Halesworth Town Council

A Carbon Baseline

For Halesworth

Building Tomorrow.

Together.

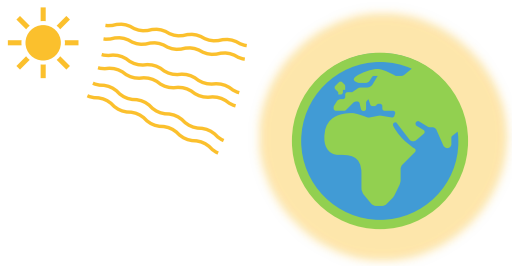
Today.

Opergy

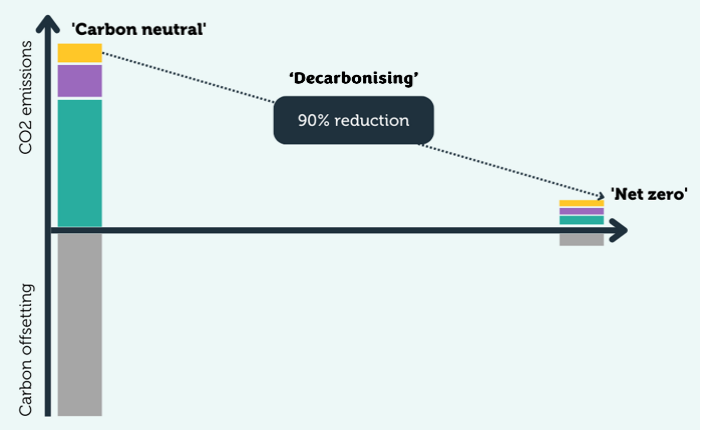
Contents

What is net zero?

The Earth's climate changes naturally. Natural climate change is complicated. Normally it happens slowly over geological time scales, often tens of thousands of years. The slow change allows nature to evolve and adapt. Since the industrial revolution climate change has accelerated and now plants, animals, and humans, are struggling to adapt. Burning coal, oil and gas for heat and power for our buildings and vehicles has added hundreds of billions of tonnes of greenhouse gases to our atmosphere. These gases trap heat, warming the Earth. We need some greenhouse gases for life to survive. Plants use carbon dioxide to grow and without greenhouse gases, the Earth's average temperature would -18 degrees!



Greenhouse gases are being emitted too quickly. By burning fossil fuels humans have accelerated global temperature rise. A small increase in global temperature leads to dramatic local impacts. In 2022, in England, temperatures above 40 degrees Celsius were recorded. Storms are more severe, rainfall is heavier, droughts are more severe and the highest temperatures get higher. Homes flood, crops fail and people die from heat exposure.



Urgent global action is essential to reduce the rate of warming, minimise the consequences, and adapt to the changes. When emissions are balanced with removals – net zero emissions – the rate of global warming will stabilise.

Generally, we are making big strides in the right direction. Everyone can play a part to help the planet while also helping their local area, including people in Halesworth!

How do we get to net zero? First, we must understand where we are, and the scale of the challenge. This is done for Halesworth, in this report, by analysing Halesworth's carbon footprint. Once we know this vital information, plans can be developed and action can be taken to help Halesworth reduce its emissions and adapt to a changing climate.

This first step for Halesworth puts the community in a select group of places across Suffolk and Norfolk – including Leiston, Hethersett and Norwich – who have started their net zero journey with a Net Zero Pathway.

Greenhouse Gases

Net zero emissions means greenhouse gas (GHG) emissions to the atmosphere are balanced by greenhouse gas emissions removed from the atmosphere. The most important greenhouse gas is carbon dioxide, but it is not the only one. The Greenhouse Gas Inventory covers these seven main direct greenhouse gases (GHGs) under the Kyoto Protocol: *(there are more than seven, but these are the main ones, and CO2 is by far the most significant.)*

- **CO_2 - Carbon dioxide**
- **N_2O - Nitrous oxide**
- **CH_4 - Methane**
- **HFCs – Hydrofluorocarbons***
- **PFCs – Perfluorocarbons***
- **SF_6 - Sulphur hexafluoride***
- **NF_3 – Nitrogen trifluoride***

**The last four of these gases are collectively known as the F-gases.*

All these gases contribute directly to climate change owing to their positive radiative forcing effect. This means there's more energy radiating back down from the atmosphere to the planet than there is radiating back out to space and so the Earth's surface continues to warm.

The largest contributor to global warming is carbon dioxide, representing around 75% of all GHG emissions. This makes it the focus of many climate change initiatives. Methane and then nitrous oxide contribute to a smaller proportion, typically less than 20%, and the contribution of f-gases is even smaller at less than 5% of the total.

Carbon dioxide can be removed (sequestered) naturally or mechanically, but only in limited quantities. What this means in practice, is that emissions must be reduced significantly, before emissions can be in balance with removals. This balance is achieved by reducing emissions through sustainable practices and technologies, as well as investing in activities that remove or sequester GHGs from the atmosphere. The international goal of net zero emissions is to limit average global warming to well below 2 °C above pre-industrial levels, as set out in the 2015 Paris Agreement.

For simplification when measuring GHG emissions, all GHGs are converted to 'equivalent' amounts of carbon dioxide. This is why net zero generally refers to carbon dioxide and carbon dioxide equivalents (**CO_2e**).

For Halesworth, this carbon baseline study will cover:

1. CO_2 emissions
2. N_2O emissions (converted to CO_2e)
3. CH_4 emissions (converted to CO_2e)

(CO_2e = Carbon Dioxide Equivalent)

The carbon baseline set out below mainly focuses on emissions created *directly* in Halesworth, quantifying the impact of fossil fuels consumed from within the boundary. This focus is because of the greater opportunity to influence direct emissions, within Halesworth, compared to indirect emissions, though these are still important.

UK Government Commitments

The United Kingdom (UK) has taken significant steps in recent years to address the pressing challenge of climate change. Central to these efforts is the country's commitment to achieving net zero greenhouse gas emissions.

In June 2019, the UK became the first major economy in the world to pass legislation committing to net zero emissions by 2050 compared to 1990 levels. This ambitious target requires the UK to balance the emissions it *produces* with the removal of an equivalent amount of GHGs from the atmosphere. The commitment is enshrined in the Climate Change Act 2008 (2050 Target Amendment) Order 2019.

UK Government Interim Targets

To support the net zero commitment, the UK government has set interim targets to ensure progress is made towards this ultimate goal. These are set out in the UK's Sixth Carbon Budget, covering the period from 2033 to 2037, which was legislated in December 2020 to aid a clear roadmap for transitioning to net zero. As of 2023, emissions were 49.5% lower than 1990 levels.

The decarbonisation targets for net zero are:

Energy Transition

The UK phased out coal-fired power generation in 2024 and has significantly increased its renewable energy capacity. The Offshore Wind Sector Deal aims to reach 50 GW of offshore wind capacity by 2030, while recently the government has pledged £20bn over 20 years in support of Carbon Capture and Storage (CCS). Onshore wind and solar power are now the cheapest ways to build new generation capacity.

2030 Grid Decarbonisation

The UK government has set a target of 2030 to reduce electricity carbon emissions by 95%. This will include wind, solar and nuclear energy.

Decarbonising Transport

The UK is promoting the uptake of electric vehicles (EVs) through grants, incentives, and investment in charging infrastructure. The phase-out of petrol and diesel vehicles was set for 2030 but has since been pushed back to 2035. The Transport Decarbonisation Plan outlines measures to decarbonise aviation, shipping, and rail sectors.

Building Efficiency

The Government has introduced measures to improve the energy efficiency of buildings and reduce bills. The Warm Homes Plan consolidates all of the government's efforts across increasing energy efficiency, maximising renewable energy and securing energy supplies, and minimising energy bills.

Industrial Transformation

The UK is promoting the decarbonisation of industries through initiatives such as the Industrial Decarbonisation Strategy and the creation of Industrial Clusters. These initiatives aim to support the development of low-carbon technologies and the transition to sustainable industrial processes.

Nature-Based Solutions

The Government recognises the importance of nature-based solutions in mitigating climate change. The Environment Act aims to establish legally binding targets for biodiversity, waste reduction, and air quality. The Nature for Climate Fund supports projects that restore and enhance natural habitats to capture and store carbon.

UK net zero timeline

2008

Climate Change Act

The UK becomes the first country to set legally binding targets under the Climate Change Act. This Act originally mandated an 80% reduction in greenhouse gas emissions by 2050 compared to 1990 levels.

"Promoting the transition to a low-carbon economy in the United Kingdom through the use of economic instruments"

"Any emissions would be balanced by schemes to offset such as planting trees or using technology like carbon capture and storage"

2019

Climate Change Act Amendment

The UK government amends the Climate Change Act to commit to net zero greenhouse gas emissions by 2050. This update made the UK the first major economy to pass a net zero emissions law.

2021

net zero Strategy

The UK government publishes the 'Net Zero Strategy: Build Back Greener', outlining the pathway to reach net zero by 2050. This strategy was released ahead of the COP26 climate summit held in Glasgow, Scotland.

