland.org.uk)

Area of Oxfordshire meeting none of the previous Natural England greenspace standards TVERC 2017



Area where no ANGSt requirements met

TVERC, 2017. Natural England's Accessible Greenspace Standard was released in January 2023 and replaces the previous version, the Accessible Natural Greenspace Standard (ANGSt). Key changes include the introduction of the Doorstep and Neighbourhood standards.

Nature – statistics and resources

- A narrative review of reviews of nature exposure and human health and well-being in the UK, Natural England March 2024
- Equity in access to urban nature "Out of Bounds" Groundwork May 2021
- The People and Nature Surveys for England - GOV.UK (www.gov.uk)
- Natural England Report on Nature Connectedness among Adults and Children in England March 2020. This report cites..
  - A Measure of Nature Connectedness for Children and Adults 2019 Sustainability | Free Full-Text | A Measure of Nature Connectedness for Children and Adults: Validation, Performance, and Insights (mdpi.com)
  - Nature contact, nature connectedness and associations with health, wellbeing and pro-environmental behaviours, April 2020 Nature contact, nature connectedness and associations with health, wellbeing and pro-environmental behaviours - ScienceDirect
- Green and blue infrastructure mapping Natural England https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Map.aspx
- Community Action Group network Oxfordshire https://www.cagoxfordshire.org.uk/
- Treescapes project https://insight.oxfordshire.gov.uk/cms/environment

3. Annex - Heatwave Risk Score Breakdown

Heatwave Risk Score Breakdown

- The table in this annex looks in greater detail at the risk scores for each ward, as calculated within the Atkins Report.
- Current risk to climate-related hazards have been assessed for heatwaves and flooding based on the interaction between hazard, exposure, and vulnerability to define overall risk. This is calculated as follows:

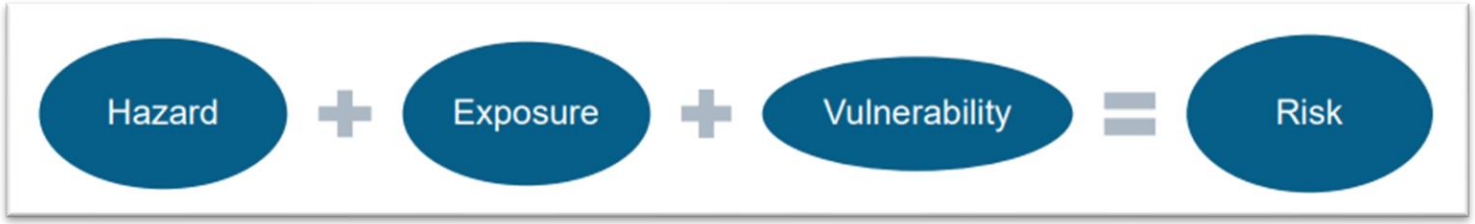


Figure 1 - Calculation of overall risk score

Source*:* Atkins SNC Lavalin. Oxfordshire County Council – Climate Resilience; Current and future climate risk and vulnerability and health impacts assessments in Oxfordshire, 2024.

Heatwave Risk Score Breakdown - Categories

- Within the main data pack, we have used the overall risk score to understand different levels of risk across the county, unless explicitly stated.
- For health, communities and built environment only, each element is ranked to create an overall hazard, exposure and vulnerability score which sums up to a heatwave and flooding current risk score across a 500m hex grid in Oxfordshire. For the purposes of the ward analysis below, Oxfordshire County Council has taken the average (mean) for these hex scores across a ward to provide an overall hazard, exposure, and vulnerability score for each ward. Scoring is defined as higher or lower hazard, exposure or vulnerability by the categories outlined in figure 2.

Figure 2 - Categories and severities of risk

Heatwave Risk Score Breakdown - Tables

Ward	Hazard score (0-5)	Exposure score (0-5)	Vulnerability score (0-5)
Abingdon Abbey Northcourt	4.9	1.6	3.5
Abingdon Caldecott	4.5	1.4	3.9
Abingdon Dunmore	4.5	1.6	2.7
Abingdon Fitzharris	4.6	1.8	2.7
Abingdon Peachcroft	4.6	1.6	2.5
Adderbury, Bloxham and Bodicote	2.4	1.5	3.1
Alvescot and Filkins	2.7	0.9	3.0
Ascott and Shipton	2.3	0.9	2.8
Bampton and Clanfield	3.2	1.2	3.3
Banbury Calthorpe and Easington	2.7	1.3	2.6
Banbury Cross and Neithrop	3.3	2.3	3.2
Banbury Grimsbury and Hightown	3.2	1.7	3.1
Banbury Hardwick	3.2	1.6	3.2
Banbury Ruscote	3.4	1.3	3.9
Barton & Sandhills	4.4	1.4	3.9
Benson & Crowmarsh	3.4	1.2	2.4
Berinsfield	3.6	1.1	2.8
Bicester East	4.2	1.6	2.9
Bicester North and Caversfield	3.3	1.3	3.3
Bicester South and Ambrosden	3.4	1.5	2.5
Bicester West	4.2	1.1	3.1

Heatwave Risk Score Breakdown - Tables

Ward	Hazard score (0-5)	Exposure score (0-5)	Vulnerability score (0-5)
Blackbird Leys	4.7	2.3	3.9
Blewbury & Harwell	3.0	0.8	2.8
Botley & Sunningwell	3.7	1.3	2.8
Brize Norton and Shilton	2.5	1.2	2.1
Burford	2.2	1.0	3.2
Carfax & Jericho	5.0	2.0	3.2
Carterton North East	3.6	1.4	3.4
Carterton North West	3.4	1.1	3.6
Carterton South	4.0	1.5	2.9
Chadlington and Churchill	2.3	0.9	3.3
Chalgrove	3.6	1.0	2.2
Charlbury and Finstock	2.6	1.1	2.1
Chinnor	3.3	1.1	2.9
Chipping Norton	2.5	1.4	3.2
Cholsey	3.2	1.0	2.5
Churchill	4.7	1.4	3.4
Cowley	4.9	1.5	3.3
Cropredy, Sibfords and Wroxton	2.3	1.2	2.2
Cumnor	3.7	1.3	2.9
Cutteslowe & Sunnymead	4.4	2.1	3.7
Deddington	2.4	1.3	2.4
Didcot North East	3.4	1.4	2.4
Didcot South	4.1	1.2	3.4
Didcot West	4.1	1.3	3.4

Heatwave Risk Score Breakdown

Ward	Hazard score (0-5)	Exposure score (0-5)	Vulnerability score (0-5)
Donnington	4.9	1.5	3.4
Drayton	3.2	1.0	2.6
Ducklington	3.1	1.2	3.0
Eynsham and Cassington	3.2	1.1	3.5
Faringdon	3.0	0.5	3.4
Forest Hill & Holton	3.4	1.1	2.5
Freeland and Hanborough	3.4	1.1	2.6
Fringford and Heyfords	2.8	1.0	2.7
Garsington & Horspath	3.6	1.2	2.5
Goring	3.2	1.4	2.6
Grove North	2.8	1.1	3.6
Hailey, Minster Lovell and Leafield	2.9	1.4	2.4
Haseley Brook	3.4	1.2	2.8
Headington	4.9	1.5	3.2
Headington Hill & Northway	4.7	1.6	2.8
Hendreds	2.8	0.7	2.8
Henley-on-Thames	4.1	1.3	3.1
Hinksey Park	3.9	1.8	3.1
Holywell	4.2	2.8	3.5
Kennington & Radley	3.8	1.4	2.4
Kidlington East	3.8	1.2	3.1
Kidlington West	3.9	1.3	2.8
Kidmore End & Whitchurch	3.4	1.7	2.2
Kingham, Rollright and Enstone	2.2	1.2	2.9

Heatwave Risk Score Breakdown

Ward	Hazard score (0-5)	Exposure score (0-5)	Vulnerability score (0-5)
Kingston Bagpuize	3.2	1.1	2.8
Launton and Otmoor	3.3	1.0	2.6
Littlemore	4.8	1.3	3.7
Lye Valley	4.5	1.4	3.5
Marcham	3.7	1.2	3.2
Marston	3.9	2.0	3.3
Milton-under-Wychwood	2.2	1.0	3.3
North Leigh	3.0	1.4	2.7
Northfield Brook	4.7	1.5	4.4
Osney & St Thomas	3.6	1.6	3.4
Quarry & Risinghurst	4.6	1.5	3.4
Ridgeway	2.5	0.7	3.4
Rose Hill & Iffley	4.6	1.4	3.7
Sandford & the Wittenhams	3.5	1.2	2.5
Sonning Common	3.8	1.6	2.9
St Clement's	4.0	1.5	3.0
St Mary's	4.4	2.1	3.2
Standlake, Aston and Stanton Harcourt	3.3	1.1	2.5
Stanford	2.7	0.7	3.3
Steventon & the Hanneys	2.8	0.9	3.2
Stonesfield and Tackley	2.6	1.1	2.7
Summertown	4.4	1.8	3.3
Sutton Courtenay	3.4	1.8	2.8

Heatwave Risk Score Breakdown

Ward	Hazard score (0-5)	Exposure score (0-5)	Vulnerability score (0-5)
Temple Cowley	4.2	1.9	3.3
Thame	3.6	1.2	3.2
Thames	3.3	0.8	2.7
The Bartons	2.5	1.1	2.8
Wallingford	4.0	1.6	3.2
Walton Manor	4.8	2.1	3.0
Wantage & Grove Brook	3.1	0.9	3.0
Wantage Charlton	2.8	1.1	3.6
Watchfield & Shrivenham	2.6	0.8	3.2
Watlington	2.8	1.1	2.9
Wheatley	4.0	1.3	2.3
Witney Central	4.1	1.3	4.1
Witney East	3.8	1.6	3.5
Witney North	4.2	1.4	2.7
Witney South	4.3	1.3	3.6
Witney West	3.9	1.5	3.1
Wolvercote	4.1	1.4	3.1
Woodcote & Rotherfield	3.0	1.6	2.3
Woodstock and Bladon	3.5	0.9	2.3
Wootton	3.9	2.0	2.4