Broxtowe Borough COUNCIL

Climate Change

AND GREEN FUTURES

PROGRAMME

www.broxtowe.gov.uk

Climate Change and Green Futures Programme

Project Strands

Appendices

Foreword

Climate change is one of the biggest challenges we face not just as a Borough, but nationally and worldwide.

As a Council, we have achieved a great deal over the last 11 years with 60 projects completed as part of a Carbon Management Plan that reduced our carbon footprint by 45% since 2009.

However, our foot needs to remain firmly on the pedal in order to protect the environment for future generations. In July 2019, we declared a Climate Change Emergency and committed to the ambitious reduction of the Borough's carbon emissions to net zero by 2027.

As part of this commitment, a new Environment and Climate Change Committee was established to ensure that this important issue remained at the forefront of Council services and to oversee delivery of a new climate change programme.

This Climate Change and Green Futures Programme will allow us to Act now, to reduce the Council's carbon footprint and influence, encourage and assist households, businesses and schools within the Borough to strive towards the same goal. It is a living document which will be continually reviewed and adapted as we continue on our journey to becoming carbon neutral.

An Officer-led Climate Change Working Group has been established to deliver the programme and it will be underpinned by a strong communications strategy to ensure we can bring residents, employees and other stakeholders on the journey with us.

I know that climate change is a very important issue for many local people and it truly is a collaborative effort. Everyone has the power to make changes which will help us make huge strides towards protecting and enhancing the environment for future generations to come.

Councillor Helen Skinner
Chair of the Environment and Climate Change Committee

Broxtowe Borough Council

Executive Summary

Climate Change and Green Futures Programme

Executive Summary

Contents

Executive Summary

1.0 Introduction

In July 2019, the Council declared a 'Climate Change Emergency' and committed to achieving net carbon zero by 2027.

The Council along with many other organisations recognise that the cost of inaction far exceeds the cost of action. A conversation involving the whole community including businesses, schools and residents is starting and needs to continue in order to help manage the risks and address the human and environmental impacts of climate change.

Globally 2019 was the second-hottest year on record. From the extensive wildfires in Australia, to devastating flooding in Britain, the manifestations of climate change are evident and are continuing in 2020.

Over the past year many aspects have shifted rapidly in respect to climate change: particularly policy-making and public sentiment – the Council needs to use this opportunity to leverage the positives that comes about as a result of this paradigm shift. Most organisations are considering the climate impact of decisions and are developing strategies to build sustainability. This strategy aims to build our response to climate change into the organisational culture; embedding de-carbonising services, building resilience and managing physical risks.

In addition, the strategy looks to work with the wider community in Broxtowe; with businesses, schools and residents to enable them to respond to the climate agenda, to do the right thing in terms of the careful use of resources, reusing and recycling where possible, being prepared and resilient as a community in order to become more resilient to extreme weather and natural disasters.

2.0 Vision

In the Corporate Plan 2020 - 2024 Broxtowe Borough Council's vision is "A greener, safer, healthier Broxtowe where everyone prospers". The key Environmental objective in achieving this vision

- Develop plans to **reduce our carbon emissions to zero** and start implementing them.
- Invest in our **parks and open spaces**.
- Increase **recycling and composting**.

The strategic vision for the Climate Change Strategy is to:

Act now! to reduce the Council's carbon footprint to net zero by 2027 and influence, encourage and assist households, businesses and schools within the Borough to strive towards the same goal

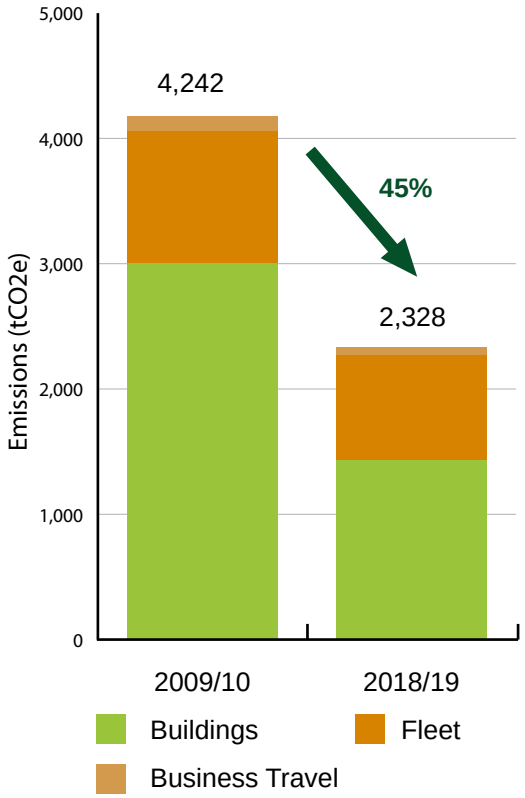
3.0 Key Achievements

In 2009 the Council worked with the Carbon Trust to create a Carbon Management Plan that looked to reduce the organisation's CO_2 emissions by 25% by 2015 and a minimum of 34% by 2020. The baseline CO_2 emissions for the Council in 2009/10 was 4242 tonnes.

The exercise was repeated in 2019/20 with the Carbon Trust using the full data set from 2018/19. The CO_2 emissions for the Council in 2018/19 was 2328 tonnes a reduction of 45%.

The importance of establishing a sound foundation based on accurate data cannot be under estimated. By working with the Carbon Trust the Council is looking to continue to build on this foundation in order to measure progress now and in the future.

The target reduction of CO_2 emissions for the Council was 34% by 2020. A reduction of 45% was achieved by 31 March 2019 as illustrated in the graph opposite.



3.1 Timeline 2009/10 to 2019/20

The following timeline aims to capture and illustrate significant achievements during this time period. Demonstrating that the activity of the Council in addressing the Climate Change agenda has been proactive and long term.

More details of these achievement can be found within later sections of this document.

Climate Change and Green Futures

Timeline

Broxtowe Borough Council

CARBON TRUST

Worked with the Carbon Trust to create a Carbon Management Plan

First Carbon Footprint 4242 tonnes of CO_2e

TECHNOLOGY: Service Virtualisation Project 53/74 servers virtualised (72%)

AIR QUALITY: Air monitoring management area revoked

TREE PLANTING: Launch initiative to plant 100,000 trees

2007 - 2011 Liberal Democrats / Labour

2007 | 2008 | 2009 | 2010 | 2011 | 2012

ASSET RATIONALISATION: SOLD 14 Devonshire Avenue

TREE PLANTING: 100,000 planted by end of 2014/15

BUILDING: Council Offices part leased to Nottinghamshire Police

BUSINESS MILEAGE: Business mileage rate changed to 45p per mile

2011 - 2015 Labour / Liberal Democrats

2013 | 2014 | 2015 | 2016 | 2017

TECHNOLOGY: Printer estate reduced from 76 to 26 multi-functional devices

ENERGY: Council Offices solar panels installed

Created Green Infrastructure Strategy

Eastwood Cash Office Closed

ENERGY: Council Offices LED lighting installed

MEADOW PLANTING: 2018 the concept of using annual meadow seeds was extended to parks and green spaces

Pride in Parks programme adopted along with Play Strategy

2015 - 2019 Conservatives

2018 Introducing community clean teams and engagement with infant schools

WATER COURSES: Project to remove non-native goldfish went viral with excellent positive publicity

ASSET RATIONALISATION: SOLD Eastwood Cash Office

TREE PLANTING: Tree Planting Strategy adopted 2018

ASSET RATIONALISATION: SOLD Town Hall

ASSET RATIONALISATION: SOLD Cavendish Lodge

TRANSPORT: Installed 28 electric charge points

Carbon Footprint Exercise 2019/20 **Carbon Footprint: 2,328 tonnes of CO_2e a reduction of 45% since 2009/10**

ENERGY: Install new CHP unit Bramcote Leisure Centre

2019 - 2023 Labour / Liberal Democrats / Independents

2019 | 2020 | 2021 | 2022 | 2023

2018 Clean and Green Programme adopted

TRANSPORT: First two electric vehicles procured

HOUSING DELIVERY: Housing Committee approve Housing Delivery Plan

November 2019 The Climate Change and Green Future programme started

HOUSING IMPROVEMENTS: £900,000 investment in replacement existing heating systems saving an estimated 314.6 tonne of CO_2e, 285 properties

WATER COURSES: In 2017 working with Notts Wildlife Trust on the ''Wetland Landscapes for All'' project various schemes were undertaken at Brinsley Headstocks, Toton Fields and Hall om Wong.

CLIMATE CHANGE EMERGENCY declared 17th July 2019

TREE PLANTING: 500 free fruit trees given away end of 2019 along with introduction of pocket orchards

2027 Broxtowe Net Zero Target

2050 UK Net Zero Target

4.0 Broxtowe Borough Carbon Footprint 2005-2017

The wider Borough of Broxtowe is calculated to have emitted 493.6 kt CO_2e in 2017 (source: Business, Energy and Industrial Strategy Department: UK local authority carbon dioxide emissions national statistics). The breakdown of CO_2 from the key sectors is shown in the table below.

Sector	2017	Sector Description
Domestic	185.2 kt CO_2e	This is the heat and electricity usage from domestic dwellings in Broxtowe Borough including social housing
Non-domestic	174.5 kt CO_2e	The usage from commercial, industrial, retail and public sector properties
Transport	133.9 kt CO_2e	Carbon from all vehicles including cars, LGVs, motorcycles, buses and HGVs

The Council has continued to work with its communities in relation to the environment and played its part in the implementation of the Tram extension. It is anticipated that the impact of the tram will be more clearly seen in the 2018 and 2019 statistics once available.

5.0 Climate Change Strategy

The intention moving forward is to deliver the emerging strategic actions as part of the Climate Change and Green Futures Programme. It is expected that further actions will be added to the project strands within the programme as the strategy continues to emerge, as the science around the climate change agenda develops, as funding opportunities arise and as social capital is identified.

The members of the Steering Group for the programme have been taken from across the Council to demonstrate a truly authority wide approach to delivery of the programme objectives:

- Strategic Director
- Head of Environment
- Head of Housing
- Head of Public Protection
- Head of Property
- Head of Neighbourhood and Prosperity

Reports will be generated for the General Management Team and the Environment and Climate Change Committee as required.

The programme currently contains the following project strands:

- Climate Change Strategy
- Fuel
- Transport and Fleet Strategy
- Energy and Building Infrastructure
- Employee and Business Mileage
- Water Courses
- Meadow Planting / Wildlife Corridors
- Tree Planting
- Recycling
- Housing Delivery
- Housing Improvements
- Core Strategy / Planning
- Technology
- Air Quality
- Hospitality / Support Services

A section within this document has been allocated to each of the strands. Each section will introduce the strand and provide where possible context in terms of what has already been achieved, what is currently being achieved and what actions are intended for the future. In addition, each strand will look where appropriate at culture, technology, education, and organisation to see how these areas can be leveraged / challenged in order to influence positive behavioural change of our residents, schools and businesses.

Communications and engagement are also key to the delivery of the overall strategy and therefore has been allocated an entire section within the document to promote the communication methodology, Communication Plan and the Communication Campaign Plan, a copy of this latter document can be found in Appendix 2.

6.0 Future Strands

As highlighted in section 5 above new strands will be added to the programme as the strategy emerges, strands that have already been identified include:

- Risk, Mitigation and Adaptation – with appropriate actions appearing in project strands as required, for example: Water course management – potential requirement to increase capacity of specific drainage systems.
- Health Impact of Climate Change:
  - Analyse available data sets to inform approach.
  - Use results of above analysis to inform the wider communications plan / campaign – messages such as “stay cool” targeted at more at risk groups, for example the elderly, ensure care sector is included.
  - Urban planting to cool town centres.
  - Nutrition linked to food security.
- Ethical Investments

Broxtowe Borough Council

STRAND 01

Climate Change Strategy

Climate Change and Green Futures Programme

STRAND 01

Climate Change Strategy

Contents

STRAND 01

Climate Change Strategy

1.0 Introduction

In July 2019, the Council declared a 'Climate Change Emergency' and committed to achieving net carbon zero by 2027. The Council along with many other organisations recognise that the cost of inaction far exceeds the cost of action.

A conversation involving the whole community including businesses, schools and residents is starting and needs to continue in order to help manage the risks and address the human and environmental impacts of climate change.

Globally 2019 was the second-hottest year on record. From the extensive wildfires in Australia, to devastating flooding in Britain, the manifestations of climate change are evident and are continuing in 2020.

Over the past year many aspects have shifted rapidly in respect to climate change: particularly policy-making and public sentiment – the Council needs to use this opportunity to leverage the positives that comes about as a result of this paradigm shift. Most organisations are considering the climate impact of decisions and are developing strategies to build sustainability. This strategy aims to build our response to climate change into the organisational culture; embedding de-carbonising services, building resilience and managing physical risks.

In addition, the strategy looks to work with the wider community in Broxtowe; with businesses, schools and residents to enable them to respond to the climate agenda, to do the right thing in terms of the careful use of resources, reusing and recycling where possible, being prepared and resilient as a community.

2.0 Vision

In the Corporate Plan 2020 - 2024 Broxtowe Borough Council's vision is "A greener, safer, healthier Broxtowe where everyone prospers". The key Environmental objective in achieving this vision is to "protect the environment for the future" with the three priorities being to: -

- Develop plans to **reduce our carbon emissions to zero** and start implementing them.
- Invest in our **parks and open spaces**.
- Increase **recycling and composting**.