"Community empowerment, and action can play a role in supporting the UK's transition to net zero and enable communities to access the benefits that it brings"

2021

COP26 - Glasgow

The UK hosted COP26 in Glasgow, playing a pivotal role in the international climate negotiations, pushing for global commitments to phase down coal, curtail deforestation, and finance for developing countries.

"Your actions matter. No action or voice is too small to make a difference."

2023

Powering Up Britain

UK paper aimed at enhancing the country's energy security, accelerating the transition to renewable energy sources, and supporting economic growth through investments in clean energy technologies.

"There must be more place-based, locally led action on net zero"

2024

Adapting to Climate Change

The Climate Change Committee (CCC) publishes its 2023 'Progress in Adapting to Climate Change' report, giving a damning overview of the UK being 'strikingly unprepared' for climate change.

"Targeted support will be needed at local level to support communities which are particularly vulnerable to climate

Net Zero Pathways and the UK Landscape

The UK will not achieve its net zero ambition without Government leadership. Local leadership and active engagement with communities and organisations living across the nation's regions, will also be pivotal to achieving this goal.

Many of the urgent changes and decisions that are needed to reduce emissions and reach net zero have a strong local dimension. Differences between areas can be striking, such as demographics, local government structures, energy resources, housing stock, landscape or economy. This means that diversity of approaches to decarbonising the UK is vital.

At the same time, there is already a growing amount of experience and expertise from those at the forefront of action that can be drawn on.

Many communities have been quick to respond to the climate emergency. Over 300 Local Authorities – about 75% - have declared climate emergencies. More than half of these councils have already adopted a net zero target date of 2030.

Many others are delivering climate change plans without declaring an emergency. However, for most, details around implementation programmes – sometimes called climate action plans - and delivery remain very high-level or in some instances non-existent. At the same time, there is growing recognition that the resources and skills available to them may not be sufficient to meet the significance of this challenge.

So how can we help the community of Halesworth to visualise its own contribution to mitigating and adapting to climate change; and understand the interventions we can all make to help to achieve it?

With a net zero Pathway!

Net Zero Pathways

A Net Zero Pathway explains how we can reduce emissions in a practical way.

1. **Waste less energy** – insulate homes, tackle draughts, and upgrade inefficient equipment.

2. **Switch to clean power** – upgrade from fossil fuels for heating and transport. Maximise renewable energy generation and use.

3. **Support nature** – protect trees and restore soils and wetlands. Naturally store carbon and boost biodiversity to make Halesworth green and vibrant.

4. **Balance what is left** – minimise carbon emissions and use trees to remove residual carbon emissions.

There are many local benefits to this transition. Warmer homes that cost less to heat and are healthier to live in. Cleaner air and quieter streets improve our wellbeing. Local projects keep more money in our local economy and can create skilled jobs. Using local renewable electricity makes our energy supplies more secure. Community owned energy can save people money.

As more of our heating and transport moves to electricity, the electricity network will power more of our lives. This means the emissions will be tied more and more to the generation of the electricity.

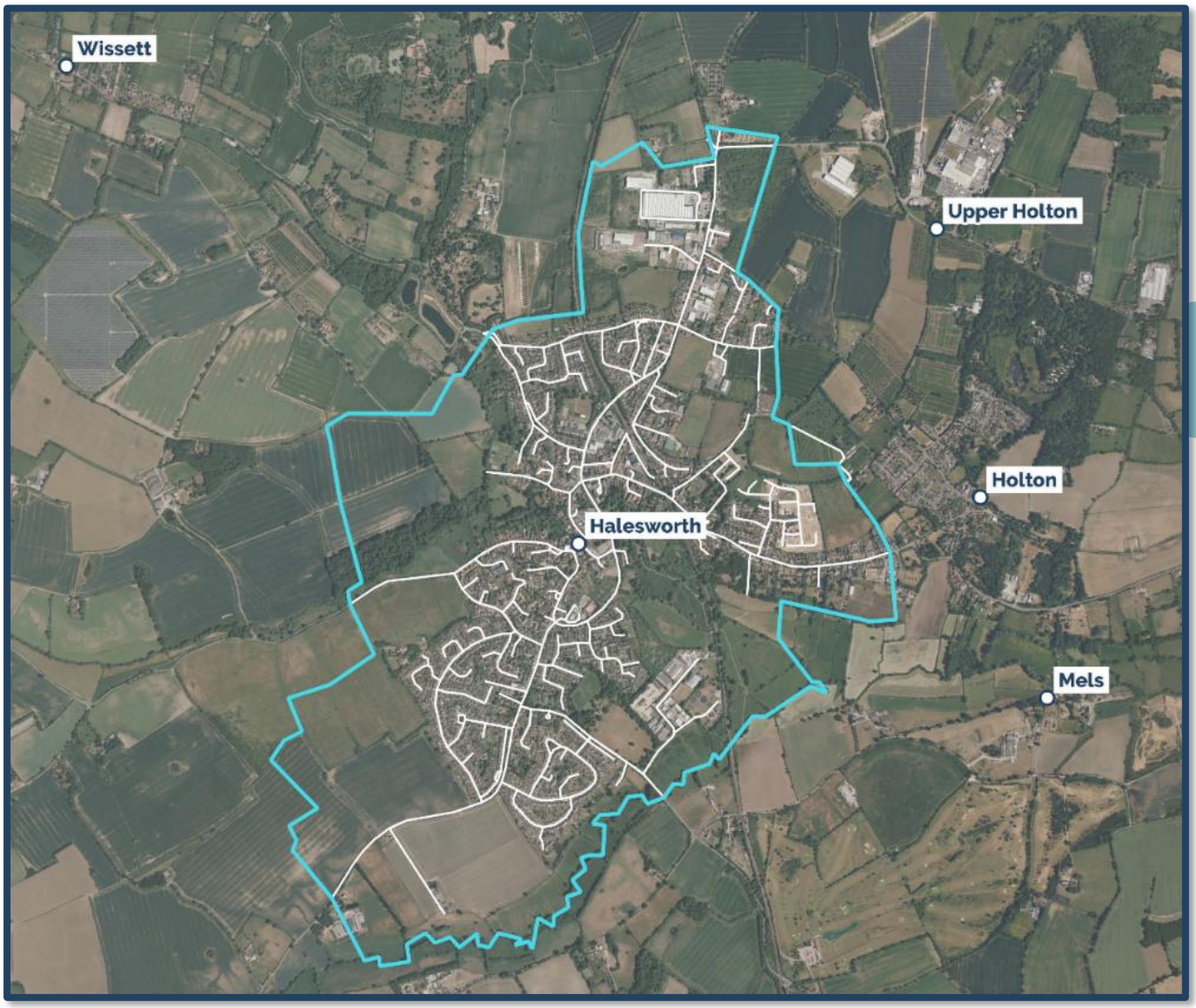
In the UK, we already have a high proportion of renewable energy generation, like onshore and offshore wind turbines and solar. These are also now the cheapest way to build new electricity generation assets. Because renewables are cheaper and cleaner, more and more renewable assets will be built, lowering emissions from electricity more and more. This is why electrification – swapping fossil fuels for clean electricity – is the key for reducing carbon emissions.

Net Zero Pathways need to be ambitious and practical. It starts with 'no regret' actions that save money and reduce emissions today, while also preparing for the bigger steps that will be needed in future. Pathways need to evolve as technology, economics and local opportunities change.

Everyone has a role to play. Halesworth's residents can save energy at home, choose lower carbon ways to travel, and reduce waste. Businesses can improve efficiency, switch to clean power and work with suppliers and customers. Community groups can champion local projects from repair cafes to tree planting and locally owned renewable energy generation. Councils and public services can lead by example through their buildings, vehicles and purchasing.

A Net Zero Pathway sets out where we are today, the milestones we can aim for and how we can track progress in a clear and open way. Most of all, we invite you to take part and have your say. Together, Halesworth can cut emissions, strengthen our local economy and shape a greener future that works for everyone.

Halesworth



Halesworth Overview

Halesworth is a historic market town in north-east Suffolk, situated on the River Blyth between the coast at Southwold and the larger town of Beccles. With roots dating back to the Saxon period, Halesworth grew as a local trading centre and later as part of Suffolk's thriving malting and brewing industry. Its heritage is reflected in a wealth of timber-framed and Georgian buildings, a distinctive medieval street pattern and notable features such as St Mary's Church and the unique moving railway platforms at Halesworth Station.

Halesworth Community Groups

Halesworth Volunteers – a registered charity providing support, companionship and practical help to people in Halesworth and nearby.

Community Larder & Food Bank – Food support provision for those in need – in St Mary's Church & Church Hall.

HACT Community Transport – Local transport hire and service to assist mobility and access in the area.

Friends of Halesworth Library – volunteer helpers support library services and events.

Population

4,924 (2021 Census)

Over 65s:

1,742

Under 16s:

717

Did You Know?

Halesworth is home to the **only** surviving example of moving railway platforms in the world! Installed in 1888, the platforms at Halesworth Station were designed to slide sideways, allowing goods wagons to pass through the station – and they still work today!

