Bury Council
Climate Action Strategy 2021

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

Contents

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. Our young people and future generations will have to deal with our legacy 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 achieve 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, Climate Change and Operations

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:

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

To make progress we must see:

- A swift reduction in demand for energy across all sectors including, 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.

Acronyms and Terms

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

Air source heat pumps: 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.

Carbon neutral: The target to which Bury aims to reach by 2038. Carbon neutrality means that the carbon we emit is equal to the carbon we take in. Net zero is equivalent to carbon neutrality. An alternative to carbon-neutral is absolute-zero which means that there are no carbon emissions at all and does not require balancing.

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, methane, 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.

ktCO2e: The number of metric kilotons of CO_2 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.

PAS2035: PAS 2035 is the new over-arching document in the retrofit standards framework introduced following the recommendations of the Each Home Counts review. PAS 2035 essentially provides a specification for the energy retrofit of domestic buildings, and details best practice guidance for domestic retrofit projects.

Sites of Biological Interest: Sites of Biological Importance (SBI) is the name given to the most important non-statutory sites for nature conservation 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 based at the University of Manchester 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 provides the world with objective, scientific information relevant to understanding the scientific basis of the risk of human-induced climate change.

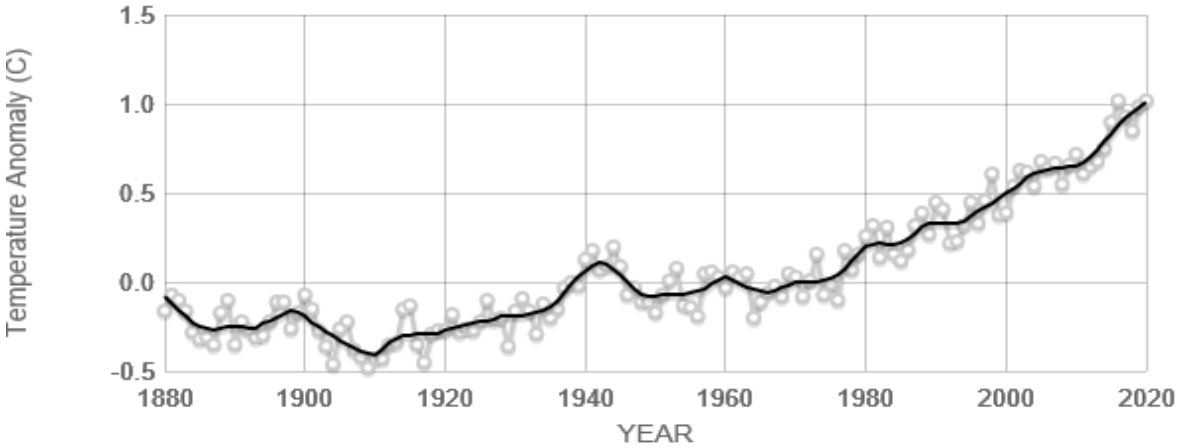
Chapter 1: Introduction

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 (CO_2 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.



Global annual average temperature anomaly [1]

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 2ºC rise in global temperatures is likely to cause compared to a 1.5ºC rise. The report went on to say that, limiting global warming to 1.5ºC 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 to limit the rise in global temperatures to less than 2ºC [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 (GMCA) 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 Climate Action Strategy is designed to be consistent with and link directly to this plan.

Greater Manchester's 10 Local Authorities

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 100km^2, 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

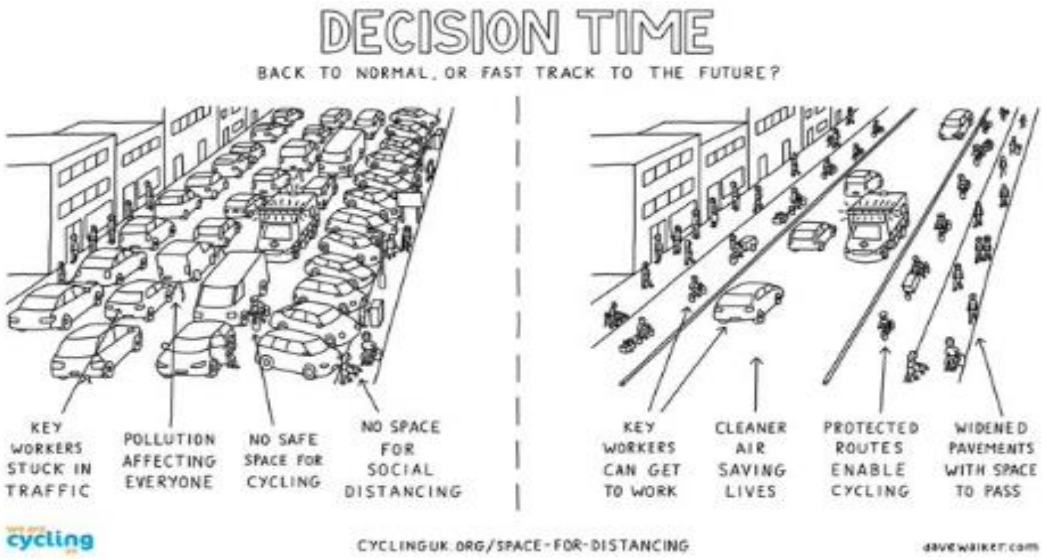
According to the National Trust's Climate Hazard Map [7], by 2060, Bury will have a very high risk of overheating and high humidity (Prestwich & Whitefield); high risk of storm damage (entire Borough); and high risk of slope failure (Ramsbottom).

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 a crucial part in tackling this global climate and ecological emergency.



What our streets could look like

The Council are already looking at incorporating a move towards carbon neutrality in its processes and strategies. The Council has signed up to the United Nation'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 has provided an opportunity to pause and relook at our society, where possible building a new model that reflects the needs of the climate emergency. As lockdowns ease, new travel patterns and modes of living will emerge, and we must seize these opportunities 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].

Raworth's Doughnut Framework

What does success look like?

For Bury to meet its carbon-neutral target the following will need to happen:

1. Emissions from gas boilers and vehicles are eliminated
2. Public and private sector operations rapidly decarbonise
3. Buildings are carbon neutral
4. Renewable heat and power generation is maximised
5. Green and blue spaces are enhanced and improved for sustainable use and biodiversity
6. Local communities are engaged and understand the climate emergency
7. Electricity is sourced from certified renewable or zero-carbon sources
8. The business sector adopts sustainability as a central tenant
9. Carbon offsetting is incorporated into the design process when determined to be absolutely necessary

Chapter 3: Bury's Carbon Emissions

Where do our emissions come from?