The strategic vision for the Climate Change Strategy is to:

Act now! to reduce the Council's carbon footprint to net zero by 2027 and influence, encourage and assist households, businesses and schools within the Borough to strive towards the same goal

3.0 Key Achievements

In 2009 the Council worked with the Carbon Trust to create a Carbon Management Plan that looked to reduce the organisation's CO_2 emissions by 25% by 2015 and a minimum of 34% by 2020. The baseline CO_2 emissions for the Council in 2009/10 was 4242 tonnes (see table and pie chart in section 3.1 below).

The exercise was repeated in 2019/20 with the Carbon Trust using the full data set from 2018/19. The CO_2 emissions for the Council in 2018/19 was 2328 tonnes a reduction of 45% (see table and pie chart in section 3.2 below).

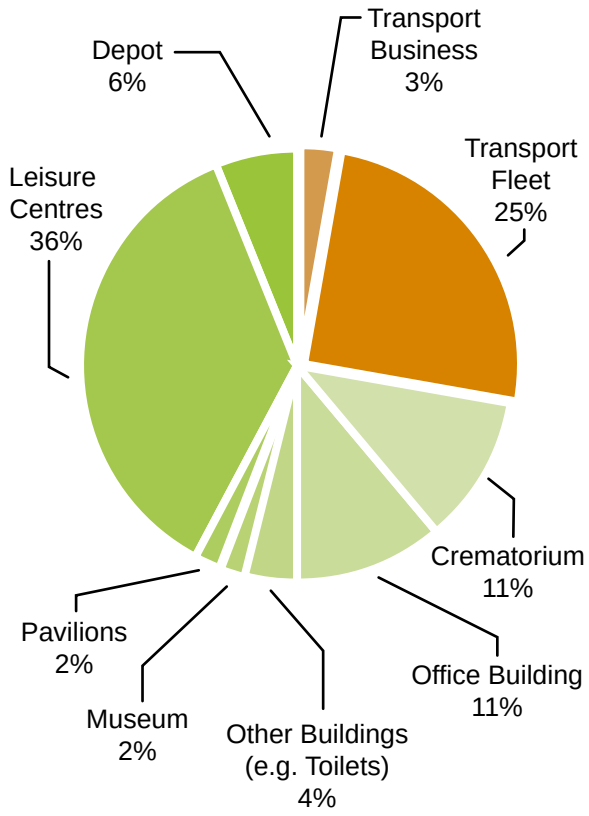
The importance of establishing a sound foundation based on accurate data cannot be under estimated. By working with the Carbon Trust the Council is looking to continue to build on this foundation in order to measure progress now and in the future.

3.1 Carbon Management Plan 2009/10

The Carbon Management plan was developed in 2009 as a result of the Council working with the Carbon Trust. The plan provided a baseline and a list of projects to be delivered between 2009/10 and 2014/15. Extracts of the plan are provided below for information.

Baseline Summary CO_2 emissions (tonnes) and costs for 2009/10

Category		tCO₂e 2009/10	%
Buildings	Depot, Kimberley including offices	246	6
	Pavilions	97	2
	Museums	73	2
	Leisure Centres	1,524	36
	Other buildings include toilets and cemetery chapels	170	4
	Office Buildings including the Town Hall, Council Offices, Cash Offices, Cavendish Lodge, 14 Devonshire	482	11
	Crematorium	474	11
Total		**3,066**	**72**
Trans-port	Fleet	1,049	25
	Business	127	3
Grand Total		**4,242**	**100**



A total of 37 quantified projects and a further 23 unquantified projects were identified as part of the Carbon Management Plan. Many of these projects and more were successfully delivered including for example: -

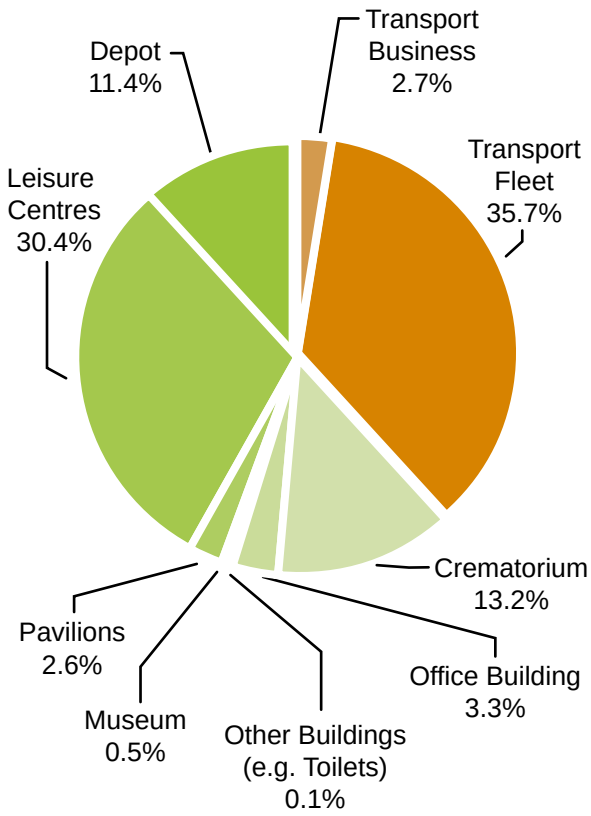
- Rationalisation of buildings
- Introduction of photo voltaic cells on the Council Offices
- Replacement of bulbs with LED lighting
- More accurate metering
- Virtualisation of much of the core ICT estate
- Reduction in printing devices
- Redesign of the fleet replacement programme resulting in extending the life of vehicles
- Redesign of refuse rounds resulting in reduction of fuel usage
- Installation of combined heat and power units

3.2 Carbon Footprint Assessment 2018/19

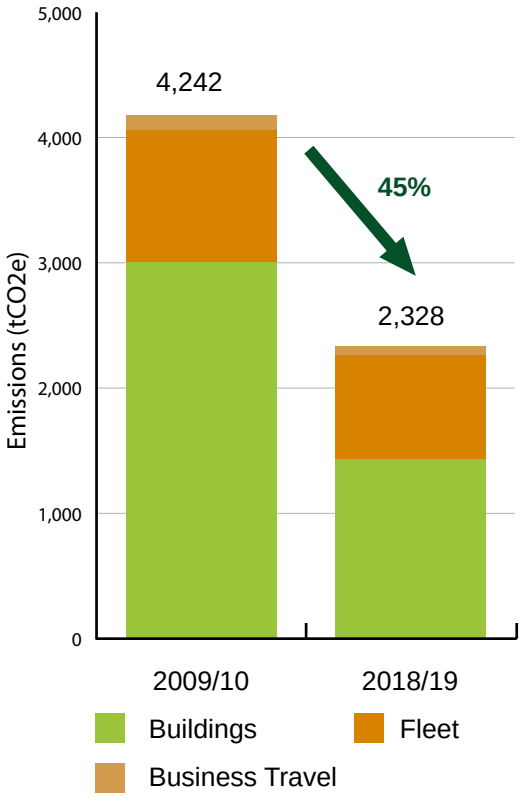
In order to understand the progress made against the high level targets set in the Carbon Management Plan, the Council engaged the Carbon Trust again in 2019/20 following the adoption by Full Council 17 July 2019 of a Climate Change Emergency motion. The data used was the last full financial year of fuel and energy data available, namely up to 31 March 2019. A more detailed report from the Carbon Trust is provided in Appendix 1 – this document explains what is meant and covered by Scope 1, 2 and 3, how the Council has been measured and what are its results.

Baseline Summary CO_2 emissions (tonnes) and costs for 2018/19

Category		tCO_2e 2018/19	%
Buildings	Depot, Kimberley including offices	265	11.4
	Pavilions	60	2.6
	Museums	12	0.5
	Leisure Centres	708	30.4
	Other buildings include toilets and cemetery chapels	3	0.1
	Office Buildings including the Town Hall, Council Offices, Cash Offices, Cavendish Lodge, 14 Devonshire	77	3.3
	Crematorium	308	13.2
Total		**1,433**	**61.6**
Trans-port	Fleet	831	35.7
	Business	64	2.7
Grand Total		**2,328**	**100**



The target reduction of CO_2 emissions for the Council was 34% by 2020. A reduction of 45% was achieved by 31 March 2019 as illustrated in the graph below.



3.3 Timeline 2009/10 to 2019/20

The following timeline aims to capture and illustrate significant achievements during this time period. Demonstrating that the activity of the Council in addressing the Climate Change agenda has been proactive and long term.

More details of these achievement can be found within later sections of this document.

Climate Change and Green Futures

Timeline

Broxtowe Borough COUNCIL

CARBON TRUST

Worked with the Carbon Trust to create a Carbon Management Plan

First Carbon Footprint 4242 tonnes of CO_2e

TECHNOLOGY:
Service Virtualisation Project 53/74 servers virtualised (72%)

AIR QUALITY
Air monitoring management area revoked

TREE PLANTING
Launch initiative to plant 100,000 trees

2007 - 2011 Liberal Democrats / Labour

2007 | 2008 | 2009 | 2010 | 2011 | 2012

ASSET RATIONALISATION
SOLD
14 Devonshire Avenue

TREE PLANTING
100,000 planted by end of 2014/15

BUILDING:
Council Offices part leased to Nottinghamshire Police

BUSINESS MILEAGE:
Business mileage rate changed to 45p per mile

2011 - 2015 Labour / Liberal Democrats

2013 | 2014 | 2015 | 2016 | 2017

TECHNOLOGY:
Printer estate reduced from 76 to 26 multi-functional devices

ENERGY:
Council Offices LED lighting installed

Eastwood Cash Office Closed

Created Green Infrastructure Strategy

ENERGY:
Council Offices solar panels installed

Pride in Parks programme adopted along with Play Strategy

MEADOW PLANTING
2018 the concept of using annual meadow seeds was extended to parks and green spaces

WATER COURSES:
Project to remove non-native goldfish went viral with excellent positive publicity

2015 - 2019 Conservatives

ASSET RATIONALISATION
SOLD
Eastwood Cash Office

2018

2018 Introducing community clean teams and engagement with infant schools

TREE PLANTING:
Tree Planting Strategy adopted 2018

ASSET RATIONALISATION
SOLD
Town Hall

ASSET RATIONALISATION
SOLD
Cavendish Lodge

TRANSPORT:
Installed 28 electric charge points

Carbon Footprint Exercise 2019/20
Carbon Footprint: 2,328 tonnes of CO_2e a reduction of 45% since 2009/10

ENERGY
Install new CHP unit Bramcote Leisure Centre

2019 - 2023 Labour / Liberal Democrats / Independents

2019 | 2020 | 2021 | 2022 | 2023

2018 Clean and Green Programme adopted

TRANSPORT:
First two electric vehicles procured

HOUSING DELIVERYI
Housing Committee approve Housing Delivery Plan

November 2019
The Climate Change and Green Future programme started

HOUSING IMPROVEMENTS:
£900,000 investment in replacement existing heating systems saving an estimated 314.6 tonne of CO_2e, 285 properties

WATER COURSES:
In 2017 working with Notts Wildlife Trust on the ''Wetland Landscapes for All'' project various schemes were undertaken at Brinsley Headstocks, Toton Fields and Hall om Wong.

CLIMATE CHANGE EMERGENCY declared 17th July 2019

TREE PLANTING:
500 free fruit trees given away end of 2019 along with introduction of pocket orchards

2027 Broxtowe Net Zero Target

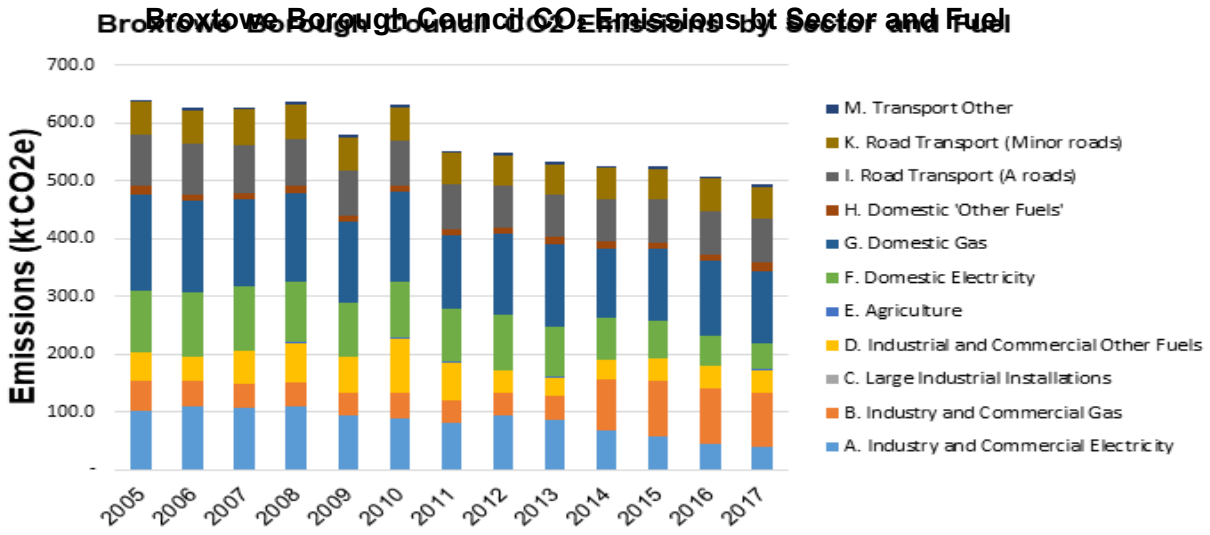
2050 UK Net Zero Target

4.0 Broxtowe Borough Carbon Footprint 2005-2017

The wider Borough of Broxtowe is calculated to have emitted 493.6 kt CO_2e in 2017 (source: Business, Energy and Industrial Strategy Department: UK local authority carbon dioxide emissions national statistics). The breakdown of CO_2 from the key sectors is shown in the table below.

Sector	2017	Sector Description
Domestic	185.2 kt CO_2e	This is the heat and electricity usage from domestic dwellings in Broxtowe Borough including social housing
Non-domestic	174.5 kt CO_2e	The usage from commercial, industrial, retail and public sector properties
Transport	133.9 kt CO_2e	Carbon from all vehicles including cars, LGVs, motorcycles, buses and HGVs

The graph below provides a summary of the Borough of Broxtowe's carbon emissions from 2005 to 2017 (released in 2019 by the Department of Business, Energy and Industrial Strategy - BEIS). The trends show that emission have fallen 25.4% from nearly 640.5 kt CO_2e in 2005 (5.9 tCO_2e per capita) to 493.6 kt CO_2e in 2017 (4.4 tCO_2e per capita).



The Council has continued to work with its communities in relation to the environment and played its part in the implementation of the Tram extension. It is anticipated that the impact of the tram will be more clearly seen in the 2018 and 2019 statistics once available.

Note: A Committee on Climate Change progress report to parliament notes that the national reductions have mostly been a result of the reduction in carbon from electricity generation for domestic and commercial sectors, due to the increasing level of renewable generation and

reduction in the use of coal. Energy efficiency has also reduced overall demand for electricity and gas over the period by 20% and 30% respectively. However, efficiency in gas use has stalled in the last 5 years. Reductions in other sectors such as transport and heat have been much smaller.

www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2017

5.0 Climate Change Strategy

The intention moving forward is to deliver the emerging strategic actions as part of the Climate Change and Green Futures Programme. It is expected that further actions will be added to the project strands within the programme as the strategy continues to emerge, as the science around the climate change agenda develops, as funding opportunities arise and as social capital is identified.

The members of the Steering Group for the programme have been taken from across the Council to demonstrate a truly authority wide approach to delivery of the programme objectives:

- Strategic Director
- Head of Environment
- Head of Housing
- Head of Public Protection
- Head of Property
- Head of Neighbourhood and Prosperity

Reports will be generated for the General Management Team and the Environment and Climate Change Committee as required.

The programme currently contains the following project strands:

- Climate Change Strategy
- Fuel
- Transport and Fleet Strategy
- Energy and Building Infrastructure
- Employee and Business Mileage
- Water Courses
- Meadow Planting / Wildlife Corridors
- Tree Planting
- Recycling
- Housing Delivery
- Housing Improvements
- Core Strategy / Planning
- Technology
- Air Quality
- Hospitality / Support Services

A section within this document has been allocated to each of the strands. Each section will introduce the strand and where possible provide context in terms of what has already been achieved, what is currently being achieved and what actions are intended for the future. In addition, each strand will look where appropriate at culture, technology, education, and organisation to see how these areas can be leveraged / challenged in order to influence positive behavioural change of our residents, schools and businesses.

Communications and engagement are also key to the delivery of the overall strategy and therefore has been allocated an entire section within the document to promote the communication methodology, Communication Plan and the Communication Campaign Plan, a copy of this latter document can be found in Appendix 2.

6.0 Future Strands

As highlighted in section 5 above new strands will be added to the programme as the strategy emerges, strands that have already been identified include:

- Risk, Mitigation and Adaptation – with appropriate actions appearing in project strands as required for example: water course management – potential need to increase the capacity of specific drainage systems.
- Health Impact of Climate Change:
  - Analyse available data sets to inform approach.
  - Use results of above analysis to inform the wider communications plan / campaign – messages such as “stay cool” targeted at more at risk groups, for example the elderly, ensure care sector is included.
  - Urban planting to cool town centres.
  - Nutrition linked to food security.
- Ethical Investments

7.0 Strategic Actions

In considering the Climate Change Strategy the table below presents the strategic actions to be adopted the period 2020 until 2024 that will assist in enabling the Council to achieve net carbon zero by 2027.

Strand 04	Climate Change Strategy	Responsible Officer	Target Date
Action 1	Establish a baseline for CO_2 emissions for 2018/19 focusing on level 1 and level 2 emission sources. Compare with previous baseline and report position	Strategic Director / Head of Environment	March 2020
Action 2	Ensure methodology followed in strategic action 1 is repeatable for subsequent years moving forward, allowing progress to be measured more accurately.	Strategic Director / Head of Environment	March 2020
Action 3	Establish a baseline for CO_2 emissions based on level 3 emission sources (e.g. impact of supply chain, housing stock, employee travel to and from work)	Strategic Director / Head of Environment	March 2021
Action 4	Deliver the Climate Change and Green Futures Programme	Strategic Director	Ongoing
Action 5	Creation of a Climate Change Strategy and Carbon Management Plan (CMP)	Strategic Director	June 2020
Action 6	Develop further strategic actions following the carbon footprint analysis and partnership engagement.	Strategic Director / Head of Environment	On-going
Action 7	Using the principle of Carbon Budgeting create an approach that aligns with the budget process and determines and informs the level of CO_2e anticipated from investments in service provision.	Strategic Director	March 2022
Action 8	Investigate what funding opportunities exist to assist with the create of Ecoteams within Broxtowe.	Head of Environment	March 2022
Action 9	Support the delivery of the actions in the Local Energy Partnership (LEP) Energy Strategy.	Head of Environment / Head of Property	On-going

Broxtowe Borough Council

Summary of Actions

Climate Change and Green Futures Programme

Summary of Actions

Contents

Summary of Actions

STRAND 01

Climate Change Strategy

Strand 01	Action	Responsible Officer	Target Date	Completed
Action 1	Establish a baseline for CO_2 emissions for 2018/19 focusing on level 1 and level 2 emission sources. Compare with previous baseline and report position.	Strategic Director / Head of Environment	March 2020	Completed February 2020
Action 2	Ensure methodology followed in strategic action 1 is repeatable for subsequent years moving forward, allowing progress to be measured more accurately.	Strategic Director / Head of Environment	March 2020	Completed February 2020
Action 3	Establish a baseline for CO_2 emissions based on level 3 emission sources (e.g. impact of supply chain, housing stock, employee travel to and from work).	Strategic Director / Head of Environment	March 2021	
Action 4	Deliver the Climate Change and Green Futures Programme .	Strategic Director	Ongoing	
Action 5	Creation of a Climate Change Strategy and Carbon Management Plan (CMP).	Strategic Director	June 2020	September 2020
Action 6	Develop further strategic actions following the carbon footprint analysis and partnership engagement.	Strategic Director / Head of Environment	On-going	
Action 7	Using the principle of Carbon Budgeting create an approach that aligns with the budget process and determines and informs the level of CO_2e anticipated from investments in service provision.	Strategic Director	March 2022	
Action 8	Investigate what funding opportunities exist to assist with the create of Ecoteams within Broxtowe.	Head of Environment	March 2022	
Action 9	Support the delivery of the actions in the Local Energy Partnership (LEP) Energy Strategy.	Head of Environment / Head of Property	On-going	

STRAND 02

Fuel

Strand 02	Action	Responsible Officer	Target Date	Completed
Action 1	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Environmental Services	August 2020	Completed July 2020
Action 2	Reschedule the dry recycling rounds in order to deliver economies in regards to fuel usage and better utilisation of vehicles in the fleet.	Transport and Stores Manager	March 2021	
Action 3	Reschedule the green waste rounds in order to deliver economies in regards to fuel usage and better utilisation of vehicles in the fleet.	Waste Services and Strategy Manager	March 2021	
Action 4	Technology: Introduction of electric vehicles where practical and economic aligned to the capital replacement programme.	Transport and Stores Manager	To be completed annually	
Action 5	Technology: Proactively monitor vehicle emissions utilising the Fuel Monitoring IT System utilising analysis to inform capital replacement programme.	Transport and Stores Manager	To be completed annually	
Action 6	Technology: Utilising data from the on board Vehicle Monitoring IT System (for example recording harsh braking, excessive speeding and harsh cornering) inform the delivery of a programme of driver training – this will address safety, fuel economy, extended vehicle life and reduced emissions.	Transport and Stores Manager	November 2020	
Action 7	Technology: Introduction of electric solutions for plant equipment where practical and economic aligned to the capital replacement programme.	Transport and Stores Manager	To be completed annually	

STRAND 03

Transport & Fleet

Strand 03	Action	Responsible Officer	Target Date	Completed
Action 1	Create a new Transport and Fleet Strategy with a focus where economically appropriate on electric vehicles.	Transport and Stores Manager	August 2020	Completed August 2020
Action 2	Develop a plan for the further introduction of appropriate infrastructure to support potential growth in the electric fleet and growth in domestic use of electric vehicles.	Transport and Stores Manager	March 2022	
Action 3	Using available data, produce a report on vehicle types registered in the Borough along with scenarios indicating the behavioural change necessary to help achieve net zero by 2027.	Head of Environmental Services	March 2022	
Action 4	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Transport and Stores Manager	August 2020	Completed August 2020
Action 5	Technology - The Council has a fleet of 8 small vans (Below 2 Tonnes). Two of these vehicles have already been replaced with all electric vehicles and over the period to 2024 the remaining 6 vehicles where practical and economic (As they reach a life of 12 years) will be replaced with all electric models.	Transport and Stores Manager	2021-2024	
Action 6	Capital Investment- The Capital Vehicle replacement programme for those HGV's (Refuse Freighters 26 Tonnes) identified for replacement will be replaced with Euro standard engines (Euro 6 onwards). Before purchasing consideration will be given based on practicality and economics of the adoption of new technologies that have come to market this includes potential electric and hydrogen propulsion methods.	Transport and Stores Manager	2021-2024	
Action 7	Technology - For small plant such as hedge trimmers, blowers, and strimmers where practical and economic these will be replaced with electric powered units. Technological developments in this field are rapid and the Grounds Maintenance Manager has been tasked with keeping abreast of new developments and trialling new developments as they come to market.	Transport and Stores Manager	2021-2024	

Transport & Fleet

Strand 03	Action	Responsible Officer	Target Date	Completed
Action 8	Technology -Working pro-actively with the Nottingham Vehicle Consortium (District Councils) and industry suppliers a watching brief will be maintained on new and developing technologies this includes IT developments, and the move towards electric and hydrogen traction for heavy goods vehicles. Decisions on purchasing new technologies will depend on practical and economic factors when consideration is being given with regards to acquisition of this new technology.	Transport and Stores Manager	Through to 2024	
Action 9	Green number plates. The Department of Transport / GOV.UK is currently consulting on the introduction of green number plates as a means of differentiating vehicles whose carbon footprint is low or negligible based on their environmental impact and tailpipe emissions. If adopted the council will wish to provide community leadership by displaying such number plates on its vehicles that meet such low emission standards	Transport and Stores Manager	2020	

STRAND 04

Energy & Building Infrastructure

Strand 04	Action	Responsible Officer	Target Date	Completed
Action 1	Capture and analyse the achievements to date in regards to energy consumption / creation to inform the approach moving forward and to inform the overarching communications programme.	Head of Property Services	July 2020	Completed July 2020
Action 2	Determine and report on approaches that will assist in reducing the organisations energy consumption further.	Head of Property Services	December 2020	
Action 3	Capture and analyse the achievements to date in regards to building infrastructure to inform the approach moving forward and the overarching communications programme.	Capital Works Manager	July 2020	Completed July 2020
Action 4	Determine and report on approaches that will further assist the Council's building infrastructure reduce its carbon emission.	Head of Property / Capital Works Manager	December 2020	
Action 5	**Leisure Centres (708t CO2e 2018/19):** Replace the Combined heating and Power (CHP) system at Bramcote (already budgeted for in 2020/21).	Head of Property Services	October 2020	
Action 6	**Leisure Centres (708t CO2e 2018/19):** Proceed with the Leisure Facilities Strategy which may lead to more efficient new buildings (longer term and requires very significant funding).	Head of Property Services	December 2020	
Action 7	**Bramcote Crematorium (308t CO2e 2018/19):** Replace cremators with more efficient new ones and install heat exchanger (funding should become available from a land sale in 2021/22).	Head of Property Services	March 2022	
Action 8	**Kimberley Depot (265t CO2e 2018/19):** Investigate reasons for recent increased of gas usage and introduce counter-measures.	Head of Property Services	March 2021	
Action 9	**Kimberley Depot (265t CO2e 2018/19):** Introduce more LED lighting (within existing approved budgets).	Head of Property Services	March 2022	

Energy & Building Infrastructure

Strand 04	Action	Responsible Officer	Target Date	Completed
Action 10	**Council Offices (77t CO2e 2018/19): Ensure** heating and insulation is optimised (within existing approved budgets).	Head of Property Services	March 2022	
Action 11	**Sports Pavilions (60t CO2e 2018/19)**: Continue with ad-hoc replacement of heating, hot water and lighting systems as older less-efficient systems become due for replacement (within existing approved budgets).	Head of Property Services	On-going	
Action 12	Water: implementation of taps in all Council owned building to reduce water consumption, metered bills and cost.	Head of Property Services	March 2022	
Action 13	Investigate further opportunities for the installation of solar panels on Council Buildings for example the Depot.	Head of Property Services	August 2021	
Action 14	Investigate the energy management arrangements at the Crematorium in order to identify opportunities to redirect excess energy for heating and lighting.	Head of Property Services	March 2022	
Action 15	Investigate the opportunity to create a woodland burial site – achieving eco burials within a woodland setting.	Head of Property Services	March 2022	