Halesworth ASH

The Halesworth Area Sustainability Hub is inspiring a thriving climate resilient community in Halesworth and fostering collaboration beyond. Halesworth ASH grew out of the Halesworth Climate Action Conference in 2023. Originally linked to Halesworth Town Council, they became constituted in 2025 as an independent group, led by Trustees. Halesworth ASH advise and work with Halesworth Town Council and Blyth Valley Churches to meet the Town Council, Church and community's challenging target of becoming carbon neutral by 2030.

Working with local communities, Halesworth ASH gather local solutions, driving sustainable actions to mitigate climate change. Halesworth ASH's objectives as defined in their constitution are:

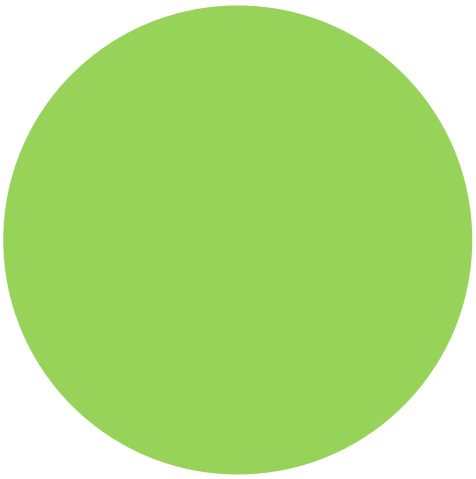
1. Serve as a hub to support practical, sustainable measures in response to the climate emergency
2. Celebrate nature and promote measures to increase biodiversity in the town and surrounding areas
3. Facilitate events that educate and inform local people about the part they can play
4. Collaborate with Halesworth Town Council (HTC) and Blyth Valley Churches (BVC) in implementing their plans to mitigate the impact of the climate emergency in the communities they serve.

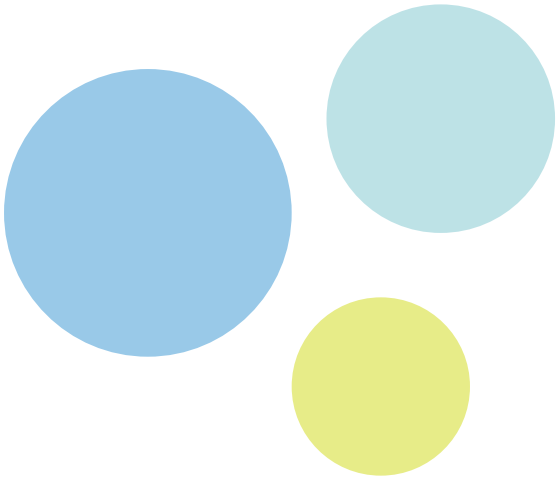
Local engagement includes:

a. Conferences & Weekends – In 2023, Halesworth ASH's first conference dealt with a wide and general variety of issues and had an accompanying exhibition of local initiatives and organisations. The 2024 conference specialised in Land and Food. Both worked with local schools. In 2025 they hosted an Energy Weekend.
b. Events including Green Films are organised or promoted throughout the year – either independently or in partnership with other organisations. Green Films, held at the Cut Arts centre in Halesworth, offer a series of 'green films' to inspire, challenge and inform.
c. Mailing list updates – Halesworth ASH keep the community informed through a monthly newsletter of local events and initiatives.

Halesworth ASH and Halesworth Town Council have worked with Opergy to understand the main sources of carbon emissions in Halesworth. Through understanding the carbon baseline, Halesworth can plan a pathway to net zero and act to make Halesworth cleaner and greener.

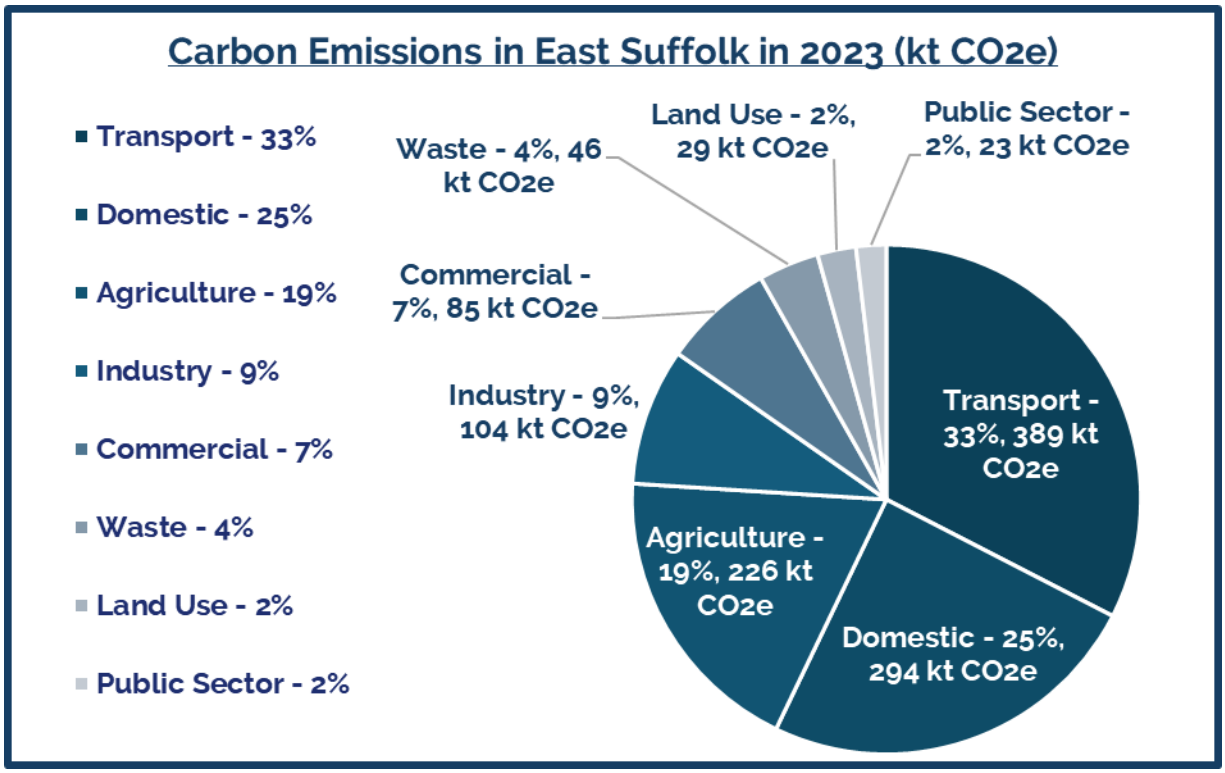
Halesworth's Carbon Emissions





Our Approach to Measuring Emissions

This study focuses on territorial emissions – those emissions produced within Halesworth itself. The emissions from producing the electricity Halesworth uses are also included. The UK Government publishes data at a range of scales – from national to local authority level – that cover territorial emissions. The chart below shows emissions in East Suffolk, in 2023. This shows that the majority of emissions in East Suffolk are from transport and domestic buildings. As a largely rural area, agricultural emissions are also significant. Waste is a small proportion of emissions, at 4%. Net emissions from land use are also small at 2%. With the right action, land use emissions can be net-negative, drawing down carbon from the atmosphere and helping to put the net in net zero.



Our methodology builds a picture of emissions, from the bottom up, for smaller geographies, like Halesworth. We focus on the sectors that have the highest emissions and where action has the biggest impact on reducing emissions. The underlying data is published annually, allowing Halesworth to monitor progress on reducing emissions every single year.

- Buildings
- Transport
- Green Space and Agriculture

Emissions produced outside the boundary of Halesworth, such as those associated with making the products used by people in Halesworth, or from flying, are not included in this study. If you are interested in these emissions (often called consumptive emissions), see the Behaviour Change page later in this document.

Buildings

This includes all of the emissions from both public, commercial and private buildings within Halesworth. This includes emissions from fuels used in the building, like natural gas for heating, and also the emissions from producing the electricity that powers buildings. Consumption data from electricity and gas meters and government published GHG emissions factors are used. Additional information from Energy Performance Certificates is used to show which buildings are the least efficient.

Transport

This includes emissions from all land-based vehicles travelling within the Halesworth boundary. Emissions include CO_2 from car exhausts as well as other greenhouse gases produced such as N_2O. This data set uses data from traffic monitoring surveys and government published GHG emissions factors. Additional information on the types of vehicles registered in Halesworth is also provided.

Green Space and Agriculture

The way land is used can significantly change the emissions associated. Land can emit carbon dioxide, as well as drawing it out of the atmosphere. Satellite imagery from the Crop Map of England (CROME) is used to understand land use across Halesworth. Emissions factors associated with each crop are used to estimate emissions. Land is categorised as agricultural, trees and hedgerows, grassland and urban. Only land within the defined boundary of Halesworth is analysed.