There are three main sources of CO_2 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

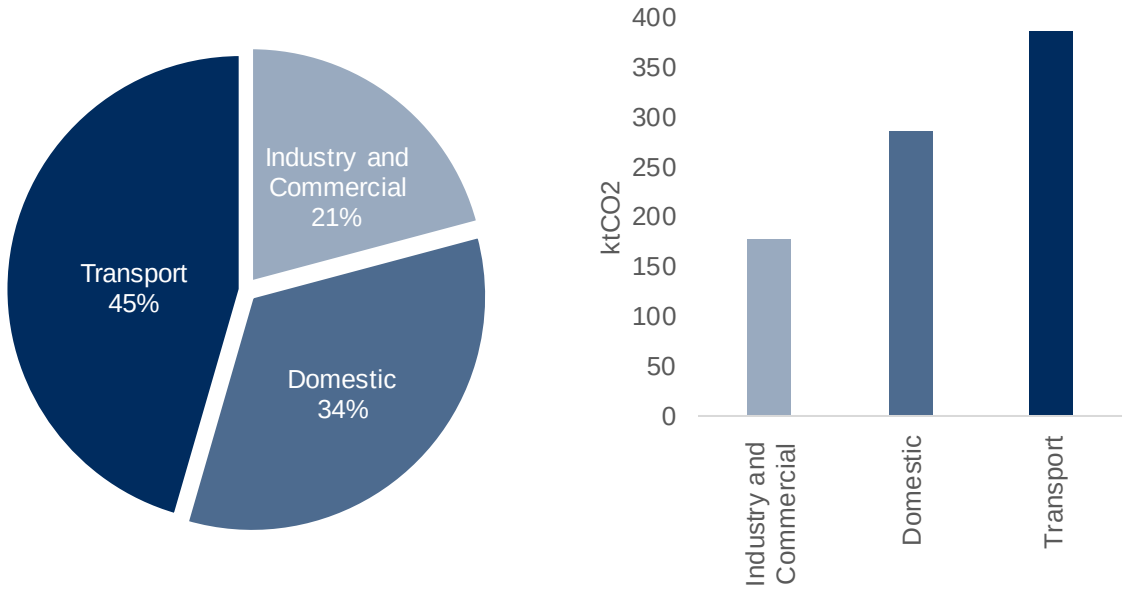
A type of indirect emissions resulting from the things we buy and ultimately dispose of for example food, clothes, phones, furniture, and construction materials many of which are produced outside our town. These emissions are more complex and difficult to measure

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 emissions

Bury's direct and indirect emissions from gas, electricity and other fuel usage was 844.5ktCO_2 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 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].



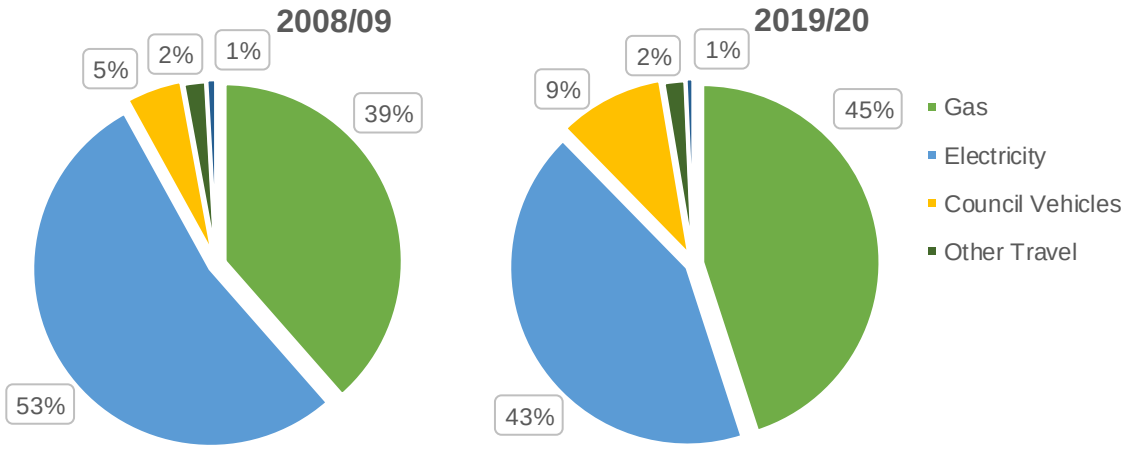
Sector emissions in Bury (2018)

Bury Council's emissions

From 2008/9 to 2019/20 we have seen Council related direct 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 tCO_2e, down from 29,357 tCO_2e. 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 54% of our total emissions [28].



Bury Council's emissions

Chapter 4: Carbon Neutrality

What do we mean by "carbon neutral?"

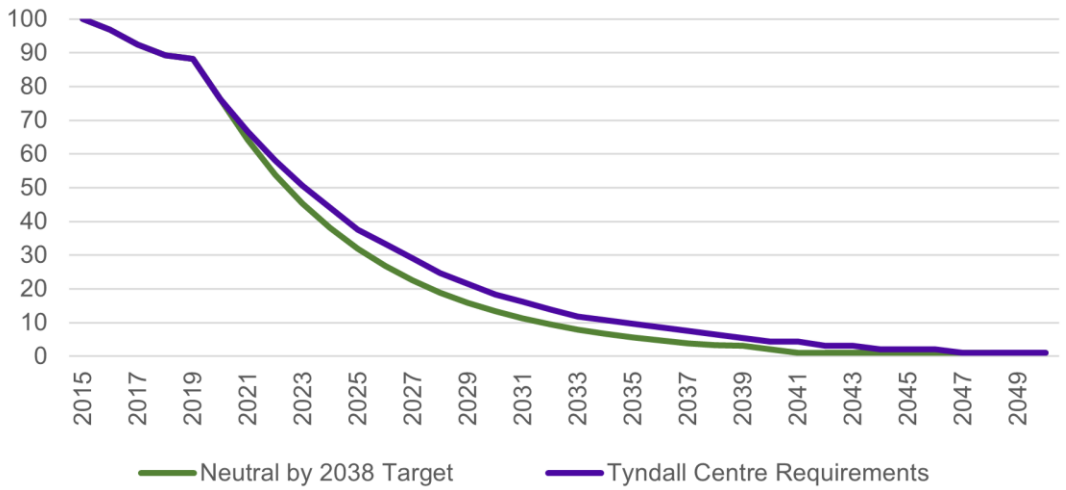
Bury have set a target to be carbon neutral by 2038, but what do we mean by carbon neutral? It is accepted that at the current time it is very difficult to see how an absolute zero target could be reached. We are always likely to have some residual emissions of carbon or other greenhouse gases. To deal with this, agencies have been setting carbon neutral 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 2°C above pre – industrial levels and pursuing efforts to limit the temperature increase even further to 1.5^{o}C.



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 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. 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.

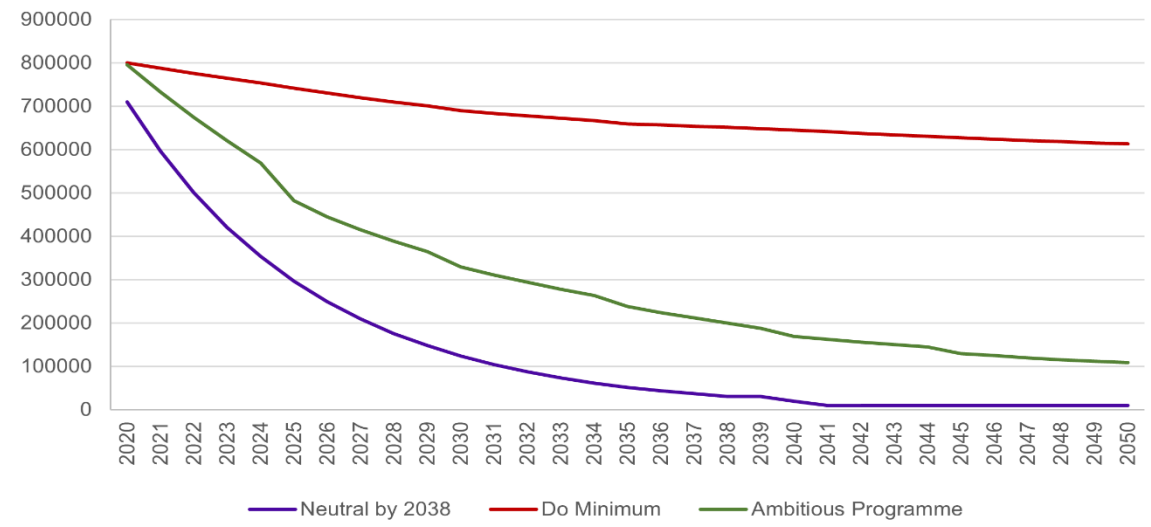
Potential pathways

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 on the following page 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 tCO_2e

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 GMCA, 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 Action Areas

Our 9 Priority Action Areas

1. **Energy Supply**
2. **Homes, Workplaces & Public Buildings**
3. **Low Carbon Travel**
4. **Consumption & Waste**
5. **Food**
6. **Natural Environment**
7. **Green Economy**
8. **Environmental Justice**
9. **Climate Resilience & Adaptation**

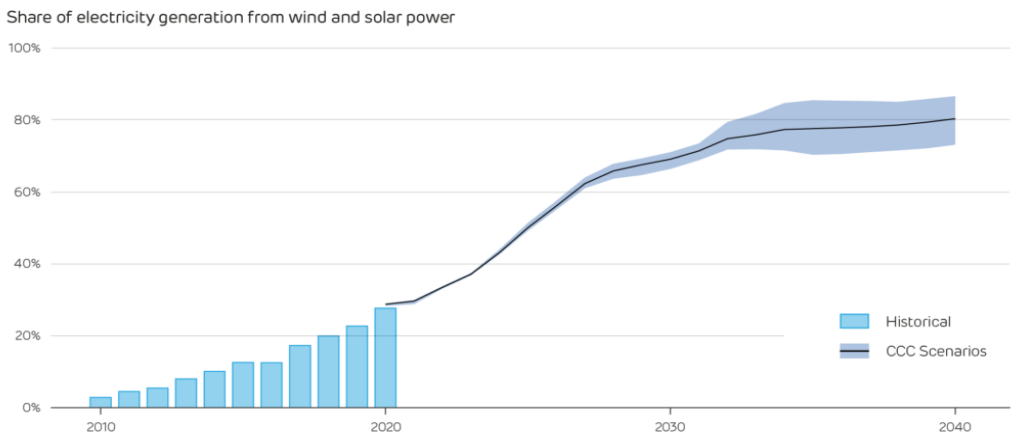
5.1 Energy Supply

Objective: To generate and source all our local energy needs form 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 can anticipate a move away from a centralised grid and towards more local production of electricity, improving efficiency and reliability.



Share of electricity generation from wind and solar power [21]

While Bury Council has little influence over national energy suppliers, we can still lead by example and ensure our own assets are powered by zero-carbon sources whether that is through procuring green energy or renewable generation via our own land. We can also work with residents, businesses and action groups to explore how they can reduce their energy use, switch to more renewable methods of production and engage with local community energy projects.

2021 vs 2038

Renewable energy generation

15MW of renewable energy generated in Bury [22]	**vs**	47MW of renewable energy generated in Bury [22]

Public building energy coming from renewable energy sources

30.7% of the Council's purchased electricity comes from renewable sources [23]	**vs**	100% of the Council's purchased electricity to come from renewable sources [22]

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 save money [50]

To see what else Bury Council have planned check out the Climate Action Plan, our annually updated working document for a full list of actions.

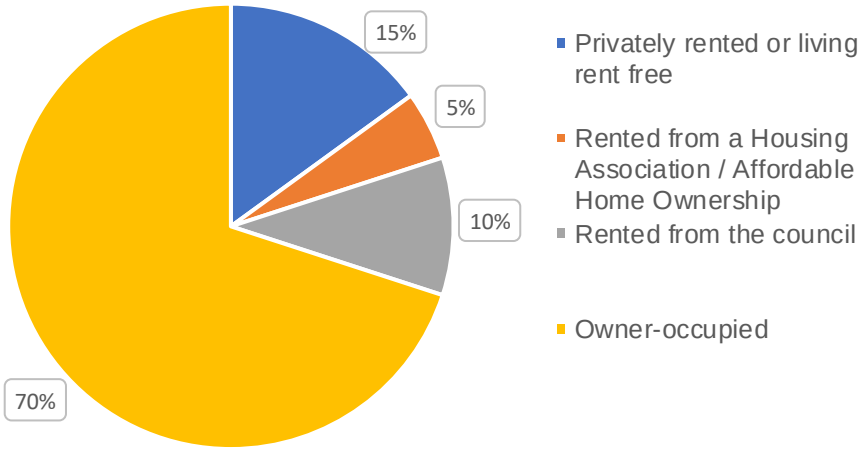
5.2 Homes, Workplaces and Public Buildings

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]. To eliminate carbon emissions from our buildings we need to:

- 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
- Replace gas heating and cooking facilities with electric alternatives

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].



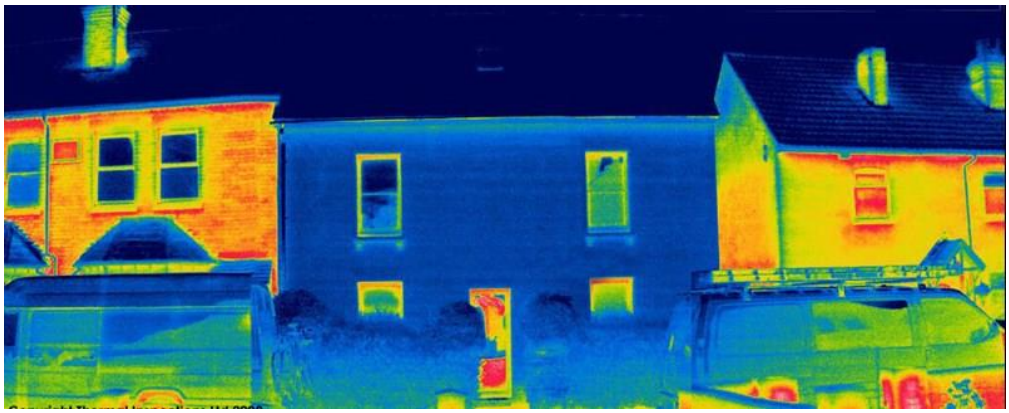
Tenure types in Bury

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. One way we can achieve this is through demonstrating the potential benefits by upgrading our own housing stock.