STRAND 05

Employee & Business Mileage

Strand 05	Action	Responsible Officer	Target Date	Completed
Action 1	Capture and analyse the achievements to date in regards to the reduction in business mileage to inform the approach moving forward and to inform the overarching communications programme.	Payroll and Job Evaluations Manager	March 2020	Completed March 2020
Action 2	Determine and report on approaches that may assist in reducing the Council's carbon emission impact of business mileage.	Payroll and Job Evaluations Manager	October 2020	
Action 3	Create a baseline in regards to employee home to work mileage to inform the approach moving forward and to inform the overarching communications programme.	HR Manager	March 2021	
Action 4	Determine and report on approaches that will further assist the reduction in the carbon emission impact of employee home to work travel.	HR Manager	March 2021	
Action 5	Leverage the new technologies and agile working arrangements widely implemented and utilised during the COVID-19 emergency in order to reduce the impact that employees travelling to work has on the environment.	Strategic Director / Heads of Service	March 2021	
Action 6	Employee Benefits: Consider the implementation of a car leasing scheme enabling employees access to a new vehicle. Include the promotion of electric vehicles within the scheme.	HR Manager	March 2021	
Action 7	Capture the achievements in order to inform the communications programme and promote what GOOD looks like to Business within the Borough.	Strategic Director	On-going	
Action 8	Consider the introduction of Cycle To Work promotion (leave the car at home week / day).	HR Manager / Corporate Communications Manager	March 2021	
Action 9	Consider approaching public transport organisations to determine what promotions can be targeted at Broxtowe employees for example Green Travel Deals.	HR Manager	March 2021	
Action 10	Consider the promotion of approaches that would allow employees to lease / purchase a more environmentally sustainable vehicle.	Head of Protection and HR	August 2021	
Action 11	Review the Council's mileage claim system to consider how it may be used to make it more financially attractive to employees that have an electric vehicle.	Head of Protection and HR	March 2022	

STRAND 06

Water Courses

Strand 06	Action	Responsible Officer	Target Date	Completed
Action 1	Discussions will take place with the County Council and other partners as to the on-going management of the blue infrastructure in Broxtowe.	Parks and Green Spaces Manager	Autumn 2020 and then on-going	
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Parks and Green Spaces Manager	July 2020	Completed July 2020
Action 3	Develop further strategic actions as part of the Water Courses project strand delivery.	Parks and Green Spaces Manager	July 2020	Completed July 2020
Action 4	Undertake a detailed assessment of the brooks that the Council is responsible for to carry out a flood risk assessment and look at opportunities for biodiversity enhancement.	Parks and Green Spaces Manager	Summer 2020 Summer 2021	
Action 5	Further meetings will be held with the Environment Agency on the Trent Gateway Project looking to develop the initiatives on the section of the river within Broxtowe.	Parks and Green Spaces Manager	Autumn 2020 and ongoing with 2 or 3 meetings a year	
Action 6	Meetings with landowners to ensure that appropriate maintenance is taking place.	Parks and Green Spaces Manager	On-going	
Action 7	Clarify ownership responsibility for the boundaries of the 6 brooks in Borough Council responsibility.	Parks and Green Spaces Manager	Autumn 2020	
Action 8	Identify risks and any mitigation that affect the water courses and any appropriate adaptations that can be implemented or promoted.	Parks and Green Spaces Manager	March 2021	

STRAND 07

Meadow Planting & Wildlife Corridors

Strand 07	Action	Responsible Officer	Target Date	Completed
Action 1	Continue to deliver the actions within the Green Infrastructure Strategy 2015 - 2030.	Parks and Open Spaces Manager	March 2022	
Action 2	Determine and report how the green and blue infrastructure can be enhanced to help protect the environment for our native wildlife corridors.	Parks and Open Spaces Manager	March 2021	
Action 3	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Parks and Open Spaces Manager	March 2020	Completed March 2020
Action 4	Develop further strategic actions as part of the Meadow Planting / Wildlife Corridors project strand delivery.	Parks and Open Spaces Manager	March 2020	Completed March 2020
Action 5	Improvements to the existing meadow grassland at Archers Field Recreation Ground, Stapleford with scarification of the existing grassland and over seeding with a dedicated wild flower mix to create two large wild flower meadows.	Park and Open Space Manager	May 2020	Scarification and seeding completed May 2020
Action 6	Introduction of strategic areas of annual wildflower planting on highway verges at Gin Close Way, Awsworth, Bilborough Road, Nuthall, Narrow Lane, Watnall.	Park and Open Space Manager	May 2020	Cultivation of ground and seeding completed May 2020
Action 7	Introduction of additional areas of annual wild flower planting on parks and green spaces at Coronation Park, Eastwood and Inham Nook Recreation Ground, Chilwell.	Parks and Open Spaces Manager	May 2020	Cultivation of ground and seeding completed May 2020
Action 8	Review of the Local Nature Reserve Management Plan for King George V Park, Bramcote to identify acid grassland areas and a strategic approach to their management.	Parks and Open Spaces Manager	August 2020	
Action 9	Identify further areas for annual seed, wildflower seed and bird crop seed sowing on parks and green spaces and highway verges at strategic locations.	Parks and Open Spaces Manager	Summer 2020	

Meadow Planting & Wildlife Corridors

Strand 07	Action	Responsible Officer	Target Date	Completed
Action 10	Assess sites for species rich grasslands that with a change in management could become more favourable for biodiversity. This will be done working with the County Biodiversity Officer and Nottinghamshire Wildlife Trust. Significant sites that offer further potential include the Nottingham Canal, Bramcote Hills Park acid grassland, Colliers Wood with the introduction of yellow rattle to keep grasses down and over seeding with native species.	Parks and Open Spaces Manager	Review Summer 2021 and Implement Spring 2022	
Action 11	Identify areas within woodlands with potential to improve ground flora.	Parks and Open Spaces Managerr	Review Summer 2022 and Implement Spring 2023	
Action 12	Opportunities to undertake grass cutting and collection will be further explored utilising the additional revenue budget to fund the expensive grass collection and disposal.	Parks and Open Spaces Manager	Review Summer 2021 and Implement Spring 2022	
Action 13	The Management Plans for the Local Nature Reserve will continue to be assessed and opportunities for changes to maintenance schedules for grass areas considered to help enhance and improve areas of grassland meadow.	Parks and Open Spaces Manager	Review Summer 2022 and Implement Spring 2023	
Action 14	Opportunities arising from the Green Infrastructure Strategy will continue to be monitored.	Parks and Open Spaces Manager	Review Summer 2020 and Implement Spring 2021	
Action 15	Consider opportunities to increase the number of allotments.	Parks and Open Spaces Manager	March 2022	
Action 16	Work with allotment holders to create composting ambassadors.	Parks and Open Spaces Manager	March 2022	
Action 17	Consider how the Council may create / support the provision of community food planting areas in addition to the current allotment provision.	Parks and Open Spaces Manager	March 2023	

STRAND 08

Tree Planting

Strand 08	Action	Responsible Officer	Target Date	Completed
Action 1	Continue to deliver the actions within the Tree Planting Strategy 2018. Including Specimen tree planting schemes using large trees.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023	
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Parks and Green Spaces Manager	March 2020	Completed March 2020
Action 3	Determine and report on how the Tree Planting Strategy can be enhanced to help provide greater opportunities to encourage residents, schools and businesses to plant more trees and look at innovative ways.	Parks and Green Spaces Manager	Summer 2021	
Action 4	Develop further strategic actions as part of the Tree Planting project strand delivery.	Parks and Green Spaces Manager	March 2020	Completed March 2020
Action 5	Second tree giveaway event with small ornamental trees suitable for gardens.	Parks and Green Spaces Manager	January / February 2021	
Action 6	Create additional pocket orchard at an allotment site or appropriate community site.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023	
Action 7	Identify a site for new hedge planting in excess of 50m.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023	
Action 8	Identify opportunities to implement new pocket parks taking advantage of central government funding.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023	
Action 9	Implement appropriate signage including the potential for information boards in parks, explaining how and why the Council manages the environment in the way that it does.	Parks and Green Spaces Manager	Autumn 2021	
Action 10	Undertaken planting work to enhance existing woodlands.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023	
Action 11	Creation of new woodland copses protected by fencing.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023	

STRAND 09

Recycling

Strand 09	Action	Responsible Officer	Target Date	Completed
Action 1	Continue to embed the intent within the Single Use Plastics Policy 2018 including for example reducing the use of plastic bags in refuse and the wider Council.	Waste Services and Strategy Manager	March 2021	
Action 2	Develop a programme of activity to ensure that additional resources are immediately effective from appointment.	Waste Services and Strategy Manager	March 2020	Completed March 2020
Action 3	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Waste Services and Strategy Manager	March 2020	Completed March 2020
Action 4	Work with the Nottinghamshire Joint Waste Management Group to lobby for additional materials to be recycled.	Waste Services and Strategy Manager	March 2021	
Action 5	Develop further video and educational material for schools, businesses, households, and employees in order to encourage behavioural change in regards to recycling.	Waste Services and Strategy Manager	March 2021	
Action 6	Develop further strategic actions as part of the Recycling project strand delivery.	Waste Services and Strategy Manager	March 2020	Completed March 2020
Action 7	Create of a new recycling officer role whose purpose is to promote the principles of the Waste Hierarchy, promote good recycling behaviour and responsible waste management practices.	Waste Services and Strategy Manager	June 2020	Completed June 2020
Action 8	Work in partnership with charities, for example on Clean and Green Bulky Waste days, to promote the reuse of items as an alternative to disposal.	Waste Services and Strategy Manager	Ongoing	
Action 9	Evaluate the refuse and recycling rounds to consider whether further efficiencies can be made by round reconfiguration to reduce the use of fuel and vehicle emissions.	Waste Services and Strategy Manager	March 2022	
Action 10	National Waste Strategy: Implement the statutory measures aimed at increasing recycling for example this may result in additional infrastructure and resources being needed for such as food waste collection and disposal.	Head of Environment / Waste Services and Strategy Manager	Summer 2021	

STRAND 10

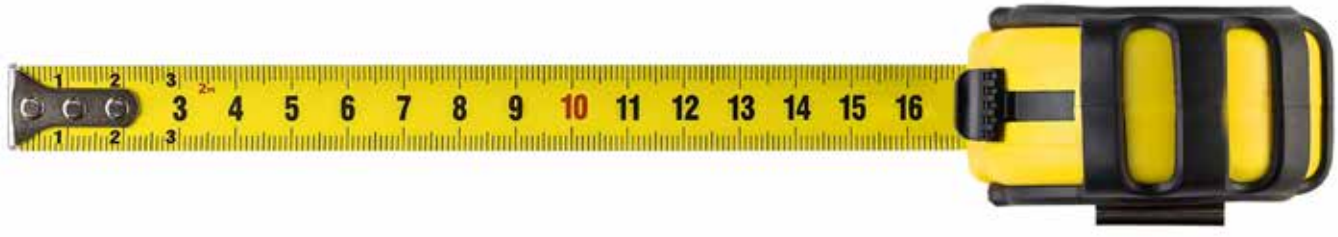
Housing Delivery

Strand 10	Action	Responsible Officer	Target Date	Completed
Action 1	Continue to deliver the actions within the Housing Delivery Plan 2019 – 2029.	Head of Housing Services	Ongoing	
Action 2	Research eco-friendly methods of construction.	Head of Housing Services		
Action 3	Identification of potential solutions to reduce on-going energy use, including: • Air Source Heat Pumps • Ground Source Heat Pumps • PV Panels • Water Conservation • Energy efficient lighting • Small wind turbines	Head of Housing Services	December 2020	
Action 4	Review of existing environmental solutions included in new build developments at Broxtowe Borough Council in last ten years, including survey of tenant experience.	Head of Housing Services	September 2020	
Action 5	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Housing Services	June 2020	Completed June 2020
Action 6	Determine and report on how the Housing Delivery Plan can reduce carbon impact for all new developments.	Head of Housing Services	December 2020	
Action 7	Develop further strategic actions as part of the Housing Delivery project strand delivery.	Head of Housing Services	June 2020	Completed June 2020
Action 8	Analysis of repairs and maintenance costs for our properties with energy efficient features, since they were built.	Head of Housing	September 2020	

STRAND 11

Housing Improvements

Strand 11	Action	Responsible Officer	Target Date	Completed
Action 1	Formulate the appropriate response to the outcome of the stock condition survey.	Capital Works Manager	October 2020	
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Capital Works Manager	July 2020	Completed July 2020
Action 3	Research alternatives to conventional heating systems and report finding.	Capital Works Manager	December 2020	
Action 4	Develop further strategic actions as part of the Housing Improvements project strand delivery.	Capital Works Manager	July 2020	Completed July 2020
Action 5	Install external wall insulation to the remaining 94 solid wall properties – this requires careful assessment as most of them are hard to treat as they are in Eastwood's conservation area.	Capital Works Manager	December 2024	
Action 6	Stock Condition Survey: act on recommendation to install external wall insulation to 53 steel-framed properties in the short term 1 – 5 years.	Capital Works Manager	December 2024	
Action 7	Consider how best to address the 30 properties remaining with less-efficient gas boilers and implement the solution / solutions.	Capital Works Manager	December 2022	
Action 8	Consider how best to address the 285 properties remaining with less efficient all-electric systems. In the short term these will primarily be replaced with high heat retention storage heaters, but air source heat pumps will also be trialed at suitable properties.	Capital Works Manager	December 2024	
Action 9	The two new dementia-friendly bungalows at Willoughby Street, Beeston will have air source heat pumps with under floor heating and PV on the roof.	Capital Works Manager	March 2021	



Housing Improvements

Strand 11	Action	Responsible Officer	Target Date	Completed
Action 10	Trial emerging technology: The future of the gas network is under review. Gas boilers are being developed to work on both hydrogen and gas. There is a stock of over 4000 gas boilers in domestic properties. In the short term high efficiency condensing boilers will continue to be used, but emerging solutions will also be trialed.	Capital Works Manager	Ongoing	
Action 11	Consideration will be given to retro-fitting of PV panels – especially to stock that is not subject to right to buy.	Capital Works Manager	Summer 2021	
Action 12	Loft insulation will continue to be upgraded to the very latest standards every time that other work is undertaken in a property.	Capital Works Manager	Ongoing	

STRAND 12

Core Strategy and Planning

Strand 12	Action	Responsible Officer	Target Date	Completed
Action 1	Include proposals relating to energy efficiency and climate change as part of ongoing work on implementing Policy 17 of the Part 2 Local Plan, 'Place-making, design and amenity'.	Head of Planning and Economic Development	December 2020	
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Planning and Economic Development	June 2020	Completed June 2020
Action 3	Gather evidence, including viability evidence, to inform ACS policies that will enforce / expand on NPPF requirements regarding energy efficiency and climate change.	Head of Planning and Economic Development	May 2021	
Action 4	Develop further strategic actions as part of the Core Strategy / Planning project strand delivery.	Head of Planning and Economic Development	May 2021	
Action 5	Ensure that all Neighbourhood Plans include reference to policies regarding climate change and climate change mitigation.	Head of Planning and Economic Development	Ongoing	
Action 6	Engaging with and ensuring the adoption of a Toton Masterplan which contains innovative proposals for an advanced model of living and working which is highly sustainable.	Head of Planning and Economic Development	March 2021	
Action 7	Complete the review of the Aligned Core Strategy.	Head of Planning and Economic Development	December 2022	
Action 8	Approve the council's participation in a new development corporation which will include ambitious proposals for the development of an international centre for zero carbon futures.	Chief Executive	March 2021	

STRAND 13

Technology

Strand 13	Action	Responsible Officer	Target Date	Completed
Action 1	Continue to deliver the actions contained within the ICT Strategy 2017-2021.	ICT Manager	Ongoing	
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Strategic Director	June 2020	Completed June 2020
Action 3	Monitor technology development to ensure the Council is able to take advantage of developments that are economically and environmentally advantageous.	Strategic Director / ICT Manager	Ongoing	
Action 4	Develop further strategic actions as part of the Technology project strand delivery.	Strategic Director	June 2020	Completed June 2020
Action 5	Continue to deliver the actions contained within the Digital Strategy 2020-2024 including building on the existing digital culture to enhance the digital awareness, increase the number of digital services for customers, Members and employees.	Strategic Director / ICT Manager / Corporate Communications Manager	Ongoing	
Action 6	Work with all parts of the organisation to leverage the benefits achieved through the use of technology during the COVID-19 emergency.	Strategic Director	August 2021	

STRAND 14

Air Quality

Strand 14	Action	Responsible Officer	Target Date	Completed
Action 1	Continue to provide an annual Air Quality Status Report for the Borough which is fit for purpose.	Head of Public Protection and HR	Ongoing	
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Public Protection and HR	May 2020	Completed May 2020
Action 3	Continue to work with relevant partners in order to bring about improvements in local air quality.	Head of Public Protection and HR	Ongoing	
Action 4	Review the NO2 diffusion tubes network; take proactive action to discontinue sites where the annual air quality levels are comfortably below the objective, and relocate them to new sites within the Borough allowing the identification of “problem" areas to be focussed on.	Head of Public Protection and HR	March 2021	
Action 5	Develop further strategic actions as part of the Air Quality project strand delivery.	Head of Public Protection and HR	October 2020	
Action 6	To encourage employees of BBC to purchase hybrid vehicles and electric vehicles for their personal and business use.	Head of Public Protection and HR	March 2021	
Action 7	Investigate the installation of vertical gardens, using moss to absorb CO_2 and particulate matter.	Head of Public Protection and HR	March 2022	

STRAND 15

Hospitality & Support Services

Strand 15	Action	Responsible Officer	Target Date	Completed
Action 1	Determine and report on approaches that can further reduce the use of single use resources in both the areas of hospitality and support services.	Head of Administration	May 2020	Completed May 2020
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Administration	May 2020	Completed May 2020
Action 3	Develop further strategic actions as part of the Hospitality / Support project strand delivery.	Head of Administration	May 2020	Completed May 2020
Action 4	Investigate the use of environmentally-friendly cleaning products using only naturally derived materials which has a less damaging effect on the environment.	Head of Administration	March 2021	

Broxtowe Borough Council

Communications Plan

Climate Change and Green Futures Programme

Communications Plan

Contents

Communications Plan

1.0 Introduction

This Communications and Engagement Plan outlines a multi-channel approach to promote how the Council is taking climate change seriously and working proactively to tackle it. It also highlights how behavioural science techniques can be used to 'nudge' our communities to take action on climate change.

2.0 Context

In July 2019, the Council declared a 'Climate Change Emergency' and committed to becoming net carbon neutral by 2027.

Considerable work has taken place since 2009 to reduce the Council's carbon emissions but promotion of these has been limited.

Climate Change is becoming an increasingly important and high profile issue, not just for the Council but for the people it serves. A Steering Group has been created to lead on a number of strands and strategies to help reach our carbon neutral target as part of an overarching Climate Change Strategy.

The vision for the Climate Change Strategy is to:

Act now! to reduce the Council's carbon footprint to net zero by 2027 and influence, encourage and assist households, businesses and schools within the Borough to strive towards the same goal

The Environment is also a key priority of the Council's Corporate Plan 2020-2024.

The objectives for this priority are to "protect the environment for the future" by:

- Develop plans to **reduce our carbon emissions to zero** and start implementing them.
- Invest in our **parks and open spaces**.
- Increase **recycling and composting**.

3.0 Communications Plan

3.1 Situation analysis

Strengths Council is seen a trustworthy Lots of work already completed	**Weaknesses** Lack of promotion to date
Opportunities Topical issue	**Threats** Lack of buy in from stakeholders Balancing the needs of the campaign with all of the Council's other campaigns Ensuring a regular flow of information is communicated

3.2 Audiences

Campaign activity will be adapted to suit the variety of groups that the Council needs to communicate with e.g. age groups, ethnic groups, businesses and internal stakeholders.

In addition, audiences will be divided into three main categories:

1. Already engaged with Climate Change

   Promote and reward behaviour and encourage them to support others

2. Want to engage but need support

   Ensure information and support is available to help them change their behaviour and celebrate their success

3. Not engaged and unlikely to engage on this subject

   Understand the reasons why they aren't engaged

3.3 Branding

A clear and consist brand will be developed for the campaign called 'Green Futures'. This will help bring all the activities together and also helps to support the idea of shared goals between the Council and residents.

The Green Futures Campaign also links in with the Pride in Parks Campaign and overarching Clean and Green campaign. These links will be highlighted in promotional material where appropriate.

3.4 Launch

The Green Futures campaign has been gradually introduced in communication content for several months but a long term campaign is expected to commence early in 2020.

3.5 Objectives

1. Develop a communications programme to raise awareness of what the Council is doing to tackle climate change and reduce its carbon emissions

- Develop a 'did you know' multi-channel campaign to showcase past achievements and current progress
- Use storytelling techniques to engage residents in what we are doing and how they can contribute e.g. infographics, video
- Audit existing materials and national campaigns that can be utilised

2. Use the EAST framework to 'nudge' residents and encourage them to change their behaviour to reduce their carbon footprint

- Make information about recycling easy to find, understand and act upon
- Make being more conscious about recycling an attractive proposition
- Create social opportunities to promote recycling and other positive actions
- Ensure that messages about recycling are timely

3. Use the EAST framework to 'nudge' businesses and encourage them to change their behaviour to reduce their carbon footprint

- Make information about recycling easy to find, understand and act upon
- Make being more conscious about recycling an attractive proposition
- Create social opportunities to promote recycling and other positive actions
- Ensure that messages about recycling are timely

4. Educate and encourage internal stakeholders to help them reduce their carbon footprint

- Create a hospitality framework
- Review internal bins
- Training sessions
- Intranet page
- Promotional campaign
- Member Briefing pack

5. Educate younger generations so thinking about the environment becomes second nature

- Face to face engagement with schools
- Utilise the Broxtowe Youth Mayor and Broxtowe Youth Voice
- Training, resource packs and lesson plans

3.6 Key messages

- The Council takes climate change seriously and is taking steps to protect the environment for the future.
- We can and should all make small changes to help tackle climate change.

3.7 Tactics

The Council will utilise a range of communications tools and channels including:

Digital	Print	Face to Face
Video Social media Email Me Website Intranet Internal newsletters Briefing packs	External newsletters Press releases Photo opportunities	Direct engagement with stakeholder groups Training

In addition, the Government Behavioural Insights Team's EAST framework will be utilised to encourage behaviour change amongst stakeholders.

Make it EASY	Make it ATTRACTIVE
Allowing people to 'go with the flow' by removing or reducing effort, stops.	Presenting benefits in a way that maximizes perceived value. This includes increasing the silence of your offer.
Make it SOCIAL	**Make it TIMELY**
Harnessing social / peer 'pressure' by showing desired behaviours are are supported by others in a social group and encouraging share commitments .	Prompting when people are likely to be most receptive and structuring/ phasing benefits to make them more immediate.

3.8 Measures of success

See detailed Communications Campaign Plan document in Appendix 2. This document provides measures of success for appropriate elements of the communications campaign, further information can be found in Appendix 6.

3.9 Responsibilities

The Corporate Communications Team will lead on implementation of the Communications Plan in conjunction with the Steering Group and other relevant Officers.

3.10 Budget

It is expected that most costs can be met within existing communications budgets. Proposed activities which require additional funding will be highlighted.

Climate Change and Green Futures Programme

Project Strands

02 Fuel

03 Transport and Fleet Strategy

04 Energy and Building Infrastructure

05 Employee and Business Mileage

06 Water Courses

07 Meadow Planting / Wildlife Corridors

08 Tree Planting

09 Recycling

10 Housing Delivery

11 Housing Improvements

12 Core Strategy / Planning

13 Technology

14 Air Quality

15 Hospitality / Support

STRAND 02

Fuel

STRAND 02

Fuel

Contents

<< page >>

STRAND 02

Fuel

1.0 Introduction

The Council's Corporate Plan for the period 2020 to 2024 identifies a vision for the Council of developing a "greener, safer, healthier Broxtowe where everyone prospers."

The priority for the Environment is to "Protect the Environment for the Future" to which is linked to the aim to reduce the Council's carbon emissions.

The Corporate plan sets a target for the Council of being a carbon net zero organisation by 2027. To achieve this the Climate Change and Green Futures programme has been developed which aims to leverage the power of the whole organisation for the purpose of reducing the Council's carbon footprint.

The Climate Change and Green Futures programme consists of 15 strands, one of which covers fuel.

2.0 Transport Fuel

The Council's emissions from transport fuel account for 36% (831TCO2e) of the Council's total emissions with the majority of this figure arising from the running of the refuse and cleansing fleet.

A "Net Carbon Zero" is defined as achieving a balance between CO_2 emitted against a similar quantity of CO_2 absorbed from the atmosphere with the primary purpose of assisting in reducing the impact of global warming caused by the greenhouse effect of carbon dioxide.

3.0 Net Carbon Zero

Calculating the carbon footprint of transport fuel used by the Council comes under Scope 1 of the analysis (see Appendix 1 for more details and explanation of Scope 1, 2 and 3) and is defined as direct emissions from controlled or owned resources.

The Council's vehicle and plant fleet are critical assets that are required for delivering statutory and income generating services; these include waste, recycling, glass, trade and garden collections, maintenance of public buildings, grounds maintenance, street cleansing, maintenance of Council housing stock.

The table below details the quantities of transport fuel use for transport purposes during the periods 2018-2020:

Fleet Fuel Consumption	Quantity 2018/19	Quantity 2019/20
Diesel Litres	299,191	308,647
Gas / Oil Litres	16,802	16,471
Petrol Litres	8,225	11,016

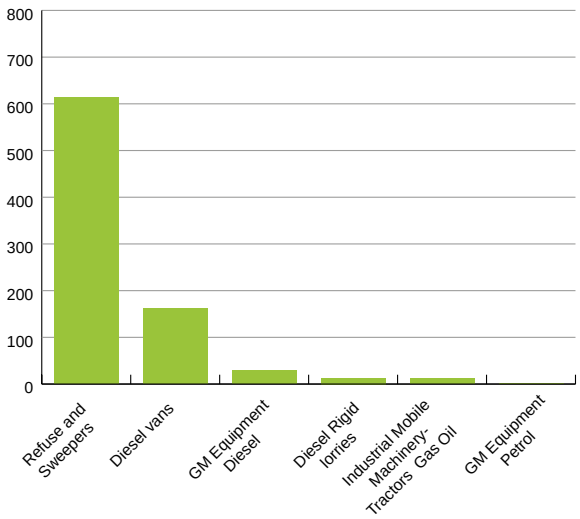
3.1 Fuel Details

Fuel supplied meets the following standards:

- Diesel used meets BS EN standard 590 the standard defined for transport use in the UK and Europe.
- Gas Oil meets BS 2869 Class 2. Gas Oil is a “dual purpose” fuel having a high calorific value (heat content) and is used by the Council in diesel engines fuelling off-the-highway equipment such as tractors.
- Unleaded Petrol meets BS EN 228 /2012 E5 which meets the standards defined for transport use in the UK and Europe.

Emissions from vehicles are particularly damaging to health (carbon monoxide, particulate matter and nitrogen oxides) and are controlled by increasingly stringent exhaust emission limits managed through the requirement to fit euro standard engines and the annual MOT process.

The graph below provides comparative CO_2e emission details for the range of vehicle and plant types operated by the Council.



4.0 Achievements

The recent Carbon Trust report compares the Council’s progress in respect to its carbon emissions over the period 2009 to 2019 and identifies options for reducing fleet emissions.

The trend towards fleet emission controls started in 1970 when the first European exhaust emissions standard for passenger cars was introduced. The next big change occurred in 1992 with the ‘Euro 1’ standard engine requiring the fitting of catalytic converters and the switch to unleaded petrol.

The introduction of the Euro 6 standard engines in 2014 saw a 55% reduction in emissions from diesel engines compared to the Euro 5 standard introduced in 2009.

The Council’s capital vehicle replacement program over the period from 2009 to 2019 has ensured that the current composition of the vehicle fleet and related emission controls have developed such that of the 87 vehicles in the fleet:

- 7 vehicles have Euro 4 engines - 9%
- 58 vehicles have Euro 5 engines - 64 % (Improved particulate control)
- 22 vehicles have Euro 6 engines - 27% (Further improvements in Nitrogen Oxide emissions)

In considering fleet emissions two tables identifying improvements have been developed details of which are provided below:

- Table 1 details improvements in the Council’s fleet emissions performance during the period 2009 to 2019 identifying actions that

the Council has taken to reduce vehicle emissions

- Table 2 identifies actions that are proposed over the next five years that will assist the Council in moving its carbon footprint towards carbon neutral status.

Table 1- Broxtowe Council - Vehicle Emission Improvements during the period 2009 to 2019

Achievements	Actions
Improved Fuel Economy	This has been achieved through efficient rescheduling of the refuse collection rounds which has reduced distances travelled resulting in a reduction of fuel usage by 32,000 litres.
In-Cab Technology	The introduction of the In-Cab IT system that provides a direct link between core property assets and collection vehicles ensuring effective and efficient communication between drivers and base.
Vehicle Monitoring – Efficient Driving 2011/12	The use of the Vehicle Monitoring IT system which enables remote monitoring of driver performance ensuring compliance with road speed limits and effective management of driver performance through monitoring of harsh acceleration and braking. (LGV's are limited to 56 MPH whilst vans and light commercials are restricted to 70 MPH)

Achievements	Actions
Technical Improve-ments Euro 5 2009 Euro 6 2014	Fleet design which has been optimized through improved engine efficiencies; this has been achieved through the fitting at source of Euro 5 and Euro 6 engines. Of the xx number of vehicles in the fleet 56 vehicles have a combination of Euro 5 and 6 engines.
Regular Mainte-nance Ongoing	Regular maintenance ensures high levels of vehicle performance and low levels of emissions and to achieve this LGV's are serviced every 10 weeks and vans and light commercials are serviced annually

5.0 Strategic Actions

The strategic actions shown in Table 2 below include a recognition that until technological developments allow, heavy haulage will require the continued use of diesel engines. However, fuel improvements and resource efficiencies will be achieved through more effective scheduling

for dry recycling and garden waste collections. Vehicle emissions monitoring, to provide individual measures to reduce vehicle emissions and enable informed decision making with regards to the vehicle capital replacements programme. Driver behaviour training to improve safety, fuel economy, tyre performance, extended vehicle life and reduced emissions. Introduction of more electric vehicles as a result of improvements in the average range before charging, on average small Council vans drive no more than 100 miles per week (5,000 miles per annum).

Strand 02	Fuel	Responsible Officer	Target Date
Action 1	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Transport and Stores Manager	August 2020
Action 2	Reschedule the dry recycling rounds in order to deliver economies in regards to fuel usage and better utilisation of vehicles in the fleet.	Transport and Stores Manager	March 2021
Action 3	Reschedule the green waste rounds in order to deliver economies in regards to fuel usage and better utilisation of vehicles in the fleet.	Waste Services and Strategy Manager	March 2021
Action 4	Technology: Proactively monitor vehicle emissions utilising the Fuel Monitoring IT System utilising analysis to inform capital replacement programme.	Transport and Stores Manager	To be completed annually
Action 5	Technology: Utilising data from the on board Vehicle Monitoring IT System (for example recording harsh braking, excessive speeding and harsh cornering) inform the delivery of a programme of driver training – this will address safety, fuel economy, extended vehicle life and reduced emissions.	Transport and Stores Manager	November 2020
Action 6	Technology: Introduction of electric vehicles and plant where practical and economic aligned to the capital replacement programme.	Transport and Stores Manager	To be completed annually
Action 7	Technology: Introduction of electric solutions for plant equipment where practical and economic aligned to the capital replacement programme.	Transport and Stores Manager	To be completed annually

STRAND 03

Transport and Fleet Strategy

STRAND 03

Transport and Fleet Strategy

Contents

STRAND 03

Transport and Fleet Strategy

1.0 Introduction

This strategy provides a framework for the procurement and management of the Council's fleet and plant required to support the delivery of front line services. The services supported include waste, recycling, garden, glass and trade collections, maintenance of public buildings, grounds maintenance, street cleansing and maintenance of public housing stock.

2.0 Corporate Vision

The Council's Corporate plan for the period 2020 to 2024 identifies a priority for the Environment team of "Protecting the Environment for the Future" to which is linked the aim to reduce the Council's Carbon Emissions to net zero by 2027.

A "Net Carbon Zero" is defined as achieving a balance between CO_2 emitted against a similar quantity of CO_2 absorbed from the atmosphere with the primary purpose of assisting in reducing the impact of global warming caused by the greenhouse effect of carbon dioxide.

This commitment to reduce carbon emissions has required the Fleet and Transport section to review and assess all new developments in fleet and plant technology and when procuring new vehicles and plant decisions will be made on "Best Option" based on operational, as well as environmental suitability and whole life cost.

The Council's fleet and plant assets are managed corporately by the Strategic Directors Department. The heavy goods vehicle element of the fleet is composed of vehicles over 3.5 tonnes made up primarily of refuse collection vehicles.

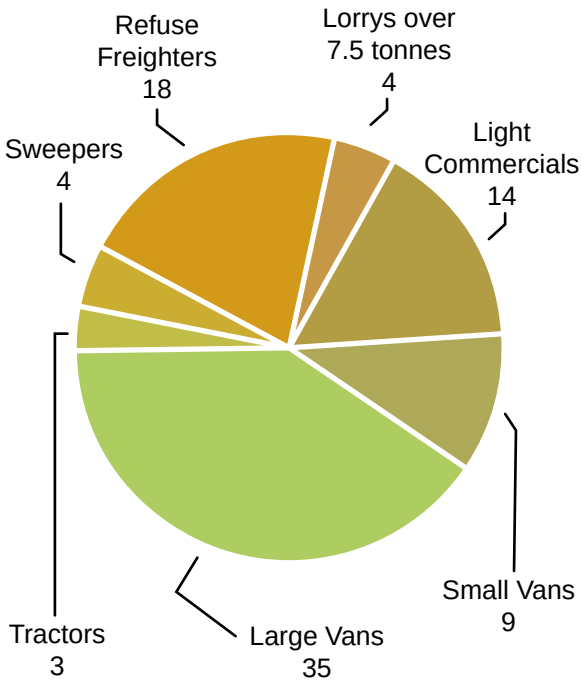
The goods vehicle fleet is subject to the statutory requirement for the Council to hold an Operating Licence and employ a Transport Manager who holds a Certificate of Professional Competence.

3.0 Achievements

The Transport and Fleet team manage a diverse fleet of vehicles and plant consisting of

approximately 87 vehicles and 200 plus items of plant with a capital value of approximately £1.9 million.

The chart below provides a baseline measure for the scale of the Council's transport and fleet assets. No of vehicles represented by each slice of the pie are shown in the diagram.



3.1 Fleet Policy from 2015 to 2020

In 2015 a review of the mechanical worthiness of the fleet was undertaken. The review concluded that the operating life expectancy of fleet assets which in 2015 was based on a 7 year replacement programme could be extended from 7 to 12 years.

To support the life extension two actions were implemented, these being:

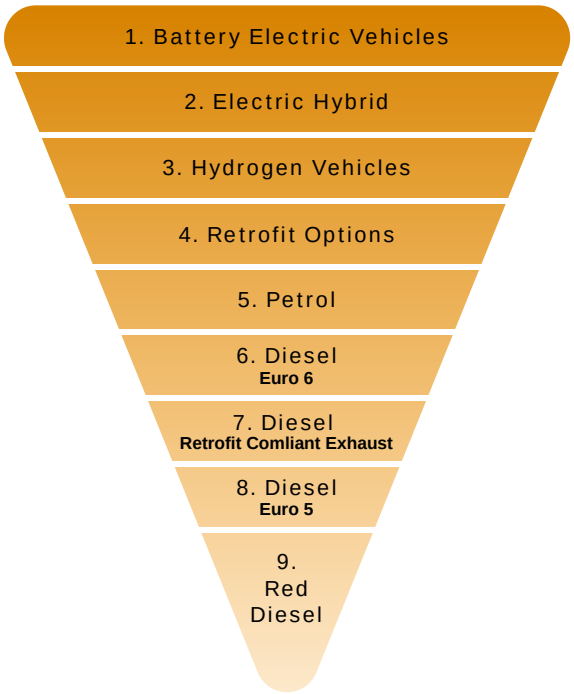
- The introduction of a specialist Fleet Management IT system enabling a more effective fleet management process including monitoring costs associated with maintenance.
- The decision to implement for refuse freighters a mid-life refurbishment assisting the extension of vehicle life and for light commercials vehicles and vans a mid-life review of the vehicle's body and paintwork in order to protect against corrosion.

With the adoption of the vehicle life extension the total capital investment avoided based on a twelve-year fleet cycle is £1.512 million or £625K from the period 2015 to 2020.

The oldest vehicles in the fleet at January 2020 are just over 12 years old.

The Council has adopted a low emissions hierarchy for new vehicle procurement. The hierarchy provides a starting point when considering options for vehicle and plant acquisitions.

Fleet Emissions Hierarchy



The table below identifies the achievements made in the Broxtowe Fleet during the period 2015 to 2020

Achievements	Actions
Extension of vehicle life from 7 to 12 years 2015 to 2019	This has been achieved through a fundamental review of fleet mechanical worthiness giving consideration to three factors these being: 1 The condition of the vehicles chassis, body, engine and gearbox 2 The mechanical condition of the working elements of the vehicle i.e. the loading and packing mechanisms 3 The ongoing maintenance costs. This has reduced for a refuse freighter the requirement for capital investment by £7k per vehicle over the twelve-year period of life. Making a total cost avoidance saving for the fleet of 18 vehicles of £1.512 million over a twelve-year life period. This saving figure includes the refurbishment costs shown below.
The introduction of a dedicated IT Fleet Management System in 2017 onwards	The introduction of the IT Fleet management system provides a whole life management tool that plans and manages plant and vehicle maintenance and associated costs. This initiative has enabled efficient and effective fleet management by monitoring fleet and plant costs at unit level making a saving in the region of 10-15% through centralising a wide range of key legislative and administrative functions.
Mid Life Refurbishment 2016-2019	To support vehicle life extension a programme of mid life refurbishment has been introduced. For the larger vehicles such as refuse freighters that has involved major body refurbishment of packing and loading mechanisms and for smaller light commercial vehicles repair of small scale corrosion points on the vehicles body. The annual costs for such work being £67K
Adoption of new technology- Electric vehicles	As part of the corporate programme to move to carbon neutral status the Council in 2019 purchased two fully electric vans. The capital investment in these vehicles being £37.6K The advantages of investing in the new technology is the improvements in emissions and the fact that the whole life costs of electric light commercial vehicles are lower than similar traditional fossil fuelled vehicles. The comparison being 15p per mile for diesel against 3p per mile for electric propulsion.

4.0 Strategic Priorities for Transport and Fleet

To achieve the Council's vision of carbon net zero status by 2027 and focusing where economically appropriate on the use of electric vehicles the fleet and transport strategy will develop and deliver four strategic priorities, these being:

- Service delivery
- Safety and legal compliance
- Fleet emissions
- Fleet and plant procurement

4.1 Service Delivery

The principle of this priority is to ensure that operational front line departments are provided with the:

- Correct vehicle type and plant that will enable them to deliver efficient and effective services.
- That staff and public safety is maintained whilst delivering services.
- That the vehicles and plant provided are compliant with national regulations and statutory requirements.

To meet the above objectives a rigorous selection regime based on the following criteria will be followed:

- Low emission considerations
- Appropriate size, payload and gross vehicle weight of vehicle considered
- Manufacturer support for parts availability
- Purchase price
- Fuel consumption
- Production lead times
- Lifespan and replacement plan Whole life costs

The chart below provides an example of the procedure followed when sourcing a refuse collection freighter.

Example 1: Refuse Freighter

Selection criteria applied to the procurement of a Dennis Elite Refuse Collection Vehicle		
Vehicle and Plant Selection Objectives	**Choice Criteria**	**Vehicle Chosen**
Low emission onsiderations	Euro 6 engine / Electric / Hydrogen	Euro 6 based on whole life cost
Appropriate size, payload and gross vehicle weight of vehicle considered	Variable options in size and payload	32t 8x4 Rear Steer 14t payload
Manufacturer support for parts availability	Manufacturer and factor parts	A mixture of both
Purchase price	Notts. Consortium tender framework Euro 6	£168k
Workshop preference for maintenance	Dennis Euro 6 due to workshop requirements	Dennis Elite Euro 6
Pre purchase trials	Through manufacturer demo.	Dennis Elite Euro 6
Driver and Operator preference for optimum production	Through manufacturer demo.	Dennis Elite Euro 6
Fuel consumption	Dennis Euro 6	4.8 MPG
Production lead times	12 weeks	Dennis Elite Euro 6
Lifespan and replacement plan	7 years extend to 12 with mid-life refurbishment	Dennis Elite Euro 6
Whole life costs	Dennis Euro 6	Dennis Euro 6. Electric/ Hydrogen unknown at this point due to infrastructure requirements.

Example 2: Light Commercial Vehicle

Selection criteria applied to the procurement of small vans		
Small Van Selection Objectives	**Choice Criteria**	**Vehicle Chosen**
Low emission considerations	Euro 6 engine / Electric	Electric based on whole life cost and emissions
Appropriate size, payload and gross vehicle weight of vehicle considered	Sub 2 tonne Panel Van	Sub 2 Tonne Panel Van
Manufacturer support for parts availability	Manufacturer and factor parts	A mixture of both
Purchase price	Notts. Consortium tender framework Electric Vehicles	£18.5k
Workshop preference for maintenance	Specialist maintenance required need to consider training options.	Nissan NV200 Electric
Pre purchase trials	Through manufacturer demo.	Nissan NV200 Electric Vehicle
Driver and Operator preference for optimum production	Through manufacturer demo.	Dennis Elite Euro 6
Fuel consumption	Nissan NV200 Electric Vehicle	0.03p per mile
Production lead times	12 weeks	Nissan NV200 Electric Vehicle
Lifespan and replacement plan	12 years with mid-life refurbishment	Nissan NV200 Electric Vehicle
Whole life costs	Nissan NV200 Electric Vehicle	£25.5k zero emissions.

4.2 Maintaining Safety and Legal Compliance

The purpose of this priority is to ensure that all vehicles and plant are maintained and kept in a safe and legal condition.

To meet this objective, the transport and fleet team will ensure:

- That all vehicles and plant are compliant with UK transport and plant regulations
- That vehicle lifespan is maximised through effective planned maintenance
- That staff and public safety is not compromised by poorly maintained vehicles or equipment

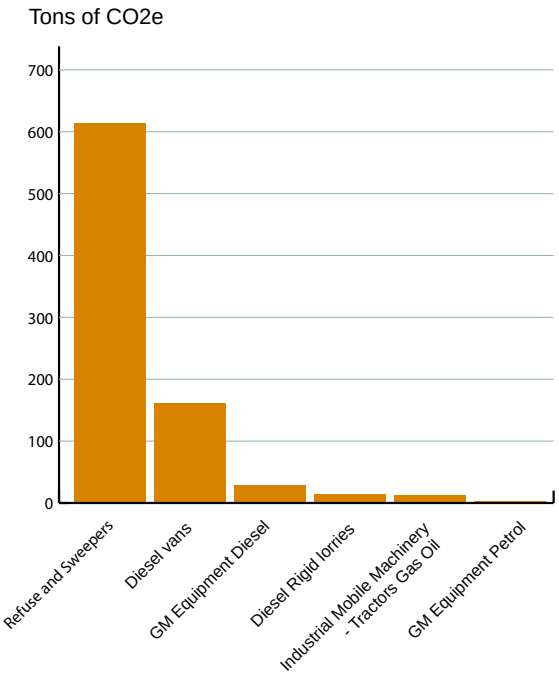
To meet the above objectives, the following have been introduced:

- The Fleet Management IT system is utilised to manage vehicles and assets, control and record maintenance schedules and repairs, monitor fuel use and emissions and ensure regulatory compliance.
- Vehicle technicians will receive continuous professional development ensuring professional skills keep pace with technological developments in vehicle technology, this includes on board weighing systems, emission control developments, engine technology Euro 6 and 7 and electric/ hydrogen and hybrid vehicle technology.

4.3 Reduced Fleet Emissions

Fuel used by the Council's transport and plant fleet falls under Scope 1 (see Appendix 1 for more details and explanation of Scope 1, 2 and 3) and composes 36% of the Council of carbon footprint in 2018/19.

The table below shows the Council's use of fuel for transport purposes and the related consequence in CO_2e produced:



To meet the objective of reducing emissions will require a mix of initiatives and details of the proposals to achieve the required reductions are set under the Fuel Report part of the Climate Change and Green Futures Programme.

A summary of the actions to be implemented as part of the Fuel Project Strand within the Climate Change and Green Futures Programme are set out below:

- Rescheduling - Until technological developments allow, heavy haulage will require the continued use of diesel engines. However, fuel improvements and resource efficiencies will be achieved through more effective scheduling.

- Alternative Technologies - When procuring small vans and light commercials with a revenue weight of less than 2.5 tonnes electric vehicles where practical and economic will be introduced.
- For HGVs continuing dependence will continue for the short term on Euro 6 diesel engines.
- For vans and light commercials where practical and economically cost effective the introduction of hybrid or full electric vehicles will be adopted. With respect to this initiative in 2019 the transport fleet procured 2 fully (Ultra Low Electric vehicles) electric vehicles and for the coming year 2020 for vehicles in the revenue category up to 3.5 tonnes hybrid electric vehicles if economically cost effective will be considered.
- Vehicle Emission Monitoring - Individual vehicle emission monitoring will be adopted utilising data provided by the Fuel Monitoring IT system.

- Driver Behaviour Training - Will be introduced based on data provided by the Vehicle Monitoring IT system. The system monitors drivers' performance and uses the data to support a driver training programme.
- For small hand operated plant battery powered hand tools such as electric drills, hedge trimmers, strimmers, chainsaws are replacing traditional fossil fueled models.
- Mowers (including stand on and sit on mowers), flails and similar plant; alternatives to fossil fuel will be considered using the Fleet Emission Hierarchy to inform procurement decisions .

4.4 Fleet and Plant Procurement

To support the investment required to fund the Council's transport and fleet assets the Council through its medium terms financial strategy provides the necessary funding.

All vehicles and plant are purchased outright.

To manage the fleet and plant procurement required a 5 year capital replacement programme is in place.

Details of the proposed investment programme for the period 2021 until 2025 are provided below.

Fleet and Plant Capital Investment	Amount
2020/21	£736k
2021/22	£701K
2022/23	£600K
2023/24	£584K
2024/25	£568K

To support the procurement process, the Council utilises the services of the Nottinghamshire Wide Joint Procurement Group which consists of the 9 Nottinghamshire local authorities who have joined together to jointly source refuse collection vehicles, panel vans and transits, tyre management, driver training and fleet software services.

The Nottinghamshire Group was formed in response to the Roots Review 2009 which looked into the arrangements by local government for achieving efficiencies in procurement.

Since its inception the procurement group has saved over £8,000 per refuse freighter procured and over 35% for each light commercial vehicle sourced. For Broxtowe the savings achieved for refuse freighters since 2015 is £48K (6 Vehicles) and for light commercials £151K (11 Vehicles).

In procuring new replacement vehicles and plant, user service departments are consulted and must provide a business case utilizing the SMART principles of specificity, measurable, attainable, relevant, and time-bound before vehicles and plant are purchased.

When replacing an existing vehicle or item of plant the following criteria will be taken into consideration:

- Condition of existing vehicle
- Existing fleet utilization
- Mileage the vehicle is expected to undertake
- Requirements of the user departments
- Whole life costs
- Alternative technologies available for light commercial vehicles with a revenue weight of less than 3.5 Tonnes where the potential exist for low emission vehicles, this may

include ultra-low electric vehicles, hybrids or hydrogen fuel cells.

- Types of fuel and alternatives available – A key strategic action with respect to the adoption of electric/hydrogen vehicle technology is the availability of the electrical/ hydrogen infra-structure that will support the growth in both commercial and domestic use of electric vehicles, details of which are provided below.

The Council has installed 28 electric vehicle charging points in Beeston, Stapleford, Kimberley and Eastwood with funding provided from Go Ultra Low Cities Project.

Electric vehicle drivers can access the charge points using an app or RFID card.

Residents and businesses with a postcode in Nottingham, Nottinghamshire, Derby or Derbyshire can to take advantage of the reduced tariff of 20p per Kilowatt (correct at time of writing) when using D2N2 charging points.

To support the Council's own electric vehicle fleet two twin electric vehicle charging points have been installed, one at Kimberley Depot and one on the Civic Offices in Beeston.

5.0 Strategic Actions

In considering the Transport and Fleet Strategy the table below presents the strategic actions to be adopted during the period 2020 until 2024 that will assist in enabling the Council to achieve net carbon zero by 2027.

Strand 03	Transport	Responsible Officer	Target Date
Action 1	Create a new Transport and Fleet Strategy with a focus where economically appropriate on electric vehicles.	Transport and Stores Manager	August 2020
Action 2	Develop a plan for the further introduction of appropriate infrastructure to support potential growth in the electric fleet and growth in domestic use of electric vehicles.	Transport and Stores Manager	March 2022
Action 3	Using available data, produce a report on vehicle types registered in the Borough along with scenarios indicating the behavioural change necessary to help achieve net zero by 2027.	Transport and Stores Manager	March 2022
Action 4	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Environment	August 2020
Action 5	Technology - The Council has a fleet of 8 small vans (Below 2 Tonnes). Two of these vehicles have already been replaced with all electric vehicles and over the period to 2024 the remaining 6 vehicles where practical and economic (As they reach a life of 12 years) will be replaced with all electric models.	Transport and Stores Manager	2021-2024
Action 6	Capital Investment - The Capital Vehicle replacement programme for those HGV's (Refuse Freighters 26 Tonnes) identified for replacement will be replaced with Euro standard engines (Euro 6 Onwards). Before purchasing consideration will be given based on practicality and economics of the adoption of new technologies that have come to market this includes potential electric and hydrogen propulsion methods.	Transport and Stores Manager	2021-2024
Action 7	Technology - For small plant such as hedge trimmers, blowers, and strimmers where practical and economic these will be replaced with electric powered units. Technological developments in this field are rapid and the Grounds Maintenance Manager has been tasked with keeping abreast of new developments and trialling new developments as they come to market.	Grounds Maintenance Manager	2021-2024
Action 8	Technology - Working pro-actively with the Nottingham Vehicle Consortium (District Councils) and industry suppliers a watching brief will be maintained on new and developing technologies this includes IT developments, and the move towards electric and hydrogen traction for heavy goods vehicles. Decisions on purchasing new technologies will depend on practical and economic factors when consideration is being given with regards to acquisition of this new technology.	Transport and Stores Manager	Through to 2024
Action 9	Green number plates. The Department of Transport / Gov UK is currently consulting on the introduction of green number plates as a means of differentiating vehicles whose carbon footprint is low or negligible based on their environmental impact and tailpipe emissions. If adopted the council will wish to provide community leadership by displaying such number plates on its vehicles that meet such low emission standards.	Transport and Stores Manager	2020

STRAND 04

Energy & Building Infrastructure

STRAND 04

Energy & Building Infrastructure

Contents

STRAND 04

Energy & Building Infrastructure

1.0 Introduction

This part focuses on non-HRA buildings such as the leisure centres, Bramcote Crematorium, council offices and sports pavilions in parks. When calculating the organisation's carbon footprint, energy and building infrastructure comes under scope 1 of the analysis in relation to gas, and scope 2 in relation to electricity (see Appendix 1 for more details and explanation of Scope 1, 2 and 3).

2.0 Achievements

The comparison between 2009/10 and 2018/19 is very encouraging - equating to a 53% reduction (for all buildings). This is due to a variety of factors including:

- A reduction in the number of buildings;
- Implementation of a majority of the measures set out in the 2009/10 Carbon Management Plan (CMP).

The reduction in emissions from office buildings has been the most dramatic at minus 84% and is due to the following measures: -

Office Building	Measures Taken
Cavendish Lodge, Beeston	Leased out July 2014 and sold April 2019
14 Devonshire Avenue, Beeston	Sold February 2015
Eastwood cash office	Closed March 2016 and sold March 2018
Main Council Offices	• Part-leased to the Police April 2014 • Solar Panels installed October 2014 • LED lighting installed 2015/16

Since March 2019 the Town Hall has also been sold which means a further reduction in office building carbon emissions. All other types of building have shown a marked reduction, for reasons including: -

- Sale/demolition/lease of buildings such as Durban House (2016), Beeston Bus Station Toilets (2016), Maycliffe Hall Stapleford (2016), Eastwood Cemetery Chapel (2018);
- Reduction in the number of cremators from three to two at Bramcote Crematorium (leading to more efficient operation as less heating/cooling);

- Ongoing small scale replacement of heating, hot water and lighting systems at sports pavilions (NB. Due to the fact that there is not a 5-year payback on most of these projects as a result of low usage they are replaced with more efficient systems as and when they are life-expired).

The one exception to this pattern of reduction is Kimberley Depot where gas use has increased over the last 3 years, only one year being a cold winter. This is being investigated.

The Council has purchased green energy since 2013. On the advice of Carbon Trust has taken a "location based" approach to its carbon

footprint calculation counting all of its electricity use and the consequent CO_2 emissions. However, should the Council decide in future to take a "market based" approach to its carbon footprint calculation, it is in a position to offset 499 tonnes of CO_2 emissions.

3.0 Strategic Actions

In considering the Energy and Building Infrastructure the table below presents the strategic actions to be adopted the period 2020 until 2024 that will assist in enabling the Council to achieve net carbon zero by 2027.

Strand 04	Energy and Building Infrastructure	Responsible Officer	Target Date
Action 1	Capture and analyse the achievements to date in regards to energy consumption / creation to inform the approach moving forward and to inform the overarching communications programme.	Head of Property Services	July 2020
Action 2	Determine and report on approaches that will assist in reducing the organisations energy consumption further.	Head of Property Services	July 2020
Action 3	Capture and analyse the achievements to date in regards to building infrastructure to inform the approach moving forward and the overarching communications programme.	Capital Works Manager	July 2020
Action 4	Determine and report on approaches that will further assist the Council's building infrastructure reduce its carbon emission.	Head of Property / Capital Works Manager	December 2020
Action 5	**Leisure Centres (708t CO_2e 2018/19):** Replace the Combined heating and Power (CHP) system at Bramcote (already budgeted for in 2020/21).	Head of Property Services	October 2020

Strand 04	Energy and Building Infrastructure	Responsible Officer	Target Date
Action 6	**Leisure Centres (708t CO_2e 2018/19):** Proceed with the Leisure Facilities Strategy which may lead to more efficient new buildings (longer term and requires very significant funding).	Head of Property Services	September 2020
Action 7	**Bramcote Crematorium (308t CO_2e 2018/19):** Replace cremators with more efficient new ones and install heat exchanger (funding should become available from a land sale in 2021/22).	Head of Property Services	March 2022
Action 8	**Kimberley Depot (265t CO_2e 2018/19):** Investigate reasons for recent increased of gas usage and introduce counter-measures .	Head of Property Services	March 2021
Action 9	**Kimberley Depot (265t CO_2e 2018/19):** Introduce more LED lighting (within existing approved budgets).	Head of Property Services	March 2022
Action 10	**Council Offices (77t CO_2e 2018/19):** Ensure heating and insulation is optimised (within existing approved budgets).	Head of Property Services	March 2022
Action 11	**Sports Pavilions (60t CO_2e 2018/19):** Continue with ad-hoc replacement of heating, hot water and lighting systems as older less-efficient systems become due for replacement (within existing approved budgets).	Head of Property Services	On-going
Action 12	Water: implementation of taps in all Council owned building to reduce water consumption, metered bills and cost.	Head of Property Services	March 2022
Action 13	Investigate further opportunities for the installation of solar panels on Council Buildings for example the Depot	Head of Property Services	August 2021
Action 14	Investigate the energy management arrangements at the Crematorium in order to identify opportunities to redirect excess energy for heating and lighting.	Head of Property Services	March 2022
Action 15	Investigate the opportunity to create a woodland burial site – achieving eco burials within a woodland setting.	Head of Property Services	March 2022

It can be seen from the above table that, following the dramatic reduction in office buildings, the biggest carbon wins will come from the leisure centres, Bramcote Crematorium and Kimberley Depot and so this is where efforts will be focused.

STRAND 05

Employee & Business Mileage

STRAND 05

Employee & Business Mileage

Contents

STRAND 05

Employee & Business Mileage

1.0 Introduction

When calculating the organisation carbon footprint business mileage comes under scope 3 of the analysis (see Appendix 1 for a more detailed explanation of scopes 1,2 and 3). Employee mileage is considered a cost to the individual rather than the organisation but the Climate Change and Green Futures steering group determined that it was important to understand the impact on the environment of all regular journeys.

2.0 Business Mileage

Business mileage is mileage undertaken by employees in their own vehicles. Data was extracted from the Human Resources and Payroll system and then analysed in order to inform this project strand.

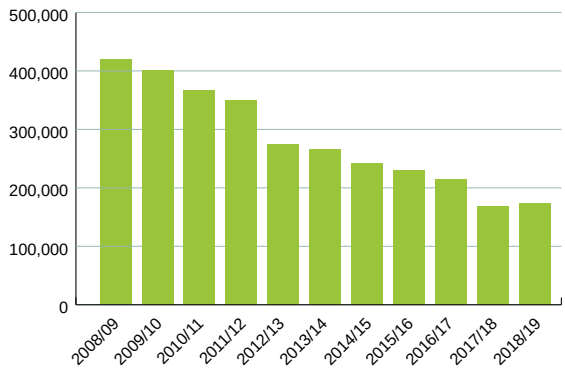
The table below illustrates the reductions in business mileage that have been achieved over the last 11 years, a reduction of 58.7% between 2008/09 and 2018/19. It is too early to tell whether the small increase between 2017/18 and 2018/19 will have a negative impact on the downward trend.

Three changes have been implemented by the Council over the last 11 years and these change have potentially assisted the reduction in business mileage to varying degrees.

- Mileage rate changed to 45p per mile (HMRC rate) from August 2013.
- VAT Receipt required when claiming mileage with effect from April 2014.
- Mileage claimed online via HR21 (the Council's Human Resources IT system) with effect from April 2018.

Year	Miles	% Reduction on previous year	
2018/19	173,679	-3.48	↑
2017/18	167,833	15.61	↓
2016/17	198,886	9.06	↓
2015/16	218,700	5.84	↓
2014/15	232,262	13.39	↓
2013/14	268,179	1.84	↓
2012/13	273,216	21.88	↓
2011/12	349,739	4.78	↓
2010/11	367,310	8.31	↓
2009/10	400,611	4.65	↓
2008/09	420,136	-	

Council Business Miles Per Year



The reduction in carbon emissions achieved between 2009/10 (127 tCO_2e), the date of our first carbon footprint assessment, and 2018/19 (64 tCO_2e) the date of our most recent carbon footprint, is 49.6%.

3.0 Employee Home to Work Mileage

Employee home to work mileage is not fully understood particularly as new initiatives such as New Ways of Working have introduced more agile working arrangements for some employees, where service levels can be maintained or enhanced. A survey was therefore developed to help capture the current baseline so that future activity can be measured accurately. The survey was online and provided in paper format for non-PC users. The Human Resource department reminded managers and employees on numerous occasions in order to encourage completion.

The results from the survey, while not complete in terms of representing the entire work force (478 employees), have provided some interesting data.

Number of employees responded: 263

Number of commuting miles in cars (petrol and diesel): 14,294.4 per week

Number of miles on bicycles: 159 per week

Number of miles on public transport: 1,431 per week

A more detailed survey is required moving forward and this will be captured in the Strategic Actions section below.

4.0 Analysis of the Employee Wellbeing Survey

During the COVID-19 emergency there was a need for most office based employees to work from home. The Employee Wellbeing Survey conducted during the emergency lockdown arrangements revealed that 59% of employees were happy working from home, utilising the new technology platforms, for example instant messaging and video conferencing. A strategic

action moving forward will therefore be to work with employees, managers and the wider organisation to leverage the new technologies and agile working arrangements, in order to help reduce the impact that employee home to work mileage has on the environment.

5.0 Strategic Actions

The table details the proposed actions

Strand 05	Business Mileage	Responsible Officer	Target Date
Action 1	Capture and analyse the achievements to date in regards to the reduction in business mileage to inform the approach moving forward and to inform the overarching communications programme.	Payroll and Job Evaluations Manager	March 2020
Action 2	Determine and report on approaches that may assist in reducing the Council's carbon emission impact of business mileage.	Payroll and Job Evaluations Manager	October 2020
Action 3	Using the current employee home to work mileage as a baseline repeat the survey annually to inform the approach moving forward and the overarching communications programme.	HR Manager	March 2021
Action 4	Leverage the new technologies and agile working arrangements widely implemented and utilised during the COVID-19 emergency in order to reduce the impact that employees travelling to work has on the environment.	Strategic Director / Heads of Service	March 2021
Action 5	Employee Benefits: Consider the implementation of a car leasing scheme enabling employees access to a new vehicle. Include the promotion of electric vehicles within the scheme.	HR Manager	March 2021
Action 6	Capture the achievements in order to inform the communications programme and promote what good looks like to Businesses within the Borough	Strategic Director	On-going
Action 7	Introduce home to work mileage survey as part of the induction process for all new employees	HR Manager	September 2020
Action 8	Consider the introduction of Cycle To Work promotion (leave the car at home week / day)	HR Manager / Corporate Communications Manager	March 2021
Action 9	Consider approaching public transport organisations to determine what promotions can be targeted at Broxtowe employees for example Green Travel Deals	HR Manager	March 2021
Action 10	Consider the promotion of approaches that would allow employees to lease / purchase a more environmentally sustainable vehicle	Head of Protection and HR	August 2021
Action 11	Review the Council's mileage claim system to consider how it may be used to make it more financially attractive to employees that have an electric vehicle	Head of Protection and HR	March 2022

STRAND 06

Water Courses

STRAND 06

Water Courses

Contents

STRAND 06

Water Courses

1.0 Introduction

The responsibility for the majority of the various water pathways, be it rivers, streams, channels, drainage ditches rests with a range of different organisations and individuals in the borough. Maintaining, improving and enhancing these pathways involves a partnership approach involving Nottinghamshire County Council as the lead local flood authority, the Environment Agency, the Canal and Rivers Trust, riparian owners together with the Borough Council. The various watercourses and their differing micro habitats are very important for wildlife with changing water levels, marginal vegetation, together with areas of standing water and pools.

2.0 Achievements

The Council is very proud of the Nottingham Canal which has been a local nature reserve since 1993. It comprises 6 miles of disused canal from Bramcote to Eastwood and is an important wildlife corridor forming part of the Erewash Valley Trail.

There are 6 brooks that the Borough is responsible for maintaining:

- Nether Green Brook, Eastwood
- Beauvale Brook, Eastwood
- Daisy Farm Brook, Giltbrook
- George Avenue Allotments Brook, Chilwell
- Gloucester Avenue Brook, Nuthall
- Brinsley Brook, Brinsley

Over the years the Council has invested significant funds from the annual £30,000 drainage budget to keep these brooks running by removing debris, cutting back vegetation and clearing silt.

In 2017 working with Notts Wildlife Trust on the ‘’Wetland Landscapes for All’’ project various schemes were undertaken at Brinsley Headstocks, Toton Fields and Hall om Wong.

At Brinsley Headstocks the Council working with the Friends Group a series of ponds and scrapes were created which have led to increased biodiversity and helped intercept run off and delay it reaching the watercourse.

Improvements to wildlife meadows and woodland management at this site also help intercept and slow rainwater run-off into the brook and improve water quality. Dragonfly and amphibian records for the site show a significant increase in species and numbers since the ponds established. At Toton Fields Local Nature Reserve a very similar scheme was undertaken on areas of grassland adjacent to the River Trent. This again was undertaken through the Council working with the Friends Group. At Hall om Wong Local Nature Reserve restoration of a dew pond and introduction of native wildflowers was carried out. Water on this site provides a very important habitat. The pond now holds water all year round and amphibians have been recorded breeding.

In March 2019 a project to remove non-native goldfish went viral with excellent positive publicity. Goldfish are a problem invasive species, highly predatory of native wildlife and notorious for disturbing sediment. Water in main pond is now significantly clearer, aquatic vegetation beginning to establish and insect life/ amphibian populations are recovering. This main pond intercepts an on-site drainage brook and the over fall outlet from the pond now allows clearer water back into the main watercourse.

3.0 Strand Achievements

Since the adoption of the Climate Change Emergency on 17 July 2019 opportunities to further manage and enhance the water course have been explored.

Working with the Environment Agency the Council are now partners on the Trent Gateway Landscape Vision (see Water Courses Trent Gateway Masterplan 2020 in **Appendix 3**). This is a project to create a thriving river corridor for fish, wildlife and people along the River Trent through collaboration and engagement with communities and partners. The river is divided into 6 action zones with 2 of these in the borough:

Zone 1 Sawley to Attenborough

Zone 2 Attenborough to Colwick

The proposed work here will include:

- Improved access and interpretation in the Attenborough Nature Reserve.
- Wetland creation and enhancement to increase biodiversity.
- Enhancement of the Council's primary Trent Valley Green Infrastructure Corridor.
- Improved surfacing and new seating along the Big Track shared pedestrian and cycle route.

Through the partnership the Council will be actively involved in promoting and developing these initiatives.

The winter of 2019/20 was a particularly challenging one for the various water courses

in the borough with periods of prolonged and heavy rainfall. Overall the impact of flooding was localised but the Council working with partners and contractors did undertake various one-off initiatives to clear debris from various water courses to help mitigate the potential for flooding.

On the Nottingham Canal significant progress has been made along sections to control reeds and vigorous aquatic vegetation. This has created channels to allow wildfowl to move along the corridor with the open water very important for fish, amphibians and insect life. At the ponds at Brinsley Headstocks there has been good volunteer engagement to remove invasive non-native species from the ponds and the brook.

4.0 Strategic Actions

The table below details the proposed strategic actions moving forward.

Strand 06	Water Course	Responsible Officer	Target Date
Action 1	Discussions will take place with the County Council and other partners as to the on-going management of the blue infrastructure in Broxtowe.	Parks and Green Spaces Manager	Autumn 2020 and then on-going
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Parks and Green Spaces Manager	July 2020
Action 3	Develop further strategic actions as part of the Water Courses project strand delivery.	Parks and Green Spaces Manager	July 2020
Action 4	Undertake a detailed assessment of the brooks that the Council is responsible for to carry out a flood risk assessment and look at opportunities for biodiversity enhancement	Parks and Green Spaces Manager	Summer 2020 Summer 2021
Action 5	Further meetings will be held with the Environment Agency on the Trent Gateway Project looking to develop the initiatives on the section of the river within Broxtowe	Parks and Green Spaces Manager	Autumn 2020 and ongoing with 2 or 3 meetings a year
Action 6	Meetings with landowners to ensure that appropriate maintenance is taking place	Parks and Green Spaces Manager	Ongoing
Action 7	Clarify ownership responsibility for the boundaries of the 6 brooks in Borough Council responsibility	Parks and Green Spaces Manager	Autