

Bury Council

Draft Climate Action Strategy

(Text only version)

We want Bury to be carbon neutral by 2038 to clean the air, protect our environment, and care for the health and wellbeing of our communities

Let's do it...

- For our planet
- For each other
- For future generations

Foreword

Bury is a great place to live and work, but we recognise that climate change presents a significant challenge to the health and wellbeing of our communities.

We must take responsibility now to protect ourselves, our children and our grandchildren from the dangers of climate change. In 2019 Bury council declared a climate emergency and we have set an ambitious target to be carbon neutral by 2038. This target presents a major challenge, but we must be ambitious to protect ourselves and our families from the danger and disruption we face.

Climate change is a long lasting and universal problem that will affect everyone and those most impacted will be our most vulnerable residents. It will be the young people who will have to deal with our legacy into the future and we owe it to them to take the drastic action required.

This strategy document lays out the extent of the challenge ahead and the step change needed to tackle this issue. One thing is certain – the council can't work on this alone and we will need to work closely with our residents and businesses if we are to be effective. We need everyone to play their part and this Strategy and Action Plan will be the first step. From here we will work with the communities in each of our neighbourhoods and townships to ensure the Action Plan is implemented and we progress towards our 2038 target.

The cost of not doing enough is high but the challenge we face brings a huge opportunity to improve our health, economy and our environment. We know that the people and businesses of Bury have the necessary spirit and

determination to face this challenge head on and that by working together we can achieve the level of change we need to protect our future.

Councillor Alan Quinn,

Cabinet Member for Environment and Climate Change

Executive Summary

If you read nothing more...

To tackle our climate emergency, we need to step up our actions to cut carbon emissions drastically. Failure to act will have huge costs to the health and wellbeing of our communities. The recent flooding events in our borough have shown the impacts that extreme weather events can have on residents and businesses. On the flip side – if we do the right things, we can reap the rewards that a pleasant, healthy environment and a growing green economy can bring.

This Climate Action Strategy and the adjoining Climate Action Plan outline that we must achieve the following:

- Deep fast cuts in carbon to achieve our target of carbon neutrality by 2038
- Recognise that climate change is happening, and the impacts are with us now
- Make changes now before we are hit with greater extremes of weather
- Be better adapted to extreme weather patterns

To make progress we must see:

- A swift reduction in demand for energy across all sectors, businesses, and households
- A complete switch to clean zero carbon energy sources by 2038
- A complete shift to fossil fuel free local travel by 2038
- Effective action from Government to enable the scale of change required; we can only go so far at the local level

- Wiser decisions in our lifestyles so we don't add to national and global carbon emissions. This will mean changes in our diets, a reduction in waste and more careful choices about what we buy and how we live and work
- More trees and woodland to collect carbon naturally
- A better understanding of climate risks and the actions we must take
- Increased investment to meet the scale of our challenge
- Strong partnerships with our community to help us meet this challenge and drive progress

Working together we can have a much bigger impact. Everyone can play their part and must commit to develop their own plan of action to safeguard our future.

Contents

- Foreword2
- Executive Summary4
- Acronyms and Terms8
- Chapter 1: Introduction..... 10
- Chapter 2: Our Vision 13
- Chapter 3: Bury’s Carbon Emissions 17
- Chapter 4: Carbon Neutrality 20
- Chapter 5: Priority Actions Areas 25
 - 5.1 Our Energy Supply 26
 - 5.2 Our Homes, Workplaces and Public Buildings 28
 - 5.3 Low Carbon Travel 31
 - 5.4 The Things we Buy and Throw Away..... 34
 - 5.5 Food..... 37
 - 5.6 Our Natural Environment 39
 - 5.7 The Green Economy 42
 - 5.8 Environmental Justice..... 46
 - 5.9 Climate Resilience & Adaptation 48
 - 5.10 Putting Climate Change at the Heart of the Council 51
 - 5.11 Carbon Offsetting 53
- Chapter 6: Engage and Empowering our neighbourhoods 54
- Chapter 7: Challenges and Risks 61
- Chapter 8: Conclusions 66

References67

Acronyms and Terms

Below are several terms used throughout the Climate Action Strategy that may be ambiguous or require explaining

- **Air source heat pumps:** An air source heat pump is usually placed outdoors at the side or back of a property. It takes heat from the air and boosts it to a higher temperature using a heat pump. This heat can then be used to heat radiators, underfloor or warm air heating systems and hot water in your home. The pump needs electricity to run, but it should use less electrical energy than the heat it produces.
- **Climate emergency:** The climate is the long-term pattern of day-to-day weather. Our food and water supplies depend on stable seasonal patterns of temperature, rain, and wind in the UK and elsewhere. In the last 100 years the earth's average temperature has increased faster than previously seen. Bury Council declared a climate emergency in 2019.
- **Ecological Enhancement Areas:** Locations where an opportunity exists for improvements that will improve the functioning of ecological networks/wildlife corridors.
- **Greenhouse Effect:** The trapping of the sun's warmth in a planet's lower atmosphere, due to the greater transparency of the atmosphere to visible radiation from the sun than to infrared radiation emitted from the planet's surface.
- **Greenhouse gases:** A gas that contributes to the greenhouse effect by absorbing infrared radiation. Carbon dioxide and chlorofluorocarbons are examples of greenhouse gases.
- **Ground source heat pumps:** Ground source heat pumps use pipes that are buried in the garden to extract heat from the ground. This heat can then be used to heat radiators, underfloor or warm air heating systems and hot water in your home.

- ktCO_{2e}: The number of metric kilotons of CO₂ emissions with the same global warming potential as one metric ton of another greenhouse gas.
- Passivhaus standard: Passivhaus buildings provide a high level of occupant comfort while using very little energy for heating and cooling. They are built with meticulous attention to detail and rigorous design and construction according to principles developed by the Passivhaus Institute in Germany and can be certified through an exacting quality assurance process.
- Sites of Biological interest: Sites of Biological Importance is the name given to the most important non-statutory sites for nature conservation in Manchester and provides a means of protecting sites that are of local interest and importance
- The Tyndall Centre: The Tyndall Centre for Climate Change Research is an organisation that brings together scientists, economists, engineers and social scientists all working within the field of climate change, global warming and sustainable development.
- UN IPCC The UN's Intergovernmental Panel on Climate Change is an intergovernmental body that is dedicated to providing the world with objective, scientific information relevant to understanding the scientific basis of the risk of human-induced climate change.

Chapter 1: Introduction

Why do we need a Climate Action Strategy?

Over the last 50 years the average global temperature has increased at the fastest rate in recorded history and the trend is accelerating. 2019 was the second warmest year on record after 2016^[1].

When sunlight reaches the earth some of the energy is absorbed on the surface and reradiated as infra-red energy that we call heat. This goes back into the atmosphere where greenhouse gases such as carbon dioxide (CO₂ often referred to as carbon) trap this heat and send it back out in all directions. This natural process stops our planet from being cold and is known as the Greenhouse Effect.

Human activities, in particular the burning of fossil fuels for electricity, heating and transport are changing the balance of the Greenhouse Effect. This is because we are emitting more greenhouse gases, especially carbon dioxide. The increase in these gases, which can last for years to centuries in the atmosphere, means we are trapping even more heat and causing the planet to get hotter.

These rising temperatures are now altering the global climate resulting in longer and hotter heat waves, more frequent droughts, heavier rainfall, rising sea levels and more powerful storms and hurricanes. This is seen in the retreat of glaciers, melting of ice, loss of habitats, floods, droughts and fires around the world. As the world population suffers more extreme weather, we will see more famines and mass migration as impacted people flee from the worst effects. As the frequency and scale of impacts increases the threat becomes critical.

International response

The 2018 UN Intergovernmental Panel on Climate Change (IPCC) special report ^[2] on the impacts of global warming report describes the enormous harm that a 2°C rise in global temperatures is likely to cause compared to a 1.5°C rise. The report went on to say that, limiting Global Warming to 1.5°C might still be possible with ambitious action from local communities.

In December 2015, The Paris Climate Agreement (COP21) was made between nearly 200 countries to cut greenhouse gas emissions in an attempt to limit the rise in global temperatures to less than 2°C ^[3]. This deal united all the world's nations in a single agreement on tackling climate change for the first time in history.

In summary, the Paris Agreement intends:

- To keep global temperatures "well below" 2.0C (3.6F) above pre-industrial times and "endeavour to limit" them even more, to 1.5C.
- To review each country's contribution to cutting emissions every five years so they scale up to the challenge.

In November 2021, the UK will host COP26 in Glasgow. It is expected that this conference will usher in the next phase of international climate negotiations ^[4].

UK response

The UK was one of the first countries to recognise and act on the economic and security threats of climate change. The Climate Change Act ^[5], passed in 2008, committed the UK to reducing greenhouse gas emissions by at least 80% by 2050 when compared to 1990 levels. In 2019, the government announced a new plan to cut greenhouse gas emissions in the UK to net zero by 2050 and in 2020 added an interim target to reduce emissions by 68% (on 1990 concentrations) by the end of the decade.

Greater Manchester response

In 2019, the Greater Manchester Combined Authority produced a 5 Year Environment Plan for Greater Manchester ^[6] which lays out how the city region will progress to carbon neutrality by 2038. Our Bury Climate Action Strategy is designed to be consistent with and link directly to this plan.