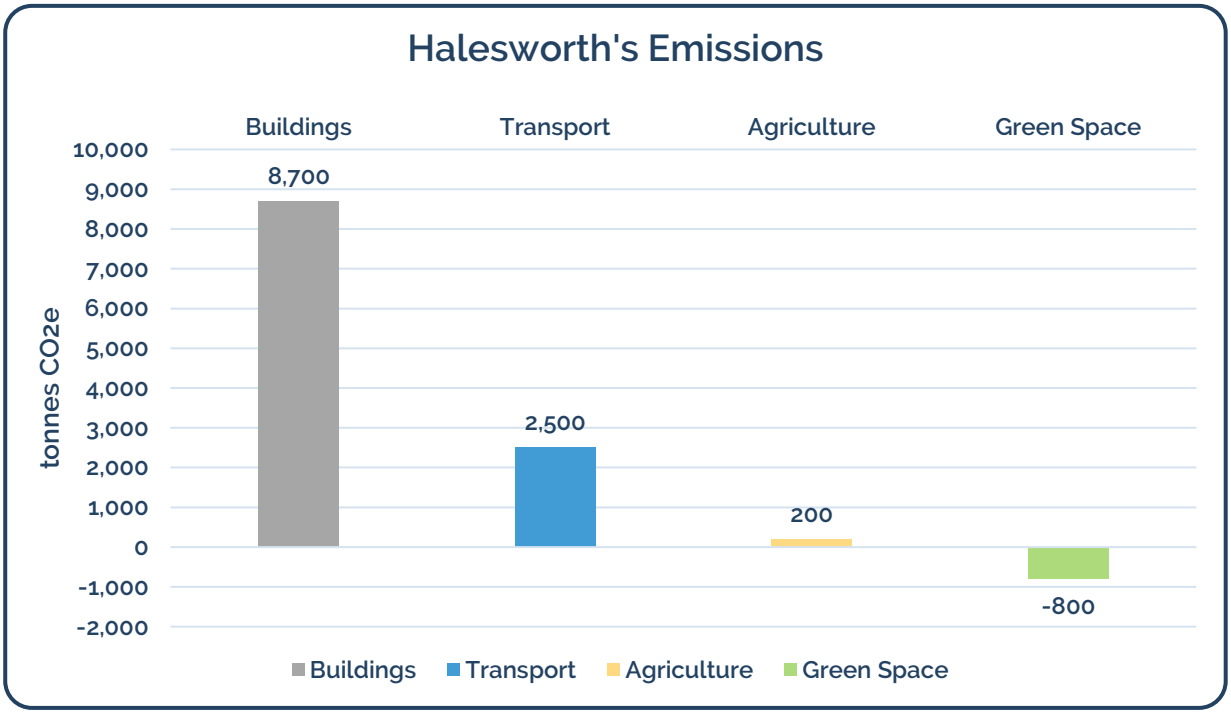
Halesworth's Emissions

In this study, Buildings, Transport, Agriculture and Green Space emissions were estimated for 2023 using the latest data available. Results from this are shown in the table below.

Calculated as part of this study:

~10,600 tonnes CO2e per year

	Buildings	The total CO2e emissions for Halesworth's Buildings: **~8,700 tonnes CO2e per year**
	Transport	The total CO2e emissions for Halesworth's Transport: **~2,500 tonnes CO2e per year**
	Agriculture	The total CO2e emissions for Halesworth's Agriculture: **~200 tonnes CO2e per year**
	Green Space	The total CO2e emissions for Halesworth's Green Space: **-800 tonnes CO2e per year** ("sequestered" or "absorbed")



Transport

In Halesworth, there are **3,698 vehicles** registered. Cars make up the largest share of transport emissions.

3,698
Vehicles

61%
transport emissions = cars

Cars are responsible for over **61% of the total transport-related emissions** in the town.

Cars contribute approximately **1,525 tonnes** of transport emissions per year.

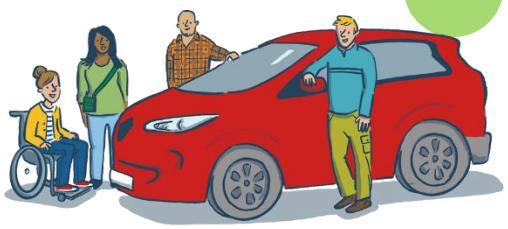
1,525
Tonnes CO_2e

This large quantity of emissions comes from the burning of petrol and diesel, which releases carbon dioxide and other greenhouse gases which contribute to climate change.

2,879 Total Cars

~2% Electric Cars

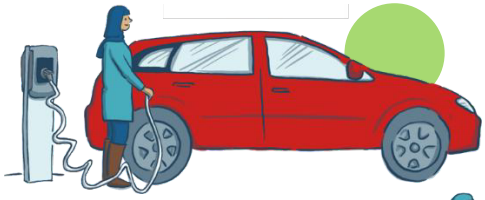
Recent registration data from 2025 shows that of the **2,879 cars** registered in Halesworth **only 63 are electric vehicles**, making up just **2% of the total**. Electric vehicles eliminate tailpipe carbon emissions, but their numbers are currently too small to make a big impact on the town's overall transport emissions. Increasing the number of EVs will reduce the emissions from the transport sector significantly.



The shift from traditional petrol and diesel vehicles to electric vehicles, known as electrification, offers a key opportunity to reduce local emissions over time. As the electricity grid becomes even greener and with more renewable energy sources such as wind and solar, the carbon footprint of driving an electric vehicle will continue to shrink.

Transitioning to EVs not only helps lower the emissions produced by individual cars but also reduces the strain on the environment caused by fossil fuels.

Encouraging more people to make the switch to electric vehicles, supported by better charging infrastructure and incentives for EV ownership, is a crucial part of Halesworth's pathway to net zero.

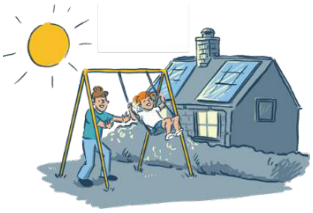


In addition to EVs, increasing the use of active transport like walking, cycling and public transport like buses and trains will further contribute to cutting emissions. Active travel can have big health benefits, too.

As the technology and economics continue to improve the use of electric vehicles in Halesworth will increase and play a significant role in reducing overall transport emissions, improving local air quality and supporting the town's move towards a greener, more sustainable future.

Buildings

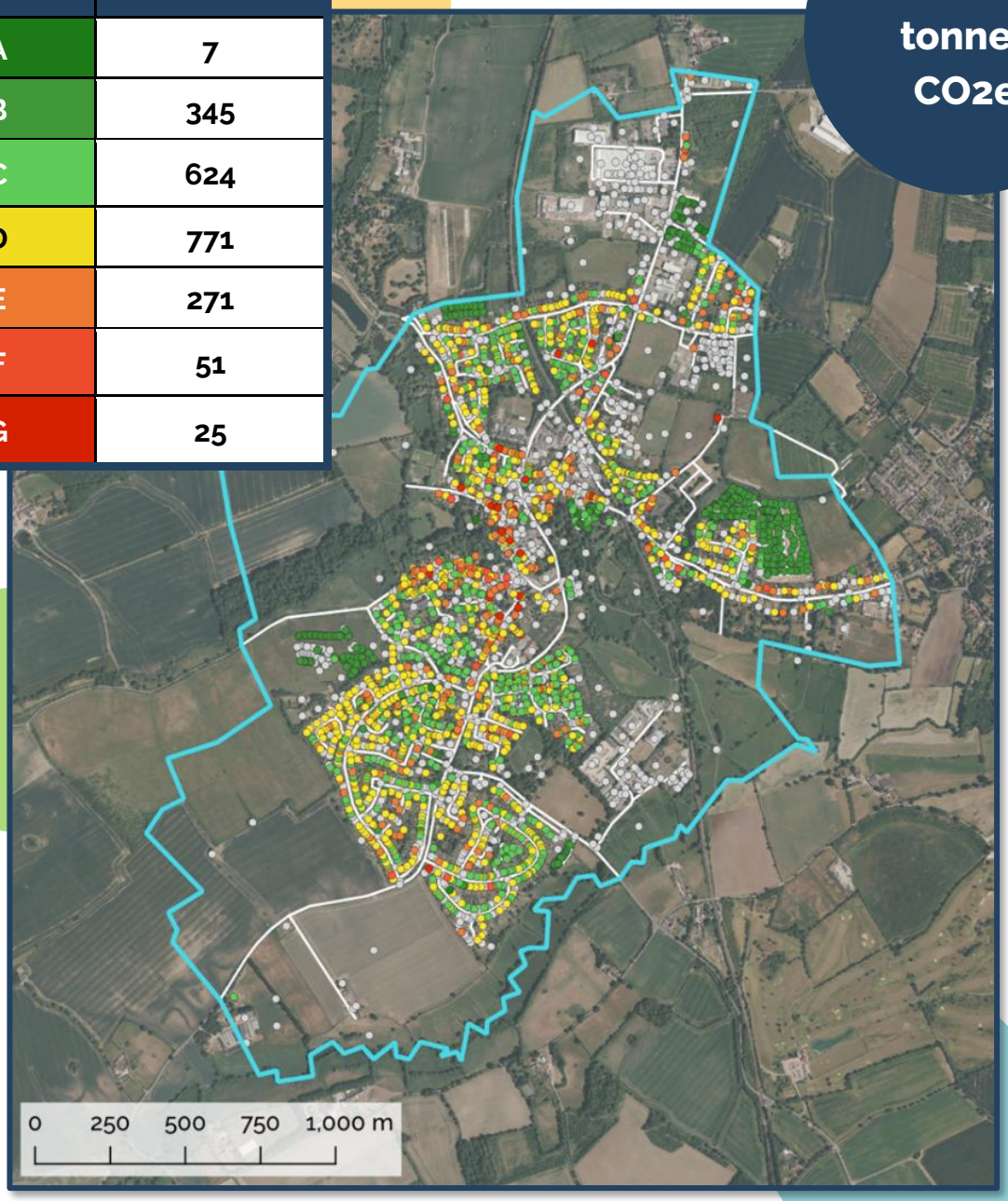
Homes



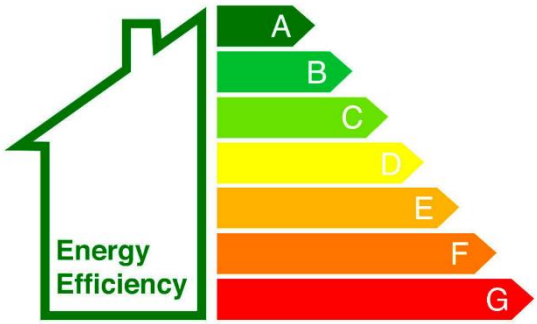
In Halesworth there are **2,700 homes**, each contributing to the town's overall emissions primarily through the energy used for heating, lighting and appliances. Homes contribute **6,490 tonnes CO2e.** Reducing these emissions is a significant part of the transition to net zero. In Halesworth, buildings are responsible for the biggest portion of the carbon footprint.

EPC Rating	Number of Properties
A	7
B	345
C	624
D	771
E	271
F	51
G	25

6,490 tonnes CO2e



Energy Performance Certificates (EPCs) are used to assess how energy efficient homes are, providing a rating from A to G with A being the most efficient and G being the least. Homes with low ratings cost more to run and have a higher carbon footprint.



Currently, **only 2,094 homes** in Halesworth **have an EPC**, meaning there are around **600 homes** without an efficiency rating. These properties are likely to be older buildings which typically have poorer insulation and less efficient heating systems and will contribute significantly to Halesworth's carbon emissions. Of the homes that do have EPCs, more than:

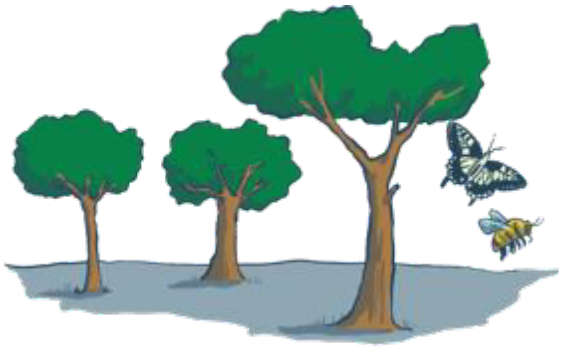
50%
(1,118 homes)
are rated
D or below

Half of Halesworth's homes are not very energy efficient. These homes will use more energy to keep warm, resulting in higher emissions and higher energy bills for residents. Improving the energy efficiency of these homes is important to reduce building emissions and lower residents' energy bills. Cheap and simple upgrades like installing or increasing loft insulation and draught-proofing can significantly reduce emissions, increase comfort and reduce bills. Bigger upgrades like replacing windows or wall insulation also have significant benefits but at a far greater cost.

While energy efficiency is important for carbon, cost and comfort, how the building is heated is more important. In Halesworth, most buildings rely on gas for heating. **82% of homes use gas for heating.** Gas is a fossil fuel that releases carbon dioxide when burned. In Halesworth, gas used in homes is the biggest source of carbon emissions. **Over 45% of Halesworth's emissions are from burning gas in homes.** Heating oil is another fossil fuel that also contributes to high emissions and around 1% of homes are heated by oil. The cleanest way to heat homes is using electricity. In Halesworth, **17% of homes are heated using electricity.** Electricity gets cleaner every year with the rollout of renewable energy. Heating directly with electricity can be expensive but heating using a heat pump or an air conditioning unit can be 300% or 400% more efficient than gas. Most homes are suitable for heat pumps. Electric alternatives like heat batteries can be cost effective for other homes.

The transition to more energy-efficient homes and greener heating systems is crucial for reducing emissions in Halesworth.

In particular, replacing fossil fuel-based heating systems with low-carbon alternatives, such as heat pumps or district heating systems powered by renewable electricity, will significantly reduce the carbon footprint of the town's buildings. There is also a strong opportunity to improve the efficiency of homes through retrofitting initiatives, ensuring that even older properties are upgraded to meet modern energy efficiency standards.



As part of Halesworth's pathway to net zero, addressing building emissions will not only reduce the town's carbon footprint but also offer benefits such as:

- ✓ **Lower energy bills for residents**
- ✓ **Improved comfort**
- ✓ **Enhanced property values**

By making these changes, Halesworth can take meaningful steps towards a more sustainable, energy-efficient future, while also creating healthier living conditions for its residents.

Non-Domestic Buildings

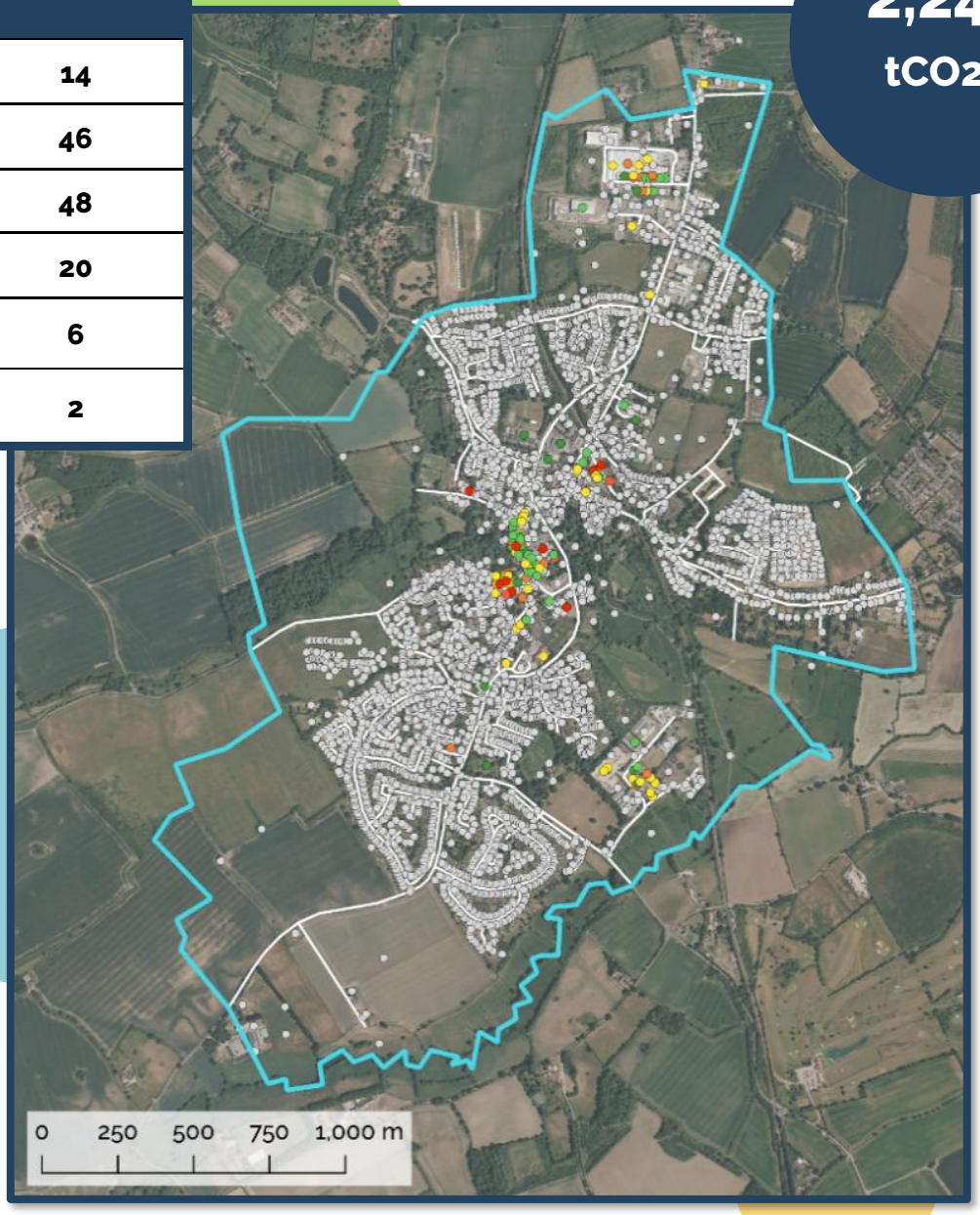
In addition to domestic buildings, non-domestic buildings, such as offices, shops, schools and public buildings, also contribute to Halesworth's carbon emissions.

There are approximately **300 rateable non-domestic properties** in the town with only **146** having an **Energy Performance Certificate** (EPC).

Like residential properties, EPCs are used to assess the energy efficiency of a building, with ratings from A to G.

EPC Rating	Number of Properties
B	14
C	46
D	48
E	20
F	6
G	2

2,240 tCO2e



A large proportion of non-domestic buildings in Halesworth perform poorly in terms of energy efficiency:

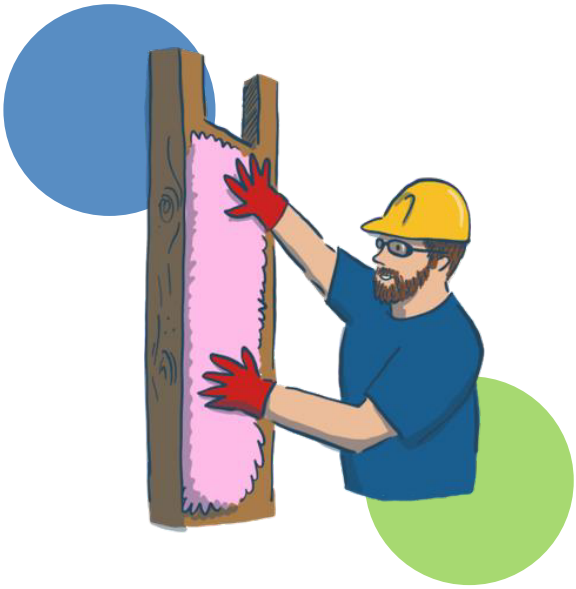
59%
(86 properties)
are rated
D or below

This indicates that many businesses and organisations are using more energy than necessary to heat, light and power their buildings, resulting in higher carbon emissions and higher operational costs. The poor energy performance of non-domestic buildings in Halesworth suggests that there is a significant opportunity for improvement.

Just as with homes, simple improvements to insulation, heating and lighting systems can make a substantial difference.

Many non-domestic buildings, especially older ones, still rely on inefficient heating systems, which not only contribute to higher emissions but also lead to unnecessary costs for businesses.

Retrofitting buildings with energy-efficient technologies, such as LED lighting, better insulation, and modern, low-carbon heating systems, can significantly reduce energy consumption and emissions.



The push for energy efficiency and carbon reduction in non-domestic buildings is supported by both financial reasons and complying with regulation. As part of the UK's broader commitment to achieving net zero emissions, businesses will increasingly be expected to meet higher standards for energy efficiency.

This could include future requirements for EPC ratings to improve and meet stricter energy performance thresholds. By taking proactive steps now, businesses in Halesworth can future proof themselves against potential regulation changes, reduce their carbon footprint and reduce their energy waste, helping with bills.

Key Buildings

Historic buildings add so much character to a place like Halesworth, but they can present a challenge when it comes to carbon emissions. Historic England is fully supportive of decarbonising buildings while protecting their character and adapting them to a changed climate. Protecting and adapting significant buildings across Halesworth, like those below, is important for climate, comfort and character.

Religious & Civic		
St Mary's Church	Grade II	Medieval Parish Church
The Old Almshouses	Grade II*	High-status historic almshouse range
The Social Club	Grade II*	Notable town centre historic building
Rifle Hall, London Road	Grade II	Built as a theatre in 1792, later a drill hall, a community venue today
Commercial / Townscape Anchors		
The Angel Hotel, Throughfare	Grade II	Prominent Georgian front, key townscape corner
White Hart Hotel	Grade II	Historic inn
White Lion	Grade II	Historic inn (now residential)
No. 46 The Elms – (Maltster's house)	Grade II	Fine early-19th century façade
Other notable listed places		
Gothic House	Grade II*	Architecturally distinguished home
Halesworth Station	Grade II	Railway station

Agriculture

Land types across Halesworth

Agriculture plays a significant role in the emissions profile of Halesworth, particularly through land use and farming practices.

Around 83 hectares of land within the study boundary is dedicated to agriculture, with crops such as winter barley, winter rye, and winter wheat being the main agricultural outputs. Winter barley occupies 31 hectares, winter rye covers 5 hectares, and winter wheat is grown across 47 hectares.

While these crops provide essential food resources, they also contribute to the town's overall carbon footprint, particularly through the application of nitrogen-based fertilisers and other agricultural practices that release greenhouse gases.

The use of nitrogen fertiliser is a key source of agricultural emissions. When applied to soil, nitrogen fertilisers can release nitrous oxide, a potent greenhouse gas that contributes significantly to global warming. This process is known as "nitrification" and occurs when nitrogen compounds break down in the soil.

In addition to nitrous oxide emissions, the cultivation of crops can lead to other environmental impacts, such as soil degradation and reduced biodiversity, which further contribute to climate change. The amount of fertiliser used, and the methods of application directly affect the level of emissions, making it an important area for improvement.

One of the main strategies for reducing agricultural emissions in Halesworth is to improve the efficiency and sustainability of farming practices. This includes optimising the use of nitrogen fertilisers by applying them in precise amounts and at the right time to reduce waste and minimise emissions. Implementing more sustainable fertiliser management practices, such as using organic fertilisers or adopting techniques like precision farming, can significantly lower the carbon footprint of agriculture in the region.

Local food and farming pioneers Wakelyns Agroforestry and Hodmedod's are the epitome of sustainable food and farming. Expanding and replicating these principles across Halesworth, Suffolk and the UK would go a long way to addressing food security, biodiversity and carbon emissions.

Additionally, integrating cover crops or implementing crop rotation can help improve soil health, reduce the need for fertilisers, and sequester carbon in the soil. These methods not only reduce emissions but also help restore biodiversity and improve resilience against extreme weather events, which are becoming more common due to climate change.

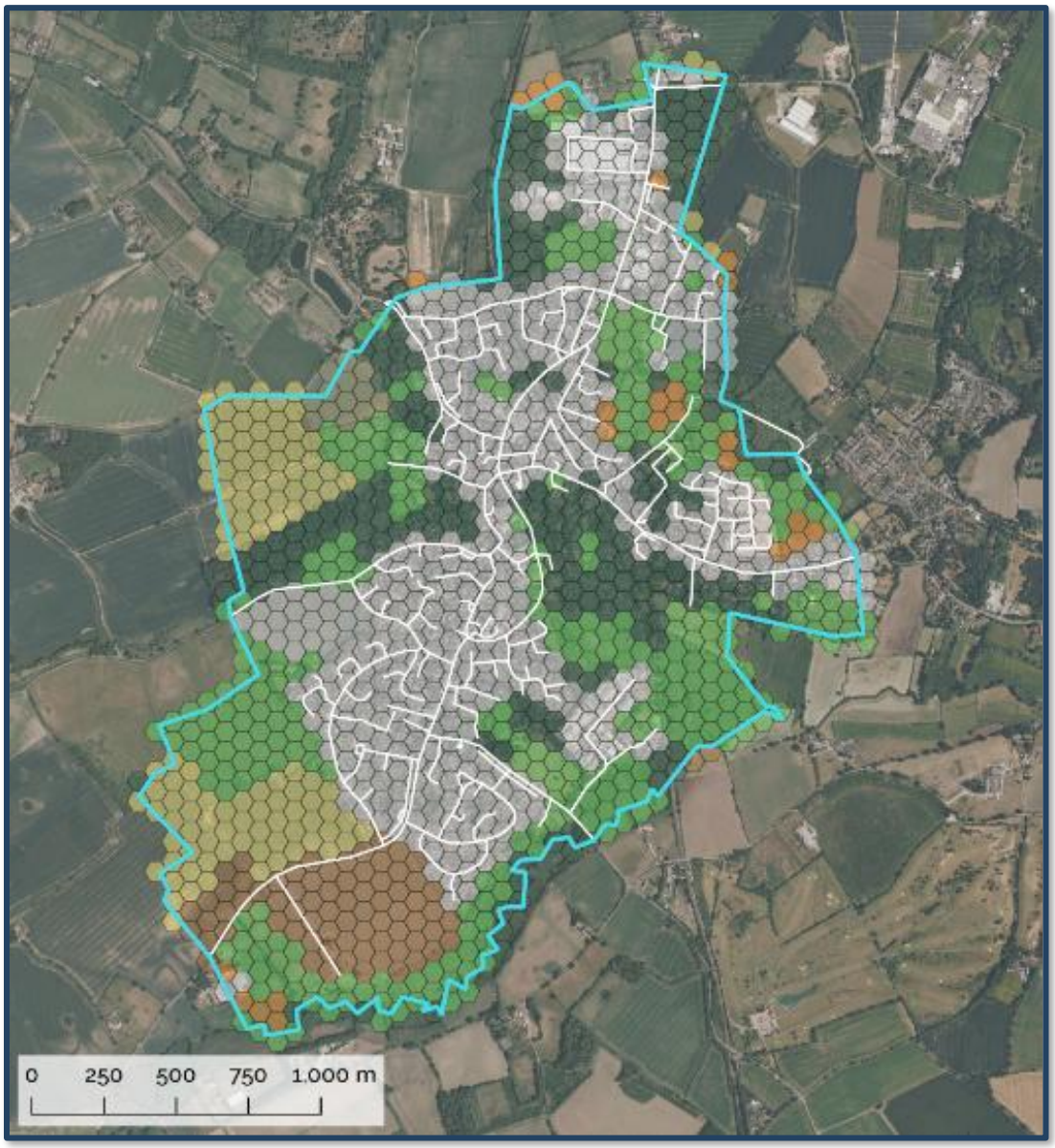
Practices like agroforestry, where trees are planted alongside crops, can further enhance carbon sequestration while benefiting the land and the local ecosystem.

In the long term, Halesworth's agricultural sector can explore alternative approaches to reduce emissions and increase sustainability, such as transitioning to regenerative farming practices that focus on enhancing soil health, increasing biodiversity, and reducing the reliance on synthetic chemicals.

The application of innovative farming techniques, such as anaerobic digestion for organic waste, can also help capture methane emissions and generate renewable energy, further supporting the transition to net zero.

By making these changes, Halesworth's agricultural sector can play a vital role in the town's overall efforts to reduce emissions and move towards a sustainable, climate resilient future. With more efficient practices, reduced reliance on chemical inputs, and a focus on land management that supports carbon sequestration, agriculture in Halesworth can become a powerful ally in the fight against climate change.

Group	Land Use (Map Key)	Total Area (Hectares)
Grassland	Fallow Land	~10
	Grass	~125
Urban	Non-vegetated or sparsely vegetated Land	~187
Trees & Hedgerows	Trees and scrubs, short woody plants, and hedgerows	~88
Farming	Winter Barley	~31
	Winter Rye	~5
	Winter Wheat	~47



Green Space

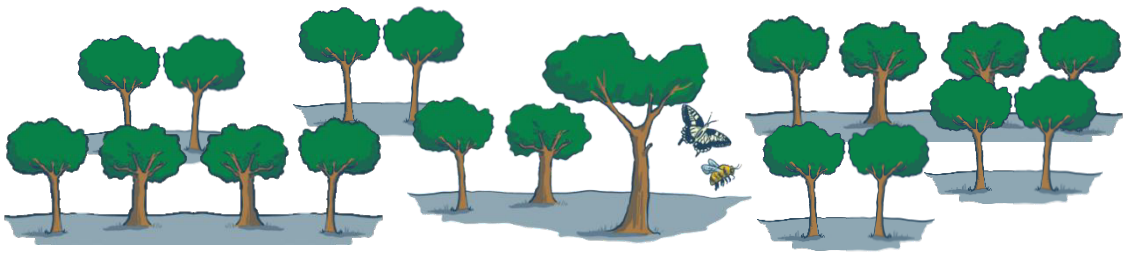
Green space across Halesworth

Green spaces are an essential part of Halesworth, from parks and grasslands to gardens, hedgerows and tree-lined streets. In fact, Halesworth has the largest Millennium Green in England! While they make places more attractive and enjoyable, the value goes far beyond aesthetics. Green spaces play a vital role in reducing carbon emissions and helping the town move towards net zero, while also supporting physical and mental health, cleaner air and local biodiversity.

The map on the previous page shows the differing land use within Halesworth, highlighting the extent of current green space compared to urban and agricultural land. The land use split is presented in the table below:

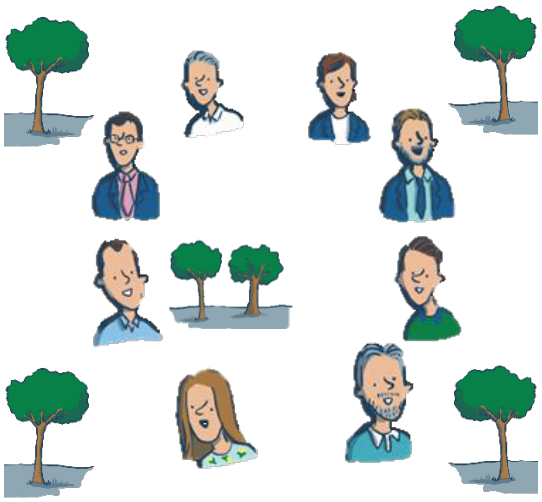
Land Use	Area (hectares)	% of area	Emissions (kt CO2e per year)
Urban	**~187**	**38%**	*See Buildings for emission data*
Grass	**~135**	**27%**	**-0.03**
Trees & Hedgerows	**~88**	**18%**	**-0.81**
Farming	**~83**	**17%**	**0.2**

Trees and grasslands act as natural 'carbon sinks', absorbing carbon dioxide from the atmosphere as they grow. This process helps to offset some of the emissions produced by our homes, transport and businesses, making green spaces a crucial tool in tackling emissions locally. Mature trees, hedgerows and well-managed grasslands store significant amounts of carbon in their leaves, roots and soils, and careful planning of green spaces can maximise these benefits. Even small areas, when connected as part of a wider network of greenery, contribute meaningfully to the town's overall carbon balance.



Beyond carbon storage, green spaces help reduce the impacts of climate change in Halesworth. Trees and shrubs provide shade and cooling, helping to lower temperatures in more urban areas during heatwaves. Vegetation can also reduce the risk of flooding by absorbing rainwater and slowing its flow into drains and rivers. In this way, green spaces make Halesworth more resilient to extreme weather events that are becoming more frequent due to global warming.

Green spaces also improve the quality of the air we breathe. Plants filter pollutants such as nitrogen dioxide and particulate matter, which comes from traffic emissions and heating, and help reduce the harmful effects of poor air quality on the health of residents. This directly benefits the physical wellbeing of the community and supports healthier, more active lifestyles.



The benefits extend to mental health too. Access to parks, green corridors and natural areas has been shown to reduce stress, anxiety and depression, providing spaces for relaxation, exercise and connection with nature. For children, young people and older residents alike, green spaces offer opportunities for recreation and social interaction, helping to build a stronger, more connected community.

In Halesworth's journey to net zero, protecting, enhancing and expanding green spaces is just as important as cutting emissions from homes and transport. Initiatives such as tree planting, habitat restoration and the creation of new green corridors can increase carbon storage, improve local air quality and make the town more climate resilient. They also provide lasting benefits for health, wellbeing and the enjoyment of the community.

By recognising the multiple roles of green spaces, Halesworth can not only reduce its carbon footprint, but also create a town that is healthier, more resilient and more enjoyable to live in. Every tree, meadow and park contributes to a greener, cleaner and more sustainable future for everyone.

Halesworth's Carbon Budget

This study has shown that Halesworth emitted around 10,600 tonnes of carbon dioxide equivalent in 2023. But what does this mean? What happens if emissions stay that high? How quickly do emissions need to fall to avoid climate catastrophe?

One way to answer this is with a carbon budget. A carbon budget is recognised as an essential tool for guiding climate action and achieving emission reduction targets. A carbon budget refers to the total amount of GHG emissions that can be released into the atmosphere within a specific timeframe, by an area, while still keeping global temperature rise within the limits of the Paris Agreement. The Paris Agreement was adopted at COP21 in Paris, in 2015. It aims to limit global warming to well below 2 °C, with efforts to keep it under 1.5°C above pre-industrial levels.

2025 was the third hottest year on record with average surface temperatures 1.44 °C above pre-industrial levels.

To help the global fight against climate change, the UK sets and reviews its own Carbon Budget every five years.

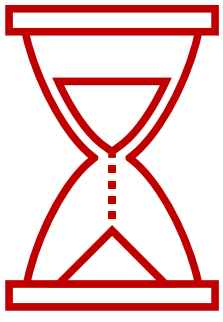
The Tyndall Centre for Climate Change Research developed a methodology to allocate the global carbon budget to counties and local authorities in order to effectively address climate change at the local level. Based on population split, we have broken down the carbon budget further for Halesworth.

The table below gives the estimated carbon budget for Halesworth:

Carbon Budget Period	Recommended Carbon Budget (kt CO2e)
2023 – 2027	53.2
2028 – 2032	26.6
2033 – 2037	11.4
2038 – 2042	7.6
2043 – 2047	3.8
2048 – 2100	3.8
Total	**106.5**

Total emissions must be limited to under 106.5 kt CO2e. Therefore, if Halesworth continues emitting 10.6 kt CO2e per year Halesworth will have used the entire carbon budget by 2033, or in 10 years from 2023. It is worth noting that some emissions have not been included in the analysis of Halesworth (such as waste and industrial process emissions), therefore the speed at which Halesworth would use up the carbon budget would likely be faster.

Global temperatures are rapidly increasing. As a result, weather is becoming more extreme. Storms, droughts, wildfires and lethal heatwaves are no longer limited to faraway places. They are happening here, in Halesworth. The Carbon Budget is rapidly running out, but it is not too late to act.



Common Questions on net zero

Key questions regarding net zero, climate change and sustainability:

Is Climate Change real and accelerated by humans?

Yes, climate change is very real and while it occurs naturally, it is being accelerated by human activities. Average global temperatures have risen by about 1.5˚C since the late 19th century due to increased greenhouse gas concentrations from burning fossil fuels, deforestation, and industrial processes. Despite this seemingly small change at first glance, every degree of increase dramatically affects natural processes around the world. Over 97% of climate scientists agree that human activities are the main driver of recent climate change.

Why should the UK take action if other countries are bigger polluters?

The UK has a lot to gain by acting on climate change. Renewable energy is more secure than imported fossil fuels, efficient homes are more comfortable, and cleaner transport improves local air quality. By acting, the UK can set an example, encourage global cooperation, and benefit economically through job creation and reduced health costs from pollution reduction. Additionally, the UK is also vulnerable to its own climate impacts such as more frequent flooding and heatwaves, impacting our lives.

Isn't the climate always changing? How do we know this change is different?

While the climate has always changed, the current rate and causes of change are unprecedented. The present warming is occurring at an alarming rate. Human influence, such as greenhouse gas emissions, closely matches the specific patterns of warming observed today, which natural factors alone cannot account for. Scientific studies have isolated the human contribution to being the driving factor in these changes.

What difference can one person or one community make to tackling climate change?

One person or one community will not make a massive difference but collectively communities can make changes that make a significant impact on tackling climate change. Individual choices, such as reducing energy consumption, using public transport, and adopting a more plant-based diet, collectively reduce greenhouse gas emissions and help to reduce bills at the same time.

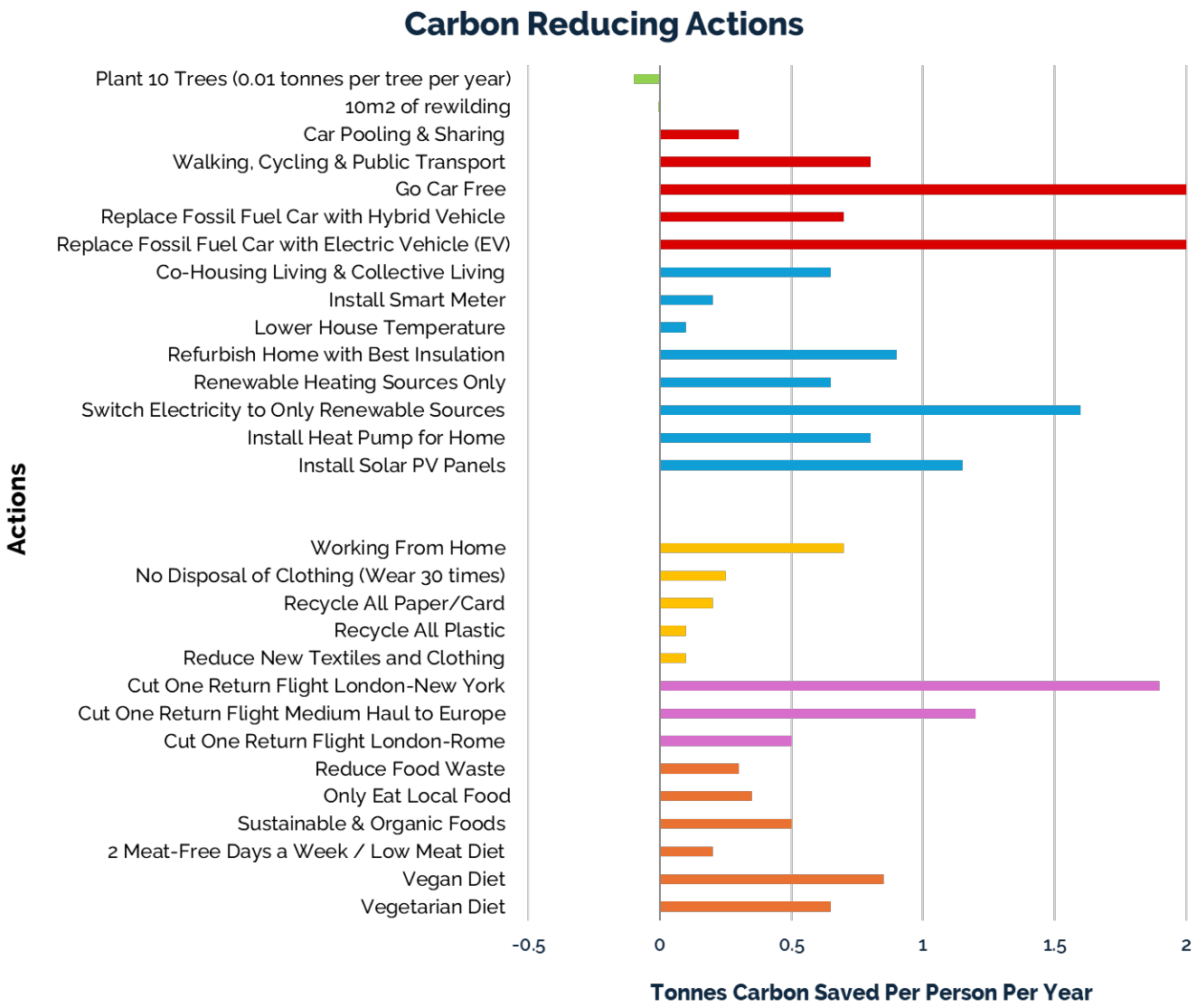
Communities can amplify these efforts by implementing local renewable energy projects, promoting recycling, and advocating for sustainable policies. Grassroots movements have historically driven substantial environmental changes, demonstrating the power of collective action. Moreover, influencing others through awareness and education creates a multiplier effect, leading to broader societal change both locally and globally, inspiring others to follow.

Are the economic costs of reducing emissions too high?

While acting on climate change costs money, it brings significant benefits. Benefits include the creation of jobs, improved public health, and avoided costs of climate impacts. Investing in renewable energy, energy efficiency and sustainable practices can stimulate economic growth and innovation. The cost of inaction includes severe negative impacts, like high costs of repairing damage caused by extreme weather events and the risk to life from extremely cold winters, extremely hot summers and more powerful storms. Inaction is not free.

30 Personal Behaviour Changes

you could consider implementing to reduce your annual carbon footprint:



Green = Sequestration / Red = Transport / Blue = Homes
Yellow = Behaviour Change / Pink = Flying / Orange = Food

The graphic is constructed from reference data from the Institute for Global Environmental Strategies, Aalto University and D-mat ltd. 2018

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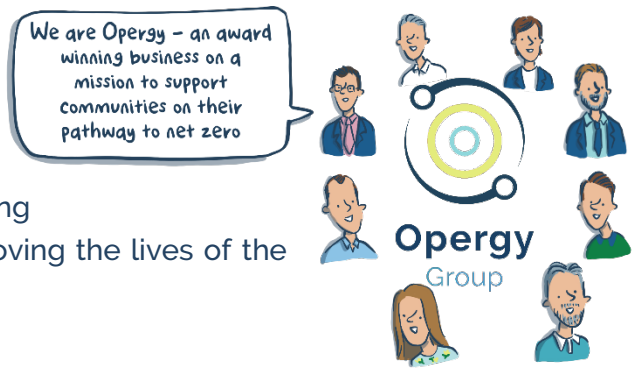
A little about Opergy

Acknowledgements

This baseline study is all about you and your community, and how we can work together to decarbonise. **Opergy would like to extend its heartfelt thanks to Halesworth Town Council, Halesworth ASH, and all participants for their engagement at the Halesworth Climate Energy Action Weekend 2025.** The town's enthusiasm, insights, and commitment are fundamental to turning insight into action. We sincerely hope that this Carbon Baseline Study is a helpful starting point that supports the town's efforts to contribute towards meeting our nation's climate change goals while improving the lives of the people who call Halesworth home.



Who are Opergy?

But who are we, and why are we doing this? We focus on place-based, people-centric solutions and initiatives. Here is an introduction to our key team members involved with this project:

Sam Reade is a Senior Energy and Geospatial Analyst with a Geology with Geography degree from UEA. Sam is responsible for this project's report design, format, and data visualisation elements such as tables, graphs and maps. Sam is passionate about data communication, visualisation and helping different audiences better understand their data to inform their decision making.

Dr Jonny Ruffell is a Senior Consultant at Opergy. An East Anglian at heart, Jonny uses his scientific training to model emissions and project robust and achievable pathways to net zero for people, places and businesses in the region. He sees a lot of opportunity in the global energy transition away from fossil fuels that can benefit people and places in East Anglia. He is passionate about communicating that, if we can work together, we can make a significant dent in the UK's carbon emissions at the same time as making our lives cleaner, greener and healthier.

Johnathan Reynolds is the co-founder and Managing Director of the Opergy Group. Norfolk born and educated, he has spent the past 20 years in leadership roles with significant influence over the transition to clean energy technologies, in the East of England and beyond. He was a key architect of the UK's first, fully engineered, community-level guide for residents and businesses on how to reach net zero, produced for the town of Leiston, Suffolk in 2021 – a project that formed the blueprint for Opergy's Net Zero Pathways.

Net Zero Halesworth

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