At present, there are very few retrofit upgrades taking place in Bury's domestic and non-domestic buildings, except for some registered housing providers and a handful of proactive homeowners. This is a result of lack of knowledge and awareness, low levels of funding available (including grants and low-cost loans), lack of available local skills, issues with supply chain, and a lack of financial incentives and business models making retrofitting a feasible option for homeowners and landlords.

Bury Council will push to ensure that new builds follow a nationally recognised carbon neutral standard such as the Passivhaus Standard and retrofits also follow a nationally recognised standard such as EnerPHit and the works are carried out in line with PAS2035. By making sure that developments are in line with these, we can be sure that Bury's buildings will be energy-efficient for years to come.

Our retrofit goals are formidable, and we must utilise our powers to have a positive influence on social housing developments including both new and existing. The Council will work with our partners across Greater Manchester to drive developers to produce carbon-neutral developments. We will also work with our local communities to push individual action and encourage domestic retrofitting, highlighting the benefits to be accrued and financial incentives as they become available.



Thermal image demonstrating energy efficiency

2021 vs 2038

Improved insulation

By 2021, 9782 households (12% of total households) had installed measures under ECO (2013-2019) [19]	**vs**	We need to upgrade the insulation in 52,730 (5,859 a year) homes by 2030 [22]

Estimated that only 30% of homes in Bury are well insulated [22]

The council have already delivered several projects to improve the energy performance of our domestic sector including £11million of Warm Front grants, Toasty Bury, and Local Energy Advice Programme (offering free advice).

According to the SCATTER work carried out by Anthesis, from 2021, 100% of new-build properties should be built to Passivhaus or equivalent standard [19] in order for Bury to be carbon neutral by 2038. However, our current Local Development Plan requires new builds to achieve carbon-neutrality by 2028.

Decarbonisation of heat

In 2021, 95% of houses were connected to the gas grid [19]

Renewable Heat Incentive had accredited 61 domestic installations for renewable heat systems within Bury [16]

The council have already delivered several projects to improve the energy performance of our domestic sector including £11million of Warm Front grants, Toasty Bury, and Local Energy Advice Programme (offering free advice).

vs

By 2038, 94% of housing stock needs to have a new non-gas heating system [19]

Most of Bury's domestic heat needs to be provided by heat pumps (90%) with the rest taken up by district heating and resistive heating [19]

Estimated that Bury needs to install 3353 eco-heating systems per year [22] (as of March 2021)

To see what Bury Council have planned check out the Climate Action Plan, our annually updated working document for a full list of actions.

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 CO_2 emissions produced by the way we, and the goods we use, travel within our borough. Compared to emissions associated with the power sector, emissions from transport remain stubbornly high [19].

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

Fossil fuel-based transport is preventing us from meeting our air quality targets for the pollutant nitrogen dioxide and as a result we have received a ministerial direction from the government to take action to meet these targets in the shortest time possible [25]. In 2020 we consulted the public on the proposed Greater Manchester Clean Air Plan to gather thoughts on the proposed Clean Air Zone regarding more polluting commercial vehicles. To go alongside the Clean Air Zone, it has been proposed that there be accompanying funding to help support local businesses upgrade their vehicles.

Public transport in Greater Manchester is operated by Transport for Greater Manchester and we are in collaboration with them regarding our public and active travel networks. Over the coming months and years, we can expect to see vast improvements in cost, service and quality as our buses are franchised and the Bee Network improves our cycling infrastructure.

Alongside improvements to service, there are co-benefits to be accrued improvements to public and active travel, co-benefits relating to health and environment can be expected.

Although not in Bury, 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 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.

Proposed Cycling Junction in Hulme as part of the Bee Network

COVID-19 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. There is an opportunity here to build upon these lifestyle changes and reinvent how we move around Bury with a greater focus on public and active travel. Bury Council have committed to improving our active travel infrastructure and promoting associated benefits and as the bus franchising and Bee Network are implemented, we can expect to see further improvements across all of Greater Manchester.

2021 vs 2038

Modal shift

In 2021, 13% of people commuted by public transport, 1% cycled and 9% walked (total 23%) [22]	vs	By 2038, we need 60% of people to commute by public transport, cycling or walking [22]
In 2017 in Greater Manchester 39% of all journeys are made by public transport and Active travel [54]		By 2040 50% of all journeys need to be made by public transport of active travel[54]

Shift to zero emission cars

In 2021, 424 plug-in vehicles were registered in Bury [19]	vs	By 2038, cars and buses need to be 100% electric [19]
There are 24 charge points within Bury [22]		Bury needs a minimum of 108 charge points [19]
The majority of goods were moved by road (87%) in diesel HGVs and LGVs (vans) [19]		Carbon emission free freight would be ideal but at a minimum we need to see a 22% decrease in distance covered by freight and a 75% increase in efficiency [19]

To see what Bury Council have planned check out the Climate Action Plan, our annually updated working document for a full list of actions.

5.4 Consumption & Waste

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. This is called the Circular Economy as opposed to the Linear Economy.

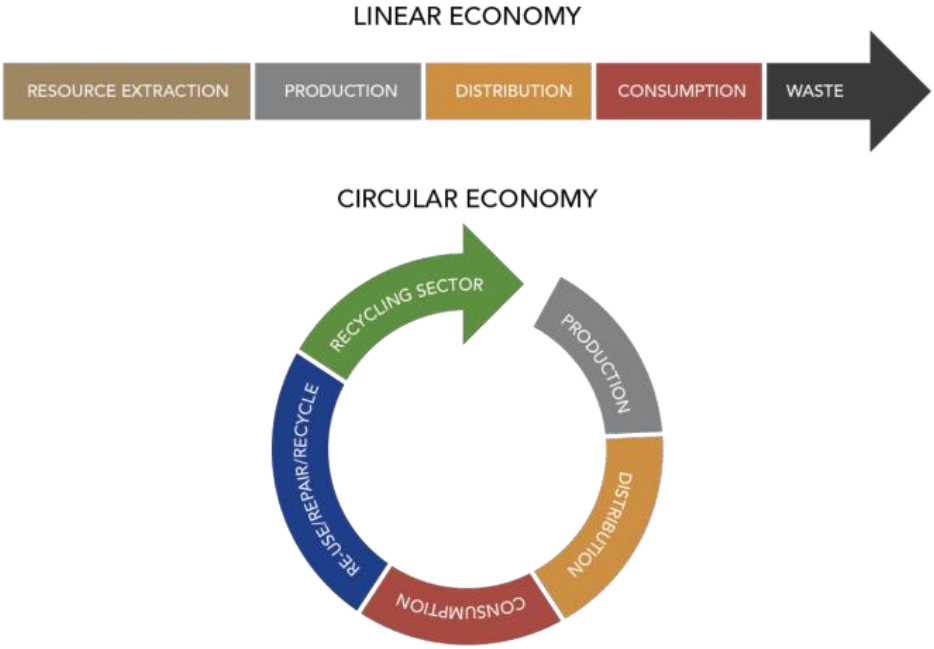
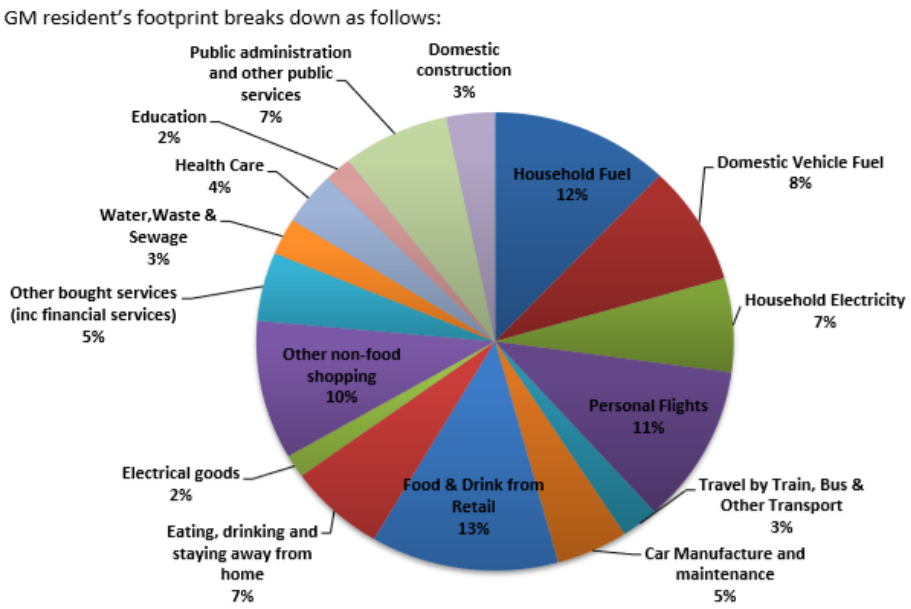


Diagram showing linear economy vs circular economy [55]

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. As the figure below shows, 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.



The greenhouse gas footprint of Greater Manchester residents broken down by consumption category (total 41.2 million tonnes CO_2e) [28]

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.

Bury is part of the Greater Manchester Waste Disposal Contract arrangement, which is one of the largest Waste Disposal contracts in Europe. Our recycling rate has increased significantly from 27% in 2011 to 56% in 2019/20. However, we need to increase our recycling rate further and we are awaiting the publication of the government's English Waste Strategy to see if the Deposit Return Scheme, Plastic Tax and Extended producer Responsibility will come into effect and what this will mean for Bury and Greater Manchester.

In 2017 Bury Council was the first council in England to propose a Deposit Return Scheme for single use plastic bottles, cans and glass bottles. This was done with help from Surfers Against Sewage and the Campaign for the Protection of Rural England.

2021 vs 2038

Reduce our consumption-based emissions

These emissions are very difficult to assess with any accuracy. However, research estimates that consumption-based emissions represent about 54% 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.

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

Bury council collected 60,913 tonnes of household residual waste and 34,111 tonnes of that amount was recycled (2019/20) [29]	**vs**	By 2038, we must reduce the total waste collected to 36,445tonnes [19]

Increased recycling

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].	**vs**	We need 85% of commercial and household waste to go to recycling [19]

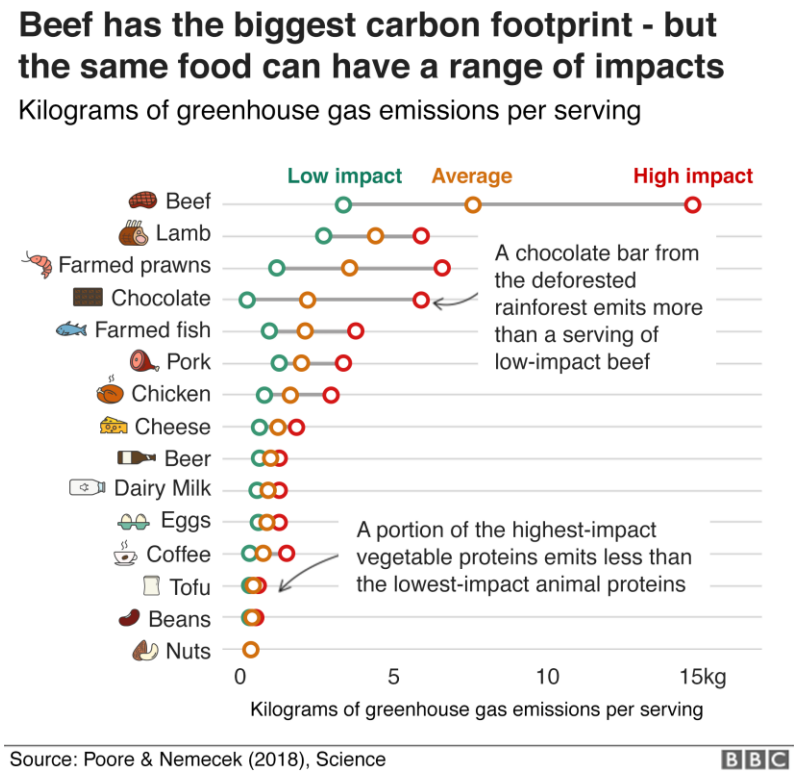
5.5 Food

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. Within Bury we have many independent and local markets, producers and retailers and we need to work with these businesses to promote them and get more people engaging with them to reduce associated carbon with our diets.

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



Impact of different food on the environment [53]

2021 vs 2038

Reduce emissions resulting from our consumption of food

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]

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 brings together food partnerships from towns, cities, districts and counties across the UK that are driving innovation and best practice on all aspects of healthy and sustainable food. Bury Council is working towards the Award as it highlights the co-benefits around climate and nutrition.

Reduce food wastage and increase food recycling

62% of food waste was avoidable 43% of food waste was correctly captured in the recycling bins [52] 16,633t of biowaste (2019/20)	**vs**	Avoidable food waste needs to be reduced to as near 0% as possible. All unavoidable food waste needs to be recycled.

To see what Bury Council have planned check out the Climate Action Plan, our annually updated working document for a full list of actions.

5.6 Natural Environments

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

Bury's Greenspace

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 CO_2. 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.

As new developments are designed and created, we need to work with the developers to ensure sustainable methods and materials are utilised to reduce their impact on the local environment. Developments cannot be allowed to damage an area's biodiversity and we need to promote habitats so a variety of plants and animals can survive and thrive. This sustainable mentality will be bolstered by the Places for Everyone Strategy [30] as it ensures that we have a greater voice during the implementation.

Burrs Country Park

Ash Die Back

Bury has approximately 108,064,000 trees of which 10% are Ash. Chalara or Ash Die Back will affect many of these trees and they will eventually have to be removed. Other diseases such as Acute Oak Decline and Chestnut Bleeding Canker are killing our trees. GM have approached Defra to ask for £360m to tackle Chalara. So, in effect we need to plant trees now just to keep pace with the loss of them through pests and disease. The good news is that in the last two years we've planted, working with City of Trees over 20,000 trees.

2021 vs 2038

Increase tree planting and tree cover

Government's National Forest Inventory (NFI) [31] suggests that 9% of Bury is woodland and Red Rose Forest/City of Trees [32] indicate 8%	**vs**	Friends of the Earth suggest we must double tree cover as soon as possible [22]

Biodiversity

Sites of Biological Importance (SBI)—Total area 923ha (2015) [48]	**vs**	Continue to recognise and develop areas through the SBI mechanism

Ecological Enhancement Areas

Seven Ecological Enhancement Areas have been identified in the Council's Natural Environment Topic Paper (2018) [48]	**vs**	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]

To see what Bury Council have planned check out the Climate Action Plan, our annually updated working document for a full list of actions.

5.7 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.

Zero Waste Produce Section

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.

2021 vs 2038

Reduce emissions from our commercial sector

Total emissions from the industrial and commercial sector in 2017 was 180ktCO_2e [14]		By 2038, commercial heating and cooling must reduce by 60% [19]
In 2021, 70% of Display Energy Certificates rated commercial buildings were D or lower [33]		50% of heating must come from air source heat pumps [19]
Consumption by non-domestic lighting computers and commercial motors fell 1.7% between 2015 and 2018 [20]	**vs**	30% of heating must come from ground source heat pumps and the remainder from community scale combined heat and power [19]
Greater Manchester's Green Growth Company has engaged with 170 local enterprises saving 44,591t CO_2e and produced cost savings of £9.3 million [34]		Commercial lighting and appliance energy demand must decrease by 25% [19]
		Commercial cooking must be 100% electric [19]

Grow local green businesses

		We need a well-developed local green economy with a range of businesses and employment opportunities providing support for a zero-carbon lifestyle
In 2021, there were 17 Bury based companies on the Growth Company's Low Carbon network of green businesses [34]	**vs**	We need local colleges and other academic institutions to provide our local workforce with the skills they need to deliver and maintain low-carbon solutions in our homes and businesses

What are our Local Businesses Doing? – an example 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. As they are 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 [51]

To see what Bury Council have planned check out the Climate Action Plan, our annually updated working document for a full list of actions.

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].

2021 vs 2038

Improve energy performance of houses to eradicate fuel poverty

In 2017/18, 9,563 households suffered fuel poverty representing 12% of household [17] There were 190 excess winter deaths in 2017/18 and a significant proportion of these would have been the result of living in cold homes [36] The council have carried out the following schemes to address this issue e.g., Kill the Chill, Toasty Bury (800 homes provided 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	**vs**	By 2038, we need to have eradicated 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

To see what Bury Council have planned check out the Climate Action Plan, our annually updated working document for a full list of actions.

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 the Boxing Day Floods of 2015 and other extreme storms such as Ciara and Christoph in the last five years. The results can be devastating for 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 6ºC at this point [37].

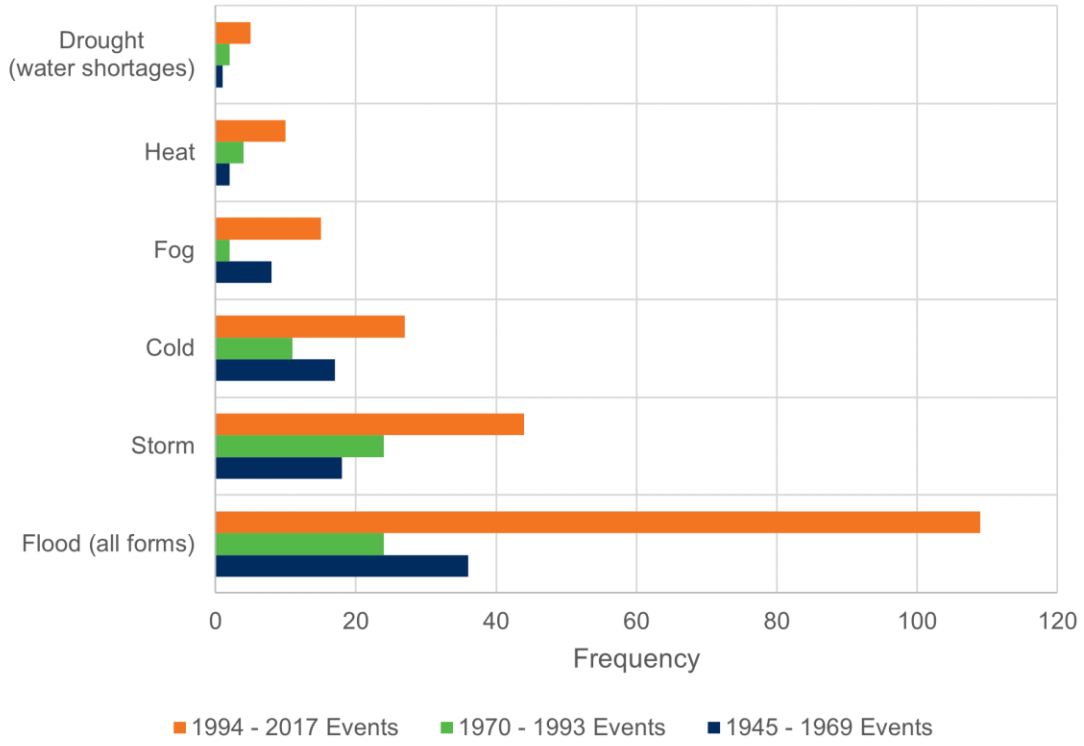
These changes will have a major effect on Bury's people, environments, buildings, and infrastructure. Recent research has identified climate change risks to Greater Manchester's critical infrastructure which is central to people's livelihoods and quality of life. Floods and storms account for the higher 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; and
- 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.



Past occurrence of extreme weather and climate change hazard events across Greater Manchester [38]

As well as adapting to new climates we also need to adapt as new technology is developed and technologies associated with carbon offsetting need to be appropriately considered. Carbon offsetting is when emissions from other carbon sources are compensated for by another action including things such as tree planting or reducing greenhouse gases outside of Bury's boundaries.

As this Strategy has highlighted, eliminating emissions from every sector will be incredibly difficult due to logistical difficulties, lack of influence, awaiting government guidance, or required technology not being available yet.

In order to reach carbon-neutrality, we must begin to consider the role of carbon offsetting and ensure that it is incorporated into our decision-making at the most appropriate time in order to enable us to reach our 2038 target.

2021 vs 2038

Protect our communities from likely changes in climate

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]

vs

All potential impacts from a changing climate need to be understood and have actions in place to protect the resilience of our community

We need more natural flood management to reduce or slow run-off after heavy rain

Identify how green infrastructure can make improvements

Bury Council have already implemented several projects around climate resilience including Killelea Residential Care Home soak zone and soakaway tree-planting along Prestwich High Street

vs

We need more projects similar to those already completed and these need to be identified and actioned in cooperation with local communities

To see what Bury Council have planned check out the Climate Action Plan, our annually updated working document for a full list of actions.

Chapter 6: Taking the Lead

Climate action is being embedded within the very heart of Bury Council and we're moving towards ensuring all our processes and decisions take into consideration the climate emergency. We, as a Council though can only do so much. Many of the decisions we make are determined by national legislation and standards. To truly tackle climate change we need National Government to provide strong leadership and guidance as well as the resources to implement a transformative agenda. We work very closely with our partners at the GMCA and neighbouring Local Authorities and will continue to do so as we lobby and push for further action.

Despite restrictions, Bury Council can still do a lot and together, as a community, we can do even more. As a Council, we will demonstrate and lead a progressive climate action agenda by focusing on the outlined Key Action Areas. To achieve our targets, we must engage with all sectors of society including and involving local residents, commercial organisations and businesses, borough partner organisations including the voluntary sector, faith groups, local community groups, health and education partners, schools, the GMCA, neighbouring councils, Transport for Greater Manchester and National Government Department and agencies.

Climate Action Forums

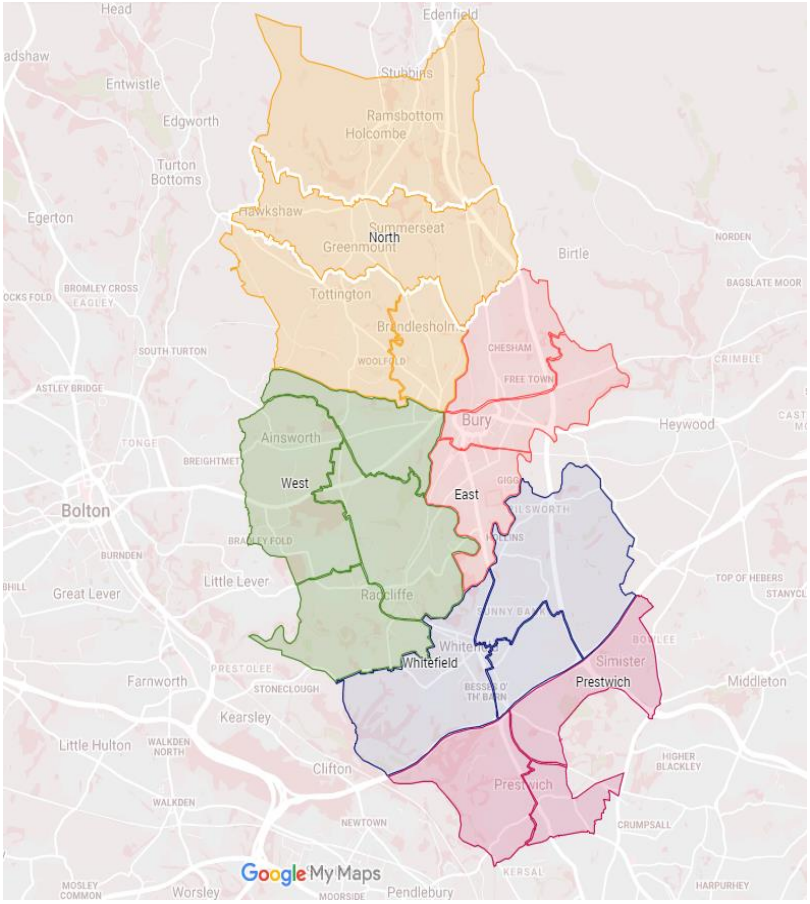
Climate change touches on every aspect of our lives and therefore, everyone should have the chance to have their say, ask questions, and get involved. We will be establishing Forums across Bury to communicate with communities. These regular meetings will be a way for the Council to provide updates and information about different actions and projects. We plan to establish a network of Climate Champions across the borough and these Champions and Forums will feed directly into the development, delivery, and monitoring of progress on our Climate Action Plan.

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 includes data regarding our neighbourhoods and identify characteristics which will help them to develop their own approach to this climate emergency [41-46].

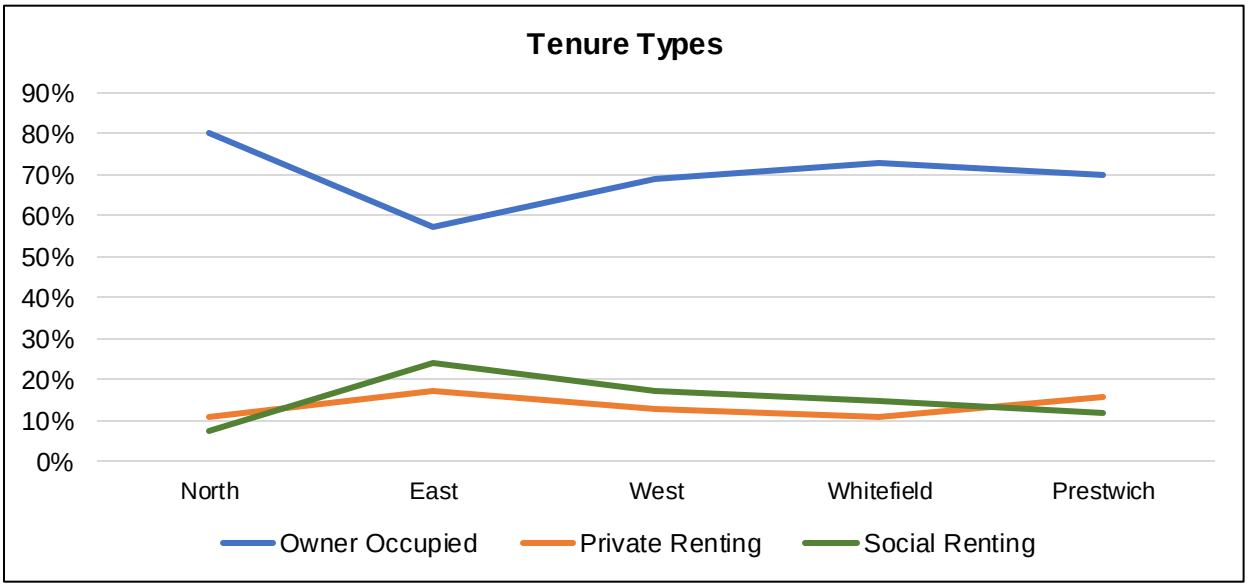
This section has been developed using the latest data from the neighbourhood profiles [41, 42, 43, 44, 45] that have been developed alongside findings from The Greater Manchester Clean Air Plan [46] and our Energy Path Network [47] project. The Energy Path Network project looked at how Bury could meet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



Bury's Five Neighbourhoods

Demographics

Predominant Age Groups	
East	Under 40
Prestwich	33-44
West	20-29 50-59 65-79
North	Over 40
Whitefield	Over 45

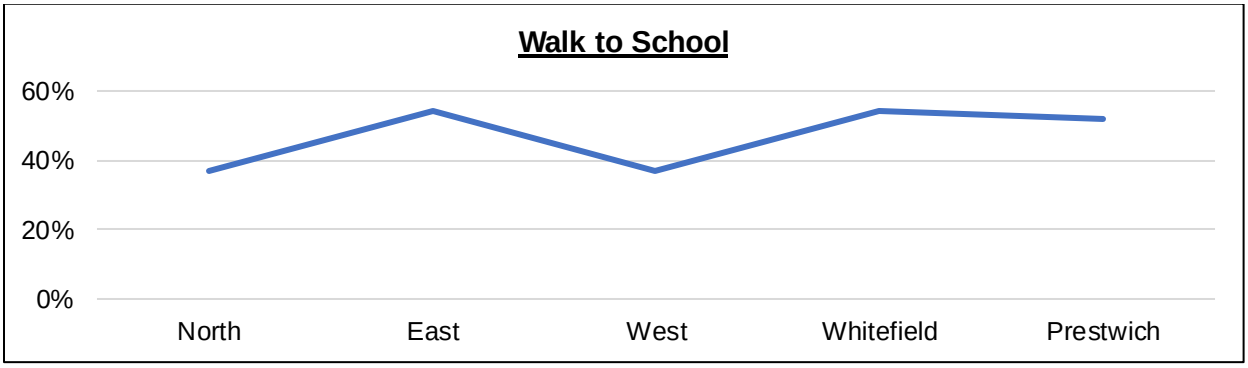


Health

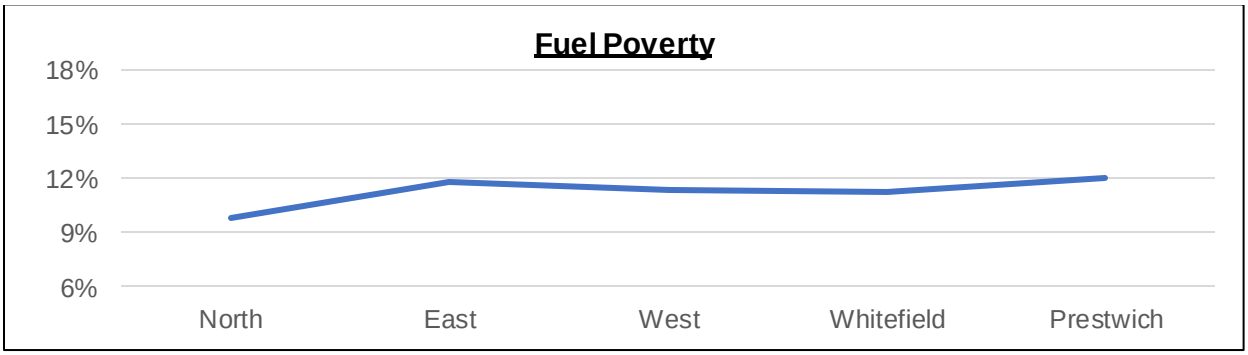
Healthy Life Expectancy	
North	High level
Whitefield	High levels
Prestwich	High levels
East	Amongst lowest in country
West	Amongst lowest in country

Premature Mortality and Highest Cause		
North	Better than Bury average and England average	Cancer
Prestwich	Better than Bury average but worse than England average	Cancer
Whitefield	Better than Bury average but worse than England average	Cancer
East	Worse than Bury average and England average	Cancer
West	Worse than Bury average and England average	Cancer

Highest Cause of Emergency Hospital Admissions	
North	Coronary heart disease COPD
East	Coronary heart disease COPD Stroke
West	Coronary heart disease COPD
Whitefield	Coronary heart disease COPD
Prestwich	Coronary heart disease COPD



Environmental Justice



Fuel Poverty	
North	Lower than Bury average and England average
West	Similar to Bury average and England average
Whitefield	Similar to Bury average and England average
East	Higher than Bury average and England average
Prestwich	Higher than Bury average and England average

Index of Multiple Deprivation	
North	Pockets of deprivation
West	Areas of high deprivation
Whitefield	Areas of high deprivation
Prestwich	Areas of high deprivation
East	One of the most deprived areas of the borough

Energy Path Network recommendations

	North	East	West	Whitefield	Prestwich
Heat pumps vs district heating	Suited to a mix	Suited to district heating	Suited to electric heat pumps	Suited to electric heat pumps	Suited to a mix
Basic insulation required	Clusters of houses		Clusters of houses in high fuel poverty areas		Clusters of houses in high fuel poverty areas
Solar PV and batteries		Clusters of houses suitable	Clusters of larger homes suitable	Clusters of homes suitable	Clusters of larger homes suitable
New developments	Explore opportunities around heat pumps and district heating	Significant number of opportunities for heat pumps & district heating	Explore opportunities around heat pumps and district heating	Explore opportunities around heat pumps and district heating	Explore opportunities around heat pumps and district heating

Suggested Areas for Priority Action

		North	East	West	Whitefield	Prestwich
Energy	Exemplar projects – solar PV					

Homes, Workplaces & Public Buildings	Exemplar projects – Domestic renewable heat and energy systems					
	Improve insultation amongst privately-owned housing					
	Push for carbon neutral properties in proposed new developments					
	Integrate carbon-neutrality into town centre regeneration					
Low Carbon Transport	Promote ULEVs					
	Improve cycling infrastructure on key commuter routes					
	Promote active travel with a focus on…	School-age children and adults (over-40)	Young adults (under 40)	Young & older people	Older adults (over 45)	Young adults (under 40)
	Road links with persistent nitrogen dioxide exceedances					
Environmental Justice	Tackle fuel poverty					
	Improve insultation in fuel poor homes					
Climate Resilience and Adaptation	Adaptation including flood resilience					

Chapter 7: Challenges and Risks

The following page includes some of the many challenges and risks that the Council faces in achieving a carbon neutral borough by 2038.

Despite the risks it is vital for the Council to take action and push a strong environmental agenda.

Challenge/Risk	Description	Mitigation
The expense of renewable energy heating systems discouraging uptake and worsening fuel poverty	• 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	• 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	• Some members of the community question the science surrounding climate change and therefore question the importance of taking action to reduce our impact and reach carbon neutrality	• 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	• 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	• 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.

Challenge/Risk	Description	Mitigation
	• Increased costs for council through procuring goods and services on a zero-carbon basis	• Develop systems to allocate a cost to carbon emissions so that low carbon products and services can be evaluated properly.
Lack of Direct Control	• 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	• 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	• 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.	• Plan ahead each year to ensure that we have sufficient officer resources to respond to the climate emergency.
Technology availability	• To achieve carbon neutrality, we will need innovation and suitable viable alternatives to fossil fuel-based systems	• Encourage innovation in our academic and business sectors and assist development where possible by providing pilot study opportunities.
New and existing buildings	• Current building regulations do not require carbon neutral development	• 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 to push developments to carbon neutrality. • Encourage our partners to deliver carbon neutral developments

Challenge/Risk	Description	Mitigation
		• Include carbon neutral development in the Places for Everyone report or our Local Plan as soon as possible.
Equality considerations	• Fuel poor in privately rented properties could be left behind as we move our residents to newer forms of carbon neutral heating.	• 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	• Many of the policies that are essential for Bury to meet our target are set at national level and are beyond our direct control	• 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 our planet

For each other

For future generations

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