Greater Manchester vision

The 5 Year Environmental Plan for Greater Manchester states that:

"We want Greater Manchester to be clean, carbon neutral, climate resilient city region with a thriving natural environment and circular zero waste economy where:

Our infrastructure will be smart and fit for the future, will have an integrated clean and affordable public transport system, resource efficient buildings, greater local community renewable energy, cleaner air, water and greenspace for all

All citizens will have access to green space in every community, more trees including in urban areas, active travel networks, environmental education, and healthy and locally produced food

Citizens and businesses will adopt sustainable living and business practices focussing on local solutions to deliver a prosperous economy"

Chapter 2: Our Vision

Bury

Bury is one of the ten metropolitan boroughs that make up Greater Manchester. Situated north of Manchester City Centre, Bury is a mixture of urban, suburban, and rural areas.

Bury consists of six townships that are organised into five neighbourhoods North (including Ramsbottom and Tottington), Bury East (including Bury), Bury West (including Radcliffe), Prestwich and Whitefield.

Despite being one of the smallest Local Authorities, with a population of 190,000 and an area of 100km², we have a highly diverse population and therefore there is considerable opportunity to introduce a far-reaching and inspirational agenda that is well tailored to the local neighbourhoods.

Effects of climate change on Bury

According to the National Trust's Climate Hazard Map ^[7], by 2060, Bury will have a very high risk of overheating and high humidity (Prestwich & Whitefield); high risk of storm damage (entire Borough); and high risk of slope failure (Ramsbottom).

The effects of climate change are already being felt around Bury and human health and life is being put at an ever-greater risk with increasing flood risk and summer heatwaves becoming more common.

Bury Council's response

A key finding of the UN Emissions Gap ^[8] report is that local action plays an important role in delivering national pledges. In July 2019 Bury Council responded to this climate crisis by declaring a Climate Emergency ^[9] and we have set a challenging and ambitious target to be carbon neutral by 2038.

We need to be part of a journey to protect our environment and the health and wellbeing of our communities. We know that we urgently need a step change to wean ourselves off our reliance on fossil fuels and our unsustainable consumption habits. We need to play our crucial part in tackling this global climate and ecological emergency.

The Council are already looking at incorporating a move towards carbon neutrality in its processes and strategies. The Council has signed up to the UNFCCC's Race to Zero campaign ^[10], highlighted carbon neutrality in the Bury 2030 Strategy ^[11] and included sustainable considerations in the borough's new Housing Strategy ^[17].

The recent impact of the coronavirus pandemic provides an opportunity to "reset" society and build a new model that reflects the needs of the climate emergency. As our lockdown loosens, new travel patterns and modes of living will emerge, and we must seize this opportunity to make a change that is positive for our environment.

We need a model which allows us to thrive while respecting the wellbeing of all people and the planet we live on. Our response to the recovery from COVID-19 could be the catalyst we need to make the radical change required to protect our communities from the dangers of climate change.

As the economist Kate Raworth says in her book, "Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist":

"We live in a world that is complex, deeply interconnected where human health and planetary health are woven into one. So, governments need frameworks and ways of thinking that can hold that complexity that can think about climate, health, jobs, financial stability and inequality in one space"^[12].

What does success look like?

In order for us to meet our carbon neutral target the following will need to happen:

- Emissions from gas boilers and vehicles are eliminated
- Buildings in the borough are carbon neutral
- Local communities are engaged and understand the climate emergency
- The public and private sector look to rapidly decarbonise their operations with support from the Council and national Government
- Renewable heat and power generation in the borough is maximised
- Any remaining electricity needs are sourced from certified renewable or zero carbon sources
- Any outstanding emissions are captured through carbon offsetting such as tree planting or investing in renewable energy production
- The borough's green and blue spaces are further incorporated into the urban setting encouraging sustainable use and biodiversity
- We have a thriving green sustainable business sector

Our Seven Key Principles

The challenges and opportunities we face require us all to take urgent, collective action. To reflect this approach our strategy is underpinned by the following principles which will be embedded in our approach and reflected in this document:

1. Urgent action from all of us - there is a need for urgent action from everybody who lives and works in Bury from our young people to our older people. All six townships can bring their own unique qualities to develop and deliver effective actions
2. Setting our objectives and targets in line with the latest science and the Paris Agreement

3. To “build back better” following the upheaval of the impact of the coronavirus pandemic to deliver growth and development that is zero carbon and resilient to the changing climate
4. Everyone who lives and works in Bury enabled to act through support, incentives, standards and infrastructure provided by Bury Council, our strategic partners, Greater Manchester Combined Authority, UK Government and their agencies.
5. Ensuring social justice is at the heart of our approach
6. Protecting the health and wellbeing of our community
7. Contributing to Greater Manchester, UK and international commitments

Chapter 3: Bury's Carbon Emissions

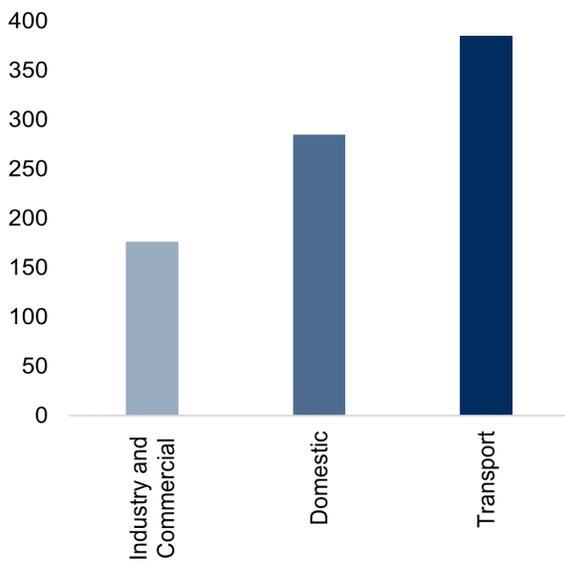
Where do our emissions come from?

There are three main sources of CO₂ or carbon emissions that we as a community are responsible for or which we have influence over:

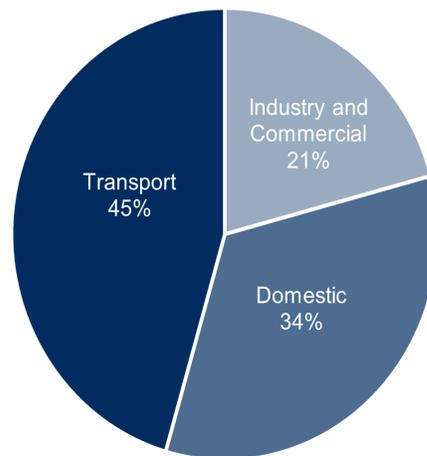
- **Direct emissions:** Includes activities such as burning gas in boilers, or petrol or diesel in vehicles or plant equipment. These are relatively easy to measure and therefore monitoring progress is straightforward.
- **Indirect emissions:** Includes using electricity generated in another location where emissions will be from the sources of energy used by the national grid at the time i.e., gas and coal. Again, these are relatively easy to measure and therefore monitoring progress is straightforward.
- **Consumption based emissions:** A type of indirect emissions resulting from the things we buy and ultimately dispose of for example food, clothes, phones, furniture, and construction materials many of which are produced outside our town. These emissions are more complex and difficult to measure as many of the goods used in Bury are imported from other areas and other countries via complex transport networks and storage systems. Although we can't measure them, they are an important source of our emissions globally and it is vital we take action to reduce them.

Bury's direct and indirect emissions from gas, electricity and other fuel usage was 844.5ktCO₂ in 2018. This figure is taken from the latest available data produced by the Government ^[14]. As shown in the graphs, transport accounts for the largest proportion of emissions in the Bury area, followed by the domestic sector.

A significant proportion of the carbon emissions from transport will be from motorways and these are outside our local control. However, transport is the biggest source of greenhouse gases in the UK and emissions continue to grow. The “Transport for Quality of Life” report suggests that in order to deliver the greenhouse gas reductions needed, we will be required to reduce car use by between 20-60% depending on factors such as the speed with which we switch to electric vehicles [15].



Bury's Emissions in ktCO₂ (2018) by Sector



Total Percentage of Bury's Emissions (2018)

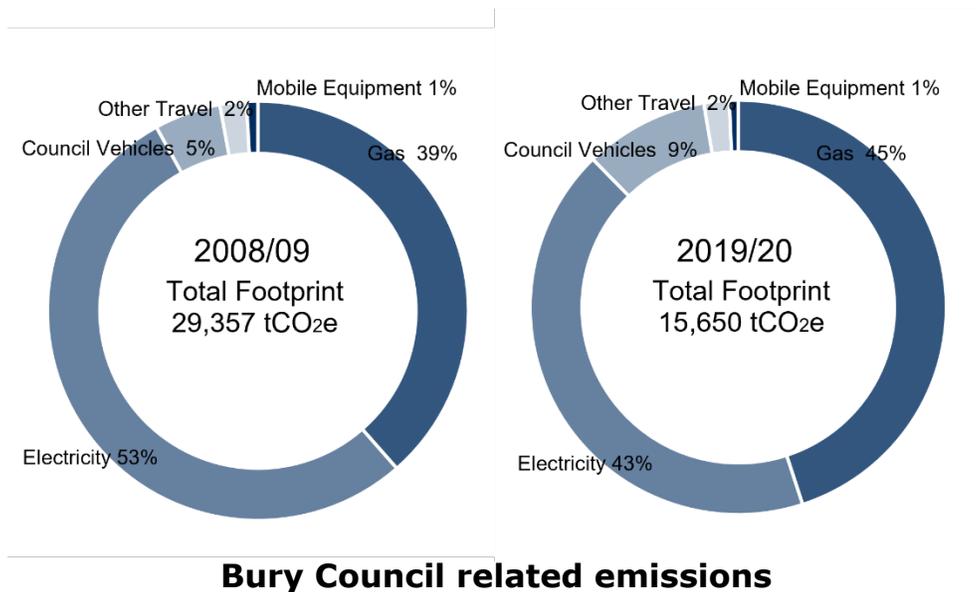
Bury Council's own emissions

From 2008/9 to 2019/20 we have seen Council related emissions reduce by 47%. The figure below shows where our measured emissions come from and we can see that gas use in our building's accounts for the most emissions, with electricity use close behind. Our vehicles were responsible for 9% of measured emissions in 2019/20 and this has grown since 2008/09. Our total

footprint is now 15,650 tCO₂e, down from 29,357 tCO₂e. Council emissions represent only 2% of Bury's borough-wide emissions total [13].

This shows that the council only has direct control over a very small proportion of the total emissions of our borough.

This footprint does not take into account the carbon emissions from our consumption, which is very difficult to represent, but from research conducted, we can assume that this would add a significant amount to our emissions total and could represent as much as 60% of our total emissions [28].



Chapter 4: Carbon Neutrality

What do we mean by “carbon neutral?”

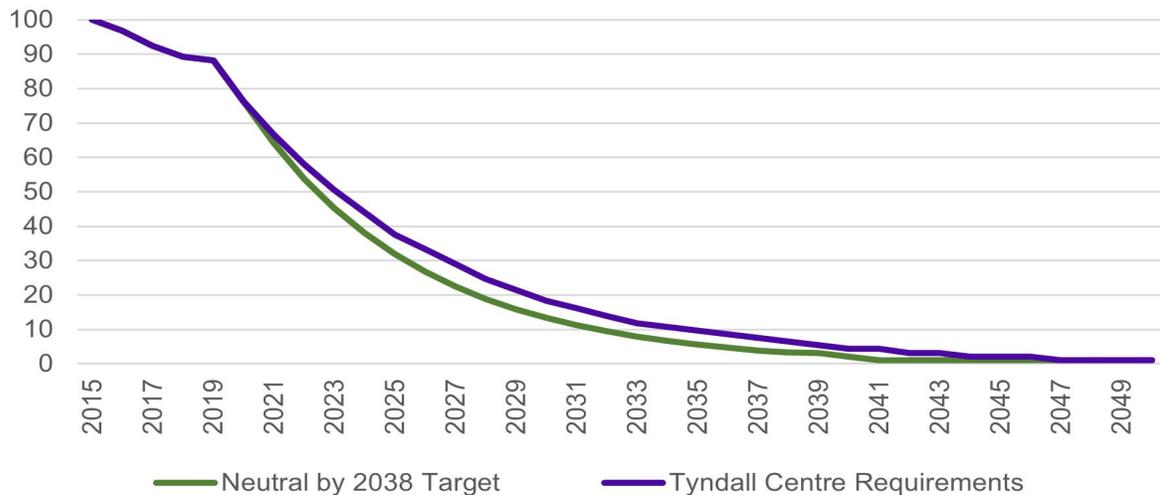
Bury have set a target to be carbon neutral by 2038, but what do we mean by carbon neutral? It is accepted that at the current time it is very difficult to see how an absolute zero target could be reached. We are always likely to have some residual emissions of carbon or other greenhouse gases. To deal with this, agencies have been setting carbon neutral or net zero carbon targets which means we are likely to have a small percentage of carbon emissions remaining, but these will be offset using means such as programmes of carbon absorption through planting trees or renewable energy generation.

Carbon neutrality in Bury’s case refers to reducing carbon emissions resulting from gas, electricity, and vehicles used in our communities. It does not consider the emissions associated with consumption as this is too complex to accurately account for. However, as pointed out the emissions from consumption are significant and it is vital that in meeting our carbon neutral target, we take effective steps to reduce these.

Carbon budget

A carbon budget is a set amount of carbon emissions we are allowed to emit in order to meet the targets we have set.

The Paris Agreement ^[3] adopted in 2015 has the goal of keeping global temperature rise this century to below 2c above pre – industrial levels and pursuing efforts to limit the temperature increase even further to 1.5c.



Comparison Between Bury’s Pathway to 2038 Carbon Neutrality vs The Tyndall Centre’s Prediction to Meet Paris Agreement Requirements (% Reduction in Relation to 2015 Concentrations)

The Tyndall Centre have produced Carbon Budget ^[18] reports for each Local Authority which show an appropriate carbon reduction trajectory which will allow the council area to make a fair contribution towards the Paris Agreement Commitment. The carbon budget report also provides a suggested long term carbon budget to ensure a fair contribution is made. It is important to note that these pathways look at energy-only related budgets and do not include indirect emissions from consumption.

The Tyndall Centre indicate that in order for Bury to meet their obligations under the Paris Agreement we have a total carbon budget of 5.4Mt from 2020 until the end of this century i.e., to 2100. They suggest that in meeting our obligations we will become net zero carbon by 2042. In order to meet our carbon neutral target, we will need to exceed the Tyndall Centre projections. The Tyndall Centre define net zero carbon as having used 95% of the recommended carbon budget.

The graph above shows a comparison of the Tyndall Centre's suggested pathway to comply with obligations under the Paris Agreement compared with a possible pathway for Bury to achieve carbon neutrality by 2038.

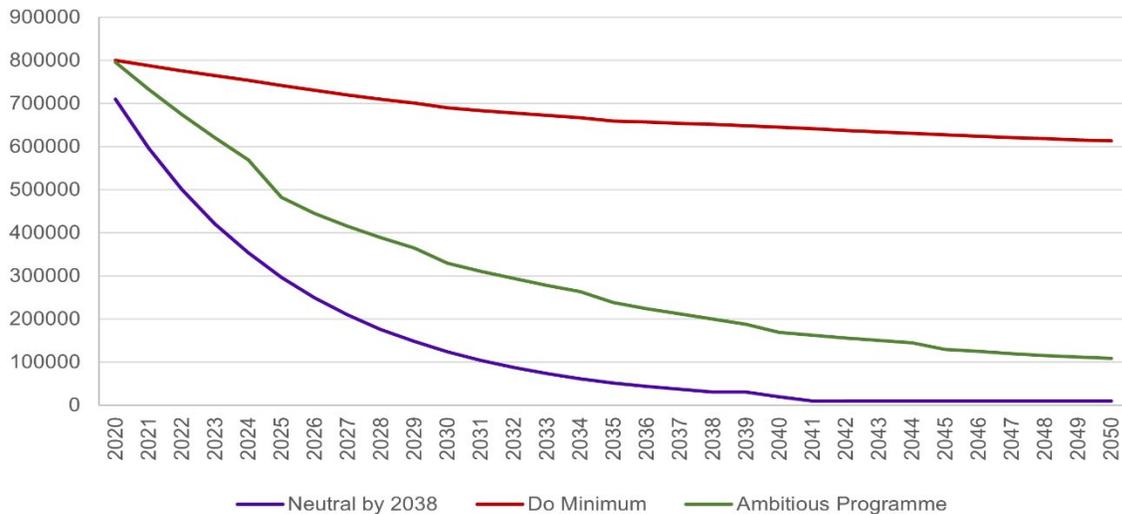
Potential pathways

To help inform the approach we should take and to demonstrate the extent of the challenge we face we have used the SCATTER emissions tool ^[19]. This tool predicts how much we are likely to reduce our emissions if we take specific levels of action.

The graph below sets out the potential SCATTER carbon reduction pathways for Bury against Bury's required pathway to carbon neutrality by 2038.

Do Minimum: Assumes minimal action beyond current national policy and nationally led decarbonisation of the national grid. This will still require a significant level of effort locally. We can see that emissions are 20 times what they should be to meet our carbon neutral target in 2038.

Ambitious Programme: Assumes that the region goes significantly beyond national policy and grid decarbonisation across both energy supply and demand measures. We can see that the emissions are over 5 times more than they should be for our own carbon neutral targets in 2038.



Potential Carbon Reduction Pathways for Bury in tCO₂e

Using these pathways to inform our plans

SCATTER has its limitations and is a theoretical model of possible carbon reduction pathways and cannot account for all the practical and commercial constraints we have locally. However, the main value of the model is to show the scale of change required.

From the graph above we can see that the necessary reductions to meet our target will be extremely challenging requiring unprecedented transformational change and financial investment. Turning these scenarios into reality requires immediate radical actions over the next five years and beyond. Despite the challenge of achieving reductions, it is important for us to maintain the drive and ambition to do what’s needed to make our fair contribution to tackling climate change.

Going further and closing the gap

As is shown above, to meet our carbon neutral targets we need to do much more than the “Ambitious Programme” pathway. This will require innovation in technology, delivery or financing/funding which could include:

- An increase in the efficiency of renewable energy generation technology such as in solar photovoltaic panels or onshore wind turbines
- A more significant scale up in delivery of deep retrofit homes reaching a higher standard i.e., Passivhaus standard or equivalent
- Greater reduction for heating demand in commercial buildings beyond that currently supported by evidence
- Locally we must work with the Greater Manchester Combined Authority, academic institutions and other enterprises to help stimulate the innovation and development we need to fill the gap to meet our carbon neutral targets.

Chapter 5: Priority Actions Areas

Our 11 Priority Action Areas:

1. Our Energy Supply
2. Our Homes, Workplaces and Public Buildings
3. Low Carbon Travel
4. The Things we Buy and Throw Away
5. Food
6. Our Natural Environment
7. The Green Economy
8. Environmental Justice
9. Climate Resilience and Adaptation
10. Putting Climate Change at the Heart of Council Action
11. Carbon Offsetting

5.1 Our Energy Supply

- Objective: To generate and source all our local energy needs from zero-carbon and renewable sources by 2038

In the UK, the carbon intensity involved in generating our electricity has fallen by 63% since 2012 and we expect it to continue its decline over the coming years ^[20].

Wind and solar are on a continual upward trend as coal and oil are increasingly phased out across the UK. The Climate Change Committee predict that by 2025 wind and solar will account for 50% of our electricity and this will continue to increase as technology improves ^[21].

As the technology improves, we can expect new fuels to be developed and we as a society can anticipate a move away from a centralised grid and towards more local production of electricity, improving efficiency and reliability.

The three main aspects to this area are:

1. Increasing local renewable generation of electricity by solar, hydro and wind.
2. Encouraging private properties to choose renewable energy sources.
3. Decarbonising how we heat our buildings by replacing gas boilers with air or ground source heat pumps or heat networks.

Where are we now vs where we need to get by 2038

- Renewable energy generation
 - Now: 15MW of renewable energy generated in Bury ^[22]
 - By 2038: 47MW of renewable energy generated ^[22]
- Public building energy sources
 - Now: 30.7% of the Council's purchased electricity comes from renewable sources ^[23]

- By 2038: 100% of the Council's purchased electricity to come from renewable sources

What is Bury Council Doing? - Decarbonising Public Buildings

Bury Council has been awarded £8.5 million to install heat pumps and solar PV systems in several Council buildings across the borough. This is a fantastic opportunity for us to audit our buildings and make infrastructural improvements in order to reduce energy and financial waste ^[50]

What We Need from National Government

Bury Council can only do so much, we need assistance from national government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- Policy and attractive incentives to encourage renewable energy generation.
- Work with local agencies to develop suitable means for making renewable heating systems accessible and attractive to our communities.
- Improvements in financial benefits and motivations.
- Further investment in relevant technology.
- UK-wide schemes increasing employment in relevant industries.
- Further funding allowing Local Authorities to take stronger action.

5.2 Our Homes, Workplaces and Public Buildings

- Objective: To ensure all our buildings are carbon neutral by 2038

Energy use in buildings is a significant contributor to carbon emissions. Domestic energy use accounts for over 40% of the UK's total demand for energy ^[24]. In simple terms in order to eliminate carbon emissions from our buildings we will have to:

- Replace gas heating and cooking facilities with electric alternatives.
- Maximise the energy efficiency of buildings through insulation and retrofit of fittings like lighting.
- Maximise on site renewables (see previous section).
- Purchase any remaining electricity needs from renewable sources.

34% of Bury's total emissions come from domestic households ^[19], however, only 10% of properties in Bury are directly controlled by the council ^[17]

To be successful we will need to persuade homeowners and landlords to upgrade their insulation and to convert their heating to a renewable system such as ground or air source heat pumps.

There are currently low levels of domestic and non-domestic retrofitting taking place in our borough, the exceptions being registered housing providers and a handful of proactive homeowners. This is a result of lack of knowledge and demand for retrofitting, very low access to funding (including grants and low-cost loans), lack of local skills and supply chain, and a lack of financial incentives and business models to make investment in retrofit stack up for homeowners and landlords.

As part of Bury Council's Carbon Action Strategy we must ensure that new developments in the borough do not eat into our limited carbon budgets and add to our already significant retrofit challenge. We therefore need all new build to be built and operated to zero carbon standards as soon as possible.

Where are we now vs where we need to be by 2038

- Improved insulation
 - Now (2021): 9782 households (12% of total households) installed measures under ECO between 2013 and March 2019 ^[19]
 - Now (2021): Friends of the Earth estimate that only 30% of homes in Bury are well insulated ^[22]
 - Now (2021): The council have delivered a number of projects to improve the energy performance of our domestic sector including £11million of Warm Front grants, Toasty Bury, Local Energy Advice Programme (offering free advice).
 - By 2038: Friends of the Earth suggest we need to upgrade insulation in 5750 homes per year ^[22]
 - By 2038: From 2021, 100% new-build properties are built to Passivhaus or equivalent standard ^[19]
- Decarbonisation of heat
 - Now (2021): 95% of houses are connected to the gas grid ^[19]
 - Now (2021): Renewable Heat Incentive has accredited 61 domestic installations for renewable heat systems within Bury ^[16]
 - By 2038: 94% of housing stock has a new non-gas heating system ^[19]
 - By 2038: Most of the heat will be provided by heat pumps (90%) with the rest taken up by district heating and resistive heating ^[19]
 - By 2038: Friends of the Earth estimate we need to install 3353 eco-heating systems per year ^[22] (as of March 2021)

What We Need from National Government

Bury Council can only do so much, we need assistance from national government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- Deliver suitable schemes with attractive incentives for home and business owners to encourage them to make their properties carbon neutral
- Provide direct funding to local councils to allow them to design and deliver a strategic approach to making local properties carbon neutral
- Regularly review and upgrade minimum energy efficiency standards for commercial and domestic properties and provide Local Councils with adequate resources to enforce
- Establish a national zero carbon definition and methodology for its implementation which could be implemented as quickly as possible through our planning and building control system
- Bring forward the target date of a decarbonised electricity grid from 2050 to 2038
- Develop with Greater Manchester innovative finance and delivery mechanisms to retrofit homes and commercial buildings

5.3 Low Carbon Travel

- Objective: A complete transition to fossil fuel free local travel by 2038

We need to improve our air quality and reduce CO₂ emissions produced by the way we, and the goods we use, travel within our borough. Compared to the power sector emissions from transport remain stubbornly high ^[19].

Improvements in vehicle emissions standards have not delivered expected benefits in “real world” conditions. Cars still dominate over public transport, walking and cycling.

The global challenge presented by the COVID-19 pandemic has forced us to embrace new patterns of living including working from home, shopping locally, reduced car use and turning more to walking and cycling. We are presented with a huge opportunity to build on this to make lasting change. As lockdown loosens it is possible for new travel patterns to emerge, but it is vital that we shape these patterns to ensure that the car does not become the default mode for socially distanced transport. This will require us to seize the current mood and do everything we can in our communities to make walking and cycling a safe attractive option.

In addition to releasing CO₂, fossil fuel-based transport is preventing us from meeting air quality targets for the pollutant nitrogen dioxide and as a result we have received a direction from the government to take action to meet these targets in the shortest time possible ^[25]. During late 2020 we carried out a consultation on the proposed Greater Manchester Clean Air Plan proposals to gather thoughts on a proposed Clean Air Zone for the more polluting commercial vehicles. It is proposed that The Clean Air Zone is accompanied by supporting funding to help local businesses to upgrade their vehicles.

Public transport in the area is continually improving and the new metro stops along the Bury-East Didsbury metro line will help further intra-connect Bury as well as inter-connect to further afield.

Through improvements to public and active travel, co-benefits relating to health and environment can be expected.

Although not in our Borough we recognise that Manchester International Airport is a significant source of emissions in our city region and provides a valuable service for our communities in relation to the movement of freight and also for holidays and business travel. It is vital that we take any action we can to ensure that the emissions from our local airport are fully aligned with the Paris Agreement.

Where are we now and where do we need to get by 2038

- Modal shift
 - Now (2021): 13% commute by public transport, 1% cycle and 9% walk (total 23%) ^[22]
 - By 2038: We need 60% to commute by public transport, cycling or walking ^[22]
- Shift to zero emission cars
 - Now (2021): 424 plug-in vehicles registered in Bury ^[19]
 - Now (2021): 24 charge points within Bury ^[22]
 - Now (2021): Majority of goods are moved by road (87%) in diesel HGVs and LGVs (vans) ^[19]
 - By 2038: Cars and buses are 100% electric ^[19]
 - By 2038: A minimum of 108 charge points ^[19]
 - By 2038: Carbon emission free freight would be ideal but at a minimum we need to see 22% decrease in distance covered by freight and 75% increase in efficiency ^[19]

What We Need from National Government

Bury Council can only do so much, we need assistance from national government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- More powers and long-term sustainable funding to deal effectively with air quality, congestion, improving public transport
- £1.5billion of investment in walking and cycling infrastructure across GM to deliver the “Made to Move” vision of cycle routes on every corridor ^[26]
- A fully devolved long term infrastructure budget for Greater Manchester as recommended in the National Infrastructure Assessment
- Facilitate the trialling of tram-trains to enable substantial expansion of the rapid transit network
- Fund pilot schemes to encourage use of shared transport schemes e.g., car clubs etc
- Pilot low carbon alternatives for HGVs and heavier vehicles such as hydrogen
- Support to tackle emissions from aviation

5.4 The Things we Buy and Throw Away

- Objective: To buy, use and dispose of goods in a sustainable way so that our collective decisions do not add indirectly to the burden of climate change, damaging pollution in Bury or elsewhere

Whilst many of the things we buy are produced outside Bury we have a responsibility for the carbon footprint of the things we buy and throw away. These consumption-based emissions are very difficult to measure but research by Berners-Lee et al ^[27] are almost equivalent to the direct emissions that we measure for our targets and budget setting. This therefore is a largely unseen but nevertheless massively important source of greenhouse gases.

The damage done to our environment caused by waste products can be avoided if more sustainable decisions are made at the production stage. We need to change the way that we as consumers treat end of life products. Our consumption habits form a large part of our carbon footprints and therefore there is a large scope of options in how we can improve.

As well as individual action we also need to work with industry to encourage a more circular, sustainable and resource-efficient business models. We need industry to use more sustainable materials and make sure that their manufacturing processes maximise both resource and energy efficiency. Fly-tipping is also a persistent issue, and we need local businesses as well as individuals to fully consider their waste processes.

The Council and the public sector should lead the way in terms of what we buy and throw away and incorporate sustainable methods and ideas into our procurement practices. This is a key opportunity to enable a fairer way of providing work in terms of our local community as well as the environment.

As we emerge from the COVID-19 related lockdowns; now is an excellent moment to reassess our current high levels of consumption and instead look towards re-use and recycling and repairing rather than throwing away.

Where are we now and where do we need to get by 2038

- Reduce our consumption-based emissions
 - Now (2021): These emissions are very difficult to assess with any accuracy. However, research estimates that consumption-based emissions represent about 45% of our total greenhouse gas emissions ^[28]. More work should be carried out to understand Bury's role in consumption-based emissions and what effective interventions should be taken.
 - By 2038: Although we can't measure progress very easily, we must take action wherever we can to reduce waste and source food which is more sustainably produced.
- Waste reduction
 - Now (2021): Bury council collected 60,913 tonnes of household residual waste and 34,111 tonnes of that amount was recycled (2019/20) ^[29]
 - By 2038: We must reduce the total waste collected to 36,445tonnes ^[19]
- Increased recycling
 - Now (2021): Bury Council recycled 56% of household waste in 2019/20. If all appropriate waste was recycled in Bury, we would have achieved a rate of 70% ^[29].
 - By 2038: 85% of commercial and household waste goes to recycling ^[19]

What We Need from National Government

Bury Council can only do so much, we need assistance from national government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- To use the recovery following Covid-19 to build a more sustainable approach to consumption – to encourage re-use, recycling and repair rather than throw away
- Further powers and incentives to increase re-use and recycling for both residents and businesses
- National regulation to reduce packaging, encourage a circular economy, to push resource efficiency across the commercial sector
- Local Authorities provided with stronger enforcement powers to stop fly tipping

5.5 Food

- Objective: To reduce the impact of our diet on climate change

Bury is part of a complex global system whose climate and environmental impacts are vast. Our approach to tackling food related emissions must consider everything from the direct production of crops and livestock and the fuel and methods used in said production, through to food waste and consumption choices. There are many things to include but that also means there are many opportunities for positive change.

We need to reassess our consumption habits and look at where the food we buy comes from as well as what and how we are cooking.

By paying heed to these considerations there are benefits to be unlocked by supporting the local economy, improving diets and reducing associated ailments, and reduce demands upon the environment caused by importing food.

Where are we now and where do we need to get by 2038

- Reduce emissions resulting from our consumption of food
 - Now (2021): These emissions are very difficult to assess with any accuracy. However, research estimates that food and drink represent about 20% of our total greenhouse gas emissions ^[28]
 - By 2038: Although we can't measure progress very easily, we must take action wherever we can to reduce waste and source food which is more sustainably produced. The Sustainable Food Places Framework needs to be embedded across the borough due to the co-benefits around climate and nutrition
- Reduce food wastage and increase food recycling
 - Now (2021): 62% of food waste was avoidable
 - Now (2021): 43% of food waste was correctly captured in the recycling bins ^[52]

- Now (2021): 16,633t of biowaste (2019/20)
- By 2038: Avoidable food waste needs to be reduced to as near 0% as possible. All unavoidable food waste needs to be recycling.

What We Need from National Government

Bury Council can only do so much, we need assistance from national government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- To work with farmers and crop producers on a national scale to encourage uptake of sustainable methods that do not cause financial burden
- Greater communication and normalisation regarding the different diets available

5.6 Our Natural Environment

- Objective: To capture more carbon naturally by increasing woodland cover and by protecting and enhancing soil environments and natural habitats.

Our parks, gardens, woodlands, street trees and other elements of Bury's green infrastructure have an essential part to play in helping us meet our climate change objectives. Greenspace and green infrastructure can help us mitigate our changing climate by helping manage flood risk and heat stress as well as helping to reduce CO₂. To stay within our carbon budgets, we need our land to become a net remover of carbon. At the same time our green and blue spaces also deliver a myriad of other benefits such as improved physical and mental health, increased biodiversity, supporting jobs, creating attractive neighbourhoods, adding to an active travel network and many others.

Greater Manchester has been identified as the Urban Pioneer as part of the Government's 25 Year Environment Plan ^[6]. This means our city region is testing new tools and methods for investing in and managing the natural environment so that we can have better quality green infrastructure including green roofs, walls, paths and cycle networks. Significant progress has been made in developing a natural capital approach and progressing our priorities.

In order to ensure the growth of our area's biodiversity we need to adopt more sustainable methods that promote and encourage a variety of plants and animals to survive and thrive. Both current and new developments will need to actively incorporate methods to deliver a net gain in biodiversity. This is something that we must embed within the new Greater Manchester Places for Everyone strategy ^[30] or in our own Local Plans.

Where are we now and where do we need to get by 2038

- Increase tree planting and tree cover
 - Now (2021): Government's National Forest Inventory ^[31] suggests that 9% of Bury is woodland and Red Rose Forest/City of Trees ^[32] indicate 8%
 - By 2038: Friends of the Earth suggest we must double tree cover as soon as possible ^[22]
- Biodiversity
 - Now (2021): Sites of Biological Importance —Total area 923ha (2015) ^[48]
 - By 2038: Continue to recognise and develop areas through the Sites of Biological Importance mechanism
- Ecological Enhancement Areas
 - Now (2021): Seven Ecological Enhancement Areas have been identified in the Council's
 - By 2038: Continue to develop these areas to allow their biodiversity to flourish

What is Bury Council Doing? - Barnfield Park Regeneration

Bury Council is investing £100,000 into Barnfield Park in Prestwich with the hope to turn the former horticulture centre into a new centre to grow trees and wildflowers. In conjunction with City of Trees, the regeneration will see the current infrastructure be restored to its previous use and allow the community to engage in practical learning and skill development while also providing a hub of coordination for tree-planting activities across Greater Manchester ^[49]

What We Need from National Government

Bury Council can only do so much, we need assistance from national government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- We need commitment from Government by increasing public funding into the natural environment as well as help to bring in private investment at a national scale

5.7 The Green Economy

- Objective: To help our businesses to transition to carbon neutrality and to provide a suitable and sufficient green commercial sector to future proof our local economy and to enable us to meet our 2038 target

To retain a healthy economy and the businesses that provide the goods, services and employment opportunities we need, we have to move towards a low carbon more resource efficient economy that is kind to our environment and helps us to meet our carbon neutral target.

As well as existing businesses becoming greener, we need to support the creation and development of new businesses that will provide the technologies, innovations, goods and services of a low carbon future.

It is now recognised that an economic model built on perpetual growth in physical resource consumption presents significant challenges to our carbon neutral commitments. Growth and development have traditionally equated to more energy consuming buildings, increase in the movement of people and goods and associated transport infrastructure, the consumption of more materials and the generation of increased levels of waste. This approach must change to reflect a “net zero” way of running our economy.

Our recovery from COVID-19 brings an opportunity to reset society and move us more swiftly to a carbon neutral future. Investment in renewable energy and zero carbon solutions could power our economic recovery internationally nationally and locally. In Bury it is vital that we “build back better” and direct our investment and priorities to growing local low carbon businesses.

We need to create a new generation of jobs in the industries and infrastructure that we need to tackle the climate crisis and a workforce that will be able to contribute and benefit from a new green economy.

Our businesses are privately owned, and many occupy premises as tenants relying on private landlords to carry out works on the energy efficiency and heating systems of their buildings. As with domestic properties we need the assistance of the Government to create the correct incentives and to work with us and the private sector to develop innovative business models that make zero carbon attractive financially.

Where are we now and where do we need to get by 2038

- Reduce emissions from our commercial sector
 - Now (2021): Total emissions from the industrial and commercial sector in 2017 was 180ktCO₂e ^[14]
 - Now (2021): 70% of Display Energy Certificates rated commercial buildings were D or lower ^[33]
 - Now (2021): Consumption by non-domestic lighting computers and commercial motors fell 1.7% between 2015 and 2018 ^[20]
 - Now (2021): Greater Manchester's Green Growth Company has engaged with 170 local enterprises saving 44,591t CO₂e and produced cost savings of £9.3 million ^[34]
 - By 2038: Commercial heating and cooling must reduce by 60% ^[19]
 - By 2038: 50% of heating must come from air source heat pumps ^[19]
 - By 2038: 30% from ground source heat pumps and the remainder from community scale combined heat and power ^[19]
 - By 2038: Commercial lighting and appliance energy demand must decrease by 25% ^[19]
 - By 2038: Commercial cooking to be 100% electric ^[19]
- Grow local green businesses

- Now (2021): There are currently 17 Bury based companies on the Growth Company's Low Carbon network of green businesses [34].
- By 2038: A well-developed local green economy with a range of businesses and employment opportunities providing support for a zero-carbon lifestyle
- By 2038: Local colleges and other academic institutions providing our local workforce with the skills they need to deliver and maintain carbon solution in our homes and businesses

What are our Local Businesses Doing? - Faith in Nature [51]

Faith in Nature, a locally based family-owned cosmetics manufacturer, are now saving more than £23,000 a year after installing several measures to reduce their consumption levels and therefore reduce emissions and costs. Being an environmentally inclined enterprise, the company wanted to ensure its manufacturing processes were also as efficient as possible. With the help of the Business Growth Hub's Green Growth support team, the company has been able to identify and implement new ideas and strategies previously unknown to them.

What We Need from National Government

Bury Council can only do so much, we need assistance from national government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- Sufficient funding and incentives for businesses to transition to carbon neutrality
- Incentives to stimulate the development of local quality green business such as renewable energy installers to provide the necessary goods and services needed to make carbon neutrality an easier option for residents and businesses

- Require carbon neutral housing and commercial premises in all new developments
- Incentivise the education sector to provide the necessary skills to enable localities to become carbon neutral

5.8 Environmental Justice

- Objective: To eradicate fuel poverty and identify and action environmental injustices in our borough.

Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, colour, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In other words, your health should not suffer because of the environment where you live, work, play or learn ^[35].

Fuel poverty forms a large part of environmental justice, and the phrase is used to describe the situation where a household can't pay for its energy needs without compromising other basic needs like food, transport or clothing.

The latest statistics indicate that in 2017 there were 9,563 households in Bury that were considered to be fuel poor. This represents nearly 12% of our households. However, it is worth noting that in some areas of the Borough we have levels of fuel poverty which reach between 15.2 and 16.9% ^[41-45].

People who live in cold homes and can't afford to heat them will experience direct health implications and these will particularly affect the most vulnerable such as infants and the elderly. Excess winter deaths, circulatory diseases, respiratory problems, and mental health issues are some of the more common consequences of living in a home that is not adequately heated.

Fuel poverty leads to poor thermal comfort and deepens health inequalities. Excess winter deaths in England and Wales in 2017/18 were the highest on record since 1975/76 with 190 excess winter deaths in Bury ^[36].

Furthermore nearly 17,000 of the 56,300 national deaths recorded in 2017/18 were preventable and the result of living in cold housing ^[47].

Where are we now and where do we need to get by 2038

- Now (2021): Improve energy performance of houses to eradicate fuel poverty
- Now (2021): 9,563 households suffer fuel poverty representing 12% of household ^[17]
- Now (2021): Excess winter deaths are at 190 in 2017/18 and a significant proportion of these will be the result of living in cold homes ^[36]
- Now (2021): The council have carried out the following schemes to address this issue e.g., Kill the Chill, Toasty Bury (800 homes with improved insulation) Little Bill (£45,000 annual savings on residents bills), National Energy Action Warm Homes Campaign Award 2016 – Grant funding Fuel Poverty Fund 2015/2017 and the Greater Manchester Big Clean Switch
- By 2038: Eradicate all fuel poverty in our borough and ensure that 100% of homes of those on lower incomes are carbon neutral and achieving excellent standards of energy efficiency

What We Need from National Government

Bury Council can only do so much, we need assistance from National government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- Increase local authority resources to tackle fuel poverty and carbon neutrality in tandem
- Provide regulations with adequate resources for enforcement to push privately rented properties to carbon neutrality by 2038

5.9 Climate Resilience & Adaptation

- Objective: To adapt our borough's buildings, infrastructure, and natural environment to the changing climate and to increase the climate resilience of our residents and organisations.

Bury's climate is changing, and we have already experienced impacts such as flooding and the resulting devastation this can cause in our local communities. We need to adapt and build resilience to changing patterns of extreme weather events, focussing particularly on hazards such as floods which evidence suggests are a particular threat to Bury.

Climate change projections for Bury point towards us experiencing warmer and wetter winters, hotter, drier summers and more periods of extreme heat and heavy rainfall. Winter rainfall could increase by around 30% across Greater Manchester by 2065 and the warmest day could rise by 6c at this point ^[37].

These changes will have a major effect on Bury's people, environments, buildings, and infrastructure. Recent research has identified climate change risks to Greater Manchester's critical infrastructure which is central to people's livelihoods and quality of life. Floods and storms account for the higher risks ^[38] and these events stand out as priorities for adaptation and resilience planning and action. There is also the risk that changing climate leads to new diseases and therefore more pandemics. Our recent experience with COVID-19 has highlighted the health inequalities present in our society and how these types of events can affect our communities.

Resilience will be about how our borough can meet its ambitions whilst ensuring:

- It is safe and secure.
- It is addressing its vulnerabilities.

- It can meet expected or unexpected disruptive challenges.

These efforts need to be underpinned by robust action on climate change adaptation to protect the most vulnerable communities (see previous Environmental Justice section), our economy, key infrastructure, and our natural environment.

Much work has been completed to protect properties from flooding but there is still significant investment required to ensure that standards of protection to our residents is increased.

Where are we now and where do we need to get by 2038

- Protect our communities from likely changes in climate
 - Now (2021): We have several key documents already in place helping us understand and manage local flood issues:
 - National flood maps ^[39]
 - An Emergency Plan ^[40]
 - A Local Flood Risk Management Strategy ^[40]
 - By 2038: All potential impacts from a changing climate are understood and actions in place to protect the resilience of our community
 - By 2038: Use of more natural flood management to reduce or slow run-off after heavy rain
- Identify how green infrastructure can make improvements
 - Now (2021): Bury Council have implemented several projects around climate resilience including Killelea Residential Care Home soak zone and soakaway tree-planting along Prestwich High Street
 - By 2038: More projects similar to those already completed need to be identified and actioned in cooperation with local communities

What We Need from National Government

- Further funding to help develop resilience projects
- Setting up a framework providing Local Authorities with further guidance

5.10 Putting Climate Change at the Heart of the Council

- Objective: To ensure that Bury Council's actions, plans, policies, and strategies suitably progress the council and our community to meet our carbon neutral targets

Since 2008/09, Bury Council has reduced its emissions by 47%, however the Council are still responsible for 15,650t CO₂e ^[13].

Local Authorities across the country are looking to ensure that their operations are becoming increasingly carbon neutral and are taking action that includes a mixture of infrastructural and behavioural change.

Bury Council is responsible for a wide portfolio including housing, green spaces, public buildings, key services such as education, waste, and health as well as the associated operations that go along with these sectors.

Creating and enabling change will require considerable effort from everyone in the Council and each department will need to incorporate sustainable changes to reach our target of carbon neutrality by 2038.

We must make sure that our climate change targets are front and centre in all our decision making, policies strategies and action plans.

Where are we now and where do we need to get by 2038

- Council related emissions reduction
 - Now (2021): Current Council related emissions are 15,650t CO₂e and are annually reported ^[13]
 - By 2038: Emissions need to be reduced to the point where the Council is carbon-neutral which will likely incorporate some form of carbon offsetting
- Incorporate sustainability in all the Council's future strategies

- Now (2021): Currently included in the Housing Strategy and Bury 2030 Strategy ^[17]
- By 2038: To be considered as part of all strategies

What is Bury Council Doing? - Installing Energy-efficient Streetlighting

We have installed 11,431 low energy LED streetlights meaning that nearly 60% of our streetlights are now LED. A further 3194 will be fitted with LED over the next 5 years so that 75% of our streetlighting will be converted. This work has been made possible via Salix funding worth £707,000 ^[13]

What We Need from National Government

Bury Council can only do so much, we need assistance from National government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- Further funding allowing the Council to take big strides towards decarbonisation
- More decisive action around other public sectors which the Council does not control e.g., NHS
- More top-down options enabling collaboration and knowledge sharing

5.11 Carbon Offsetting

- Objective: To ensure that the council identify and deliver suitable means for offsetting any residual; carbon emissions from our borough by 2038.

Carbon offsetting is an action that compensates for the emissions of carbon from other sources. This can include tree planting or the investment in schemes designed to reduce greenhouse gases outside our borough boundary e.g., wind and solar farms.

We know that some of our emissions will be difficult to remove and that getting to carbon neutrality will be incredibly challenging. Even if we follow a hugely ambitious pathway, it appears that some carbon emissions from freight, buildings, aviation and industry will remain.

Technological developments such as synthetic fuel development, carbon capture and storage and policy developments such as national banning of fossil fuels by a certain year may help us to address these remaining emissions at some point. However, there is a great deal of uncertainty about these issues and our ability to deploy new innovations at scale.

In order to reach our carbon neutrality, target we must begin to consider the role of carbon offsetting both within and beyond our boundaries. Our aim will be to design a programme to reduce carbon emissions as far as we can and only rely on offsetting for the residual persistent emissions.

Where are we now and where do we need to get by 2038

Identify potential carbon offsetting measures to allow us to address residual carbon emissions following an extensive emission reduction programme.

- Now (2021): We are involved in programmes to increase tree cover in our borough.

- By 2038: Deliver sufficient offsetting to cancel out our remaining persistent residual carbon emissions.

What We Need from National Government

Bury Council can only do so much, we need assistance from National government to achieve all our goals and leave a healthier brighter future for tomorrow's generation. We need:

- Further funding and research into carbon offsetting

Chapter 6: Engage and Empowering our neighbourhoods

Bury Council cannot deliver our carbon neutral target on our own and we will need to work closely with our residents, local businesses, and community groups to enable and encourage them to help our borough to become carbon neutral. This will include working with our stakeholders to address emissions from their energy and fuel use but also from their consumption.

The council is committed to engaging with all sectors of society including and involving local residents, commercial organisations and businesses, borough partner organisations including the voluntary sector, health and education partners, schools, the GMCA, neighbouring councils, Transport for Greater Manchester and National Government Department and agencies.

To help us to engage and harness the enthusiasm and ideas of our communities we have committed to support the setup of Environmental Forums in each of our five neighbourhoods. These Forums will feed directly into the development, delivery, and monitoring of progress on our detailed action plan which will be produced under this strategy.

The Council hopes that by creating these Forums, people can become increasingly engaged with the climate emergency and domestic/personal emissions will decrease accordingly.

The neighbourhood approach

Bury consists of six Townships and these are organised into five different neighbourhoods: North (Tottington and Ramsbottom), East (Bury), West (Radcliffe), Prestwich and Whitefield. Each of these townships and neighbourhoods has its own identity and unique characteristics. To be effective it is important that our actions on climate change adopt a neighbourhood approach and develop and deliver plans that consider the needs and strengths of each neighbourhood.

This section of the strategy will look at data regarding our neighbourhoods and identify characteristics which will help them to develop their own approach to this climate emergency ^[41-46].

North

- Predominant age groups = Over 40
- Percentage of pupils that walk to school = 37%
- Healthy Life Expectancy = High levels of healthy life expectancy
- Premature mortality = Better than Bury & England averages
- Highest cause of premature mortality = Cancer
- Highest cause of emergency hospital admissions = Coronary heart disease, COPD
- Fuel poverty percentage = 9.8% which is lower than Bury & England's average
- Tenure types = 80% owner occupied, 11% privately owned, 7.5% socially rented
- Energy Path Network recommendations = Suited to a mix of electric heat pumps & district heating, clusters of houses needing basic insulation, explore opportunities around heat pumps and district heating in new developments

- Index of Multiple Deprivation = Pockets of deprivation
- Flood risk = Areas at risk of surface water flooding
- Suggested areas for priority action = Solar PV demonstration projects, demonstrator projects for renewable heating in Six Town Housing properties, promote active travel widely with a particular focus on school-age children & adults (over 40), climate change adaptation including resilience to flooding, integrate carbon neutrality into the Ramsbottom town centre improvements and any future Tottington town centre regeneration opportunities, promote ULEVs, promote improved insulation amongst large privately owned housing sector

East

- Predominant age groups = Under 40
- Percentage that walks to school = 54%
- Healthy Life Expectancy = Amongst lowest in country
- Premature mortality = Worse than Bury & England average
- Highest cause of premature mortality = Cancer
- Highest cause of emergency hospital admissions = coronary heart disease, stroke, COPD
- Fuel poverty percentage = 11.80% which is higher than Bury & England average
- Tenure types = 57% owner occupied, 17% privately rented, 24% socially rented
- Energy Path Network recommendations = Suited to district heating, clusters of houses suitable for solar PV & batteries – some in area of high fuel poverty, significant numbers of new homes proposed providing opportunities for heat pumps & district heating
- Greater Manchester Clean Air Plan = Road links persistently exceeding nitrogen dioxide limits

- Index of Multiple Deprivation = One of the most deprived areas of the borough
- Flood risk = Areas of flood risk
- Suggested areas for priority action = Solar PV demonstration projects, demonstrator projects for renewable heating in Six Town Housing properties, promote active travel widely with particular focus on young adults (under 40) to reduce emissions & improve health, climate change adaptation including resilience to flooding, integrate carbon neutrality into proposed regeneration projects in the town centre, promote ULEVs, tackle fuel poverty, improve cycling infrastructure on key commuter routes, replace Bury Transport Interchange with a more modern user- friendly facility

West

- Predominant age groups = 20-29, 50-59, and 65-79
- Percentage that walks to school = 37%
- Healthy Life Expectancy = Amongst lowest in country
- Premature mortality = Worse than Bury & England average
- Highest cause of premature mortality = Cancer
- Highest cause of emergency hospital admissions = Coronary heart disease, COPD
- Fuel poverty percentage = 11.40% which is similar to Bury & England average
- Tenure types = 69% owner occupied, 13% privately rented, 17% socially rented
- Energy Path Network recommendations = Suited to electric heat pumps, clusters of houses in high fuel poverty areas needing basic insulation, clusters of larger homes suitable for solar PV & batteries and explore opportunities around heat pumps and district heating in new developments

- Index of Multiple Deprivation = Areas of high deprivation
- Flood risk = Areas of flood risk
- Suggested areas for priority action = Solar PV demonstration projects, demonstrator projects for renewable heating in Six Town Housing properties, promoting active travel amongst the young & older people to reduce emissions & improve health, climate change adaptation including resilience to flooding, integrate carbon neutrality into the proposed regeneration of the town centre, improve insulation in fuel poor houses, push for carbon neutral properties in new proposed developments

Whitefield

- Predominant age groups = Over 45
- Percentage that walks to school = 54%
- Healthy Life Expectancy = High levels of healthy life expectancy
- Premature mortality = Better than Bury but worse than England average
- Highest cause of premature mortality = Cancer
- Highest cause of emergency hospital admissions = Coronary heart disease, COPD
- Fuel poverty percentage = 11.30% which is similar to Bury & England average
- Tenure types = 73% owner occupied, 11% privately rented, 15% socially rented
- Energy Path Network recommendations = Suited to electric heat pumps, clusters of homes suitable for solar PV & batteries, explore opportunities around heat pumps and district heating in new developments
- Greater Manchester Clean Air Plan = Road links persistently exceeding nitrogen dioxide limits

- Index of Multiple Deprivation = Areas of high deprivation
- Flood risk = Areas of flood risk
- Suggested areas for priority action = Solar PV demonstration projects, demonstrator projects for renewable heating in Six Town Housing properties, promote active travel widely with a particular focus on older adults (over 45) to reduce emissions & improve health, climate change adaptation including resilience to flooding, integrate carbon neutrality into any town centre regeneration opportunities arising, promote ULEVs, push for carbon neutral properties in new proposed developments, improve cycling infrastructure on key commuter routes

Prestwich

- Predominant age groups = 33-44
- Percentage that walks to school = 52%
- Healthy Life Expectancy = High levels of healthy life expectancy
- Premature mortality = Better than Bury but worse than England average
- Highest cause of premature mortality = Cancer
- Highest cause of emergency hospital admissions = Coronary heart disease, COPD
- Fuel poverty percentage = 12% which is higher than Bury & England average
- Tenure types = 70% owner occupied, 16% privately rented and 12% socially rented
- Energy Path Network recommendations = Suited to a mix of electric heat pumps & district heating, clusters of houses in high fuel poverty areas needing basic insulation, clusters of larger homes suitable for solar PV & batteries, explore opportunities around heat pumps and district heating in new developments

- Greater Manchester Clean Air Plan = Road links persistently exceeding nitrogen dioxide limits
- Index of Multiple Deprivation = Areas of high deprivation
- Flood risk = Areas at risk of surface water flooding
- Suggested areas for priority action = Solar PV demonstration projects, demonstrator projects for renewable heating in Six Town Housing properties, promote active travel widely with a particular focus on young adults (under 40) to reduce emissions & improve health, climate change adaptation including resilience to surface water flooding, integrate carbon neutrality into the proposed regeneration of the town centre, promote ULEVs, improve insulation in the houses of those in fuel poverty, push for carbon neutral properties in new proposed developments, improve cycling infrastructure on key commuter routes to improve safety of cyclists

Chapter 7: Challenges and Risks

To develop this section, we have utilised the latest data from the neighbourhood profiles [41, 42, 43, 44, 45] that have been developed alongside findings from The Greater Manchester Clean Air Plan [46] and our Energy Path Network [47] project. The Energy Path Network project looked at how Bury could meet carbon neutral targets and what methods of heating may predominate in different areas.

Challenges and Risks

- The expense of renewable energy heating systems discouraging uptake and worsening fuel poverty
 - Description
 - Heat pump systems are more expensive than gas fired heating.
 - Market for delivery of electrical renewable energy systems is not well developed.
 - Houses need very good insulation levels for electrical renewable energy systems to be effective increasing cost and upheaval.
 - Post COVID will bring a recession which will hit our local communities and reduce their ability to spend money on new heating systems etc.
 - All above would have a larger impact on those in fuel poverty.
 - Mitigation
 - Lobby government to push society towards renewable heating by providing appropriate incentives
 - Use example projects in Six Town Housing properties to stimulate local market to increase demand which will bring prices down

- Encourage our local green business sector to deliver the necessary heating systems
 - Work with colleges to ensure that students are trained to deliver new heating systems.
- Climate scepticism
 - Description
 - Some members of the community question the science surrounding climate change and therefore fail to comprehend the importance of taking action to reduce our impact and reach carbon neutrality
 - Mitigation
 - Increase community engagement and open dialogues with clear and comprehensive science
 - Provide access to resources that detail potential future impacts caused by climate change
- Finance
 - Description
 - Scale of costs required and lack of available council funding
 - Little funding available from regional or national, government
 - Requirement of COVID-19 on budgets could restrict spending on this area of work
 - Lack of funding from social housing landlords, private landlords, owner occupiers, businesses and third sector organisations
 - Increased costs for council through procuring goods and services on a zero-carbon basis
 - Mitigation

- Councils must work with GMCA to access any available external funding. Initially this could help with exemplar projects.
 - Develop innovative business cases and models to allow us to work in partnership with the private sector to deliver zero carbon projects.
 - Carbon neutral development must be seen as part of our “Build it back better” approach to COVID-19 recovery.
 - Look at whole life costs when purchasing low energy equipment.
 - Develop systems to allocate a cost to carbon emissions so that low carbon products and services can be evaluated properly.
- Lack of Direct Control
 - Description
 - Majority of properties in the borough are owned by organisations or individuals over whom the council has no power to require them to switch to zero carbon heating or to insulate their properties
 - Capacity of the local electricity grid will need to be upgraded to support new electric heating systems and electric vehicle charging
 - Mitigation
 - Lobby government to push society towards renewable heating by providing appropriate incentives
 - Use example projects in Six Town Housing properties to stimulate local market to increase demand which will bring prices down

- Encourage our local green business sector to deliver the necessary heating systems so that they are more accessible and visible to our communities.
 - Work in partnership with Electricity North West to plan for the necessary grid upgrades to meet our targets
- Council officer capacity
 - Description
 - Scale of carbon neutral activities requires a significant increase in the numbers of officers involved in this activity at a time when resources are very tight
 - Mitigation
 - Plan ahead each year to ensure that we have sufficient officer resources to respond to the climate emergency.
- Technology availability
 - Description
 - To achieve carbon neutrality, we will need innovation and suitable viable alternatives to fossil fuel-based systems
 - Mitigation
 - Encourage innovation in our academic and business sectors and assist development where possible by providing pilot study opportunities.
- New and existing buildings
 - Description
 - Current building regulations do not require carbon neutral development
 - Mitigation
 - Ensure that all new council buildings are carbon neutral and major refurbishments take a building to carbon neutrality

- Use the council influence where we can push developments to carbon neutrality.
 - Encourage our partners to deliver carbon neutral developments
 - Include carbon neutral development in the Places for Everyone report or our Local Plan as soon as possible.
- Equality considerations
 - Description
 - Fuel poor in privately rented properties could be left behind as we move our residents to newer forms of carbon neutral heating
- Mitigation
 - Ensure we work with private sector landlords to prioritise relevant houses for upgrades
 - Lobby government to provide financial incentives to help move fuel poor properties to carbon neutrality.
- National policies
 - Description
 - Many of the policies that are essential for Bury to meet our target are set at national level and are beyond our direct control
 - Mitigation
 - Lobby government to provide attractive incentives to encourage our community to make the transition to zero carbon energy and transport
 - Work with government to help inform new regulation and guidance

Chapter 8: Conclusions

We have a long journey ahead of us and all of us will need to make changes to how we live, eat, shop, travel and work. As we move towards a low-carbon society we can expect to see so many benefits come to fruition such as improved air quality, healthier lifestyles, cheaper utilities, safer neighbourhoods, increased social cohesion and improvements in the quality of our town centres.

Bury Council are keen to do all we can to help the environment and that will involve us not only providing large borough-wide projects but also working with individual communities, groups and neighbourhoods to make sure that all of Bury can experience the benefits of a carbon-neutral future.

Let's do it for the planet...

Let's do it for tomorrow's generation...

References

1. NOAA (2021). Climate Change: Global Temperature. See: <https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>
2. IPCC (2019). Global Warming of 1.5°C. See: <https://www.ipcc.ch/sr15/>
3. UNFCCC (2021). The Paris Agreement. See: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>
4. COP26 (2021). UN Climate Change Conference. See: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>
5. UK Government (2008). Climate Change Act 2008. See: <https://www.legislation.gov.uk/ukpga/2008/27/contents>
6. GMCA (2019). 5 Year Environment Plan for Greater Manchester. See: https://www.greatermanchester-ca.gov.uk/media/1986/5-year-plan-branded_3.pdf
7. National Trust (2021). Climate Hazards Map. See: <https://nationaltrust.maps.arcgis.com/apps/webappviewer/index.html?id=0bc569747210413a8c8598535a6b36e1>
8. UNEP (2020). Emissions Gap Report 2020. See: <https://www.unep.org/emissions-gap-report-2020>
9. Bury Council (2021). Climate Change. See: <https://www.bury.gov.uk/index.aspx?articleid=11967>
10. UNFCCC (2021). Race to Zero Campaign. See: Race To Zero Campaign | UNFCCC

11. Bury Council (2020). Bury 2030 Masterplan. See: <https://www.mynewsdesk.com/uk/bury-council/pressreleases/bury-2030-a-masterplan-to-map-out-the-next-decade-3047365>
12. K. Raworth (2018). Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist", Random House Business
13. Bury Council (2020). Bury Council's Greenhouse Gas Emissions 2019/20 See: <https://www.bury.gov.uk/CHttpHandler.ashx?id=17257&p=0>
14. Department for BEIS (2020). UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018. See: <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018>
15. Transport for Quality of Life (2021). Transport and Climate Change. See: <https://www.transportforqualityoflife.com/policyresearch/transportandclimatechange/>
16. Department for BEIS (2020). RHI monthly deployment data: December 2020 (Annual edition). See: www.gov.uk
17. Bury Council (2020). Bury Housing Strategy (Final Draft). See: <https://www.bury.gov.uk/CHttpHandler.ashx?id=21444&p=0>
18. Tyndall Centre (2020). Setting Climate Commitments for Bury (report)
19. SCATTER (2021). See: <https://scattercities.com/>
20. Department for BEIS (2020). Energy Consumption in the UK (ECUK) 1970 to 2019. See: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/928350/2020_Energy_Consumption_in_the_UK__ECUK_.pdf

21. Electric Insights (2021). Q4 2020: 2020 In Review. See:
<https://reports.electricinsights.co.uk/q4-2020/2020-in-review/>
22. Friends of the Earth (2021). How climate friendly is your community?
See: <https://friendsoftheearth.uk/climate-friendly-communities>
23. Bury Council (2021)
24. Department for BEIS (2019). Digest of UK Energy Statistics (2019). See:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/820277/DUKES_2019_Press_Notice_GOV.UK.pdf
25. Bury Council (2021). Air Quality. See:
<https://www.bury.gov.uk/index.aspx?articleid=11649>
26. GMCA (2020). Walking and cycling update and forward look report. See:
<https://democracy.greatermanchester-ca.gov.uk/documents/s9870/GMTC%2020201009%20Walking%20and%20Cycling%20Update%20and%20forward%20look.pdf>
27. Berners-Lee, Hatter, and Hoolohan (2011). The Total Carbon Footprint of Greater Manchester. See:
http://media.ontheplatform.org.uk/sites/default/files/gm_footprint_final_110817.pdf
28. Small World Consulting Ltd (2011). The Total Carbon Footprint of Greater Manchester. See:
http://media.ontheplatform.org.uk/sites/default/files/gm_footprint_final_110817.pdf
29. Bury Council (2021)
30. GMCA (2021). Places for Everyone. See:
<https://www.greatermanchester-ca.gov.uk/news/greater-manchester-councils-to-set-out-next-steps-with-places-for-everyone-joint-plan/>

31. Forest research (2021). National Forest inventory. See: <https://www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/>
32. City of Trees (2021). See: <https://www.cityoftrees.org.uk/>
33. MHCLG (2021). Live tables on Energy Performance of Buildings Certificates. See: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-energy-performance-of-buildings-certificates#epcs-for-non-domestic-properties>
34. Green Growth Company (2021). Bury. See: <https://www.green-growth.org.uk/bury>
35. Multiple Authors (2021). Environmental Justice. See: <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/environmental-justice>
36. ONS (2019). Excess winter mortality data, England & Wales. See: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/excesswintermortalityinenglandandwalesreferencetales>
37. Cavan (2011). Climate change projections for Greater Manchester. See: https://personalpages.manchester.ac.uk/staff/gina.cavan/documents/Climate_change_projections_GM_final.pdf
38. Carter (2018). Climate change risk assessment of Greater Manchester's Critical Infrastructure. See: https://resin-cities.eu/fileadmin/user_upload/Resources/City_report_GM/GMCCRA_report_final.pdf
39. UK Government (2021). See: <https://flood-warning-information.service.gov.uk/long-term-flood-risk>

40. Bury Council (2021). See:
<https://www.bury.gov.uk/index.aspx?articleid=11123>
41. Bury Council (2019). Neighbourhood Profile Bury West
42. Bury Council (2019). Neighbourhood Profile Whitefield
43. Bury Council (2019). Neighbourhood Profile Prestwich
44. Bury Council (2019). Neighbourhood Profile North
45. Bury Council (2019). Neighbourhood Profile Bury East
46. CATAPULT (2017). Energy Path Networks in Bury. See:
<https://www.birmingham.ac.uk/Documents/college-eps/energy/events/david-lee-energypath-networks-bury.pdf>
47. E3G (2019). 17,000 people in the UK died last winter due to cold housing
See: <https://www.e3g.org/news/17000-people-in-the-uk-died-last-winter-due-to-cold-housing/>
48. Bury Council (2018). Topic Paper 7—Natural Environment. See:
<https://www.bury.gov.uk/CHttpHandler.ashx?id=18678&p=0>
49. Bury Times (2021). Prestwich’s Barnfield Park to become centre of Greater Manchester’s green revolution. See:
<https://www.burytimes.co.uk/news/19147993.prestwicks-barnfield-park-become-centre-greater-manchesters-green-revolution/>
50. Bury Times (2021). Bury Council cuts greenhouse gas emissions by 47%. See: <https://www.burytimes.co.uk/news/19014157.bury-council-cuts-greenhouse-gas-emissions-47/>
51. Green Growth (2021). Faith in Nature. See: <https://www.green-growth.org.uk/case-studies/faith-nature-bury-sme-manufacturing>

52. Bury Council (2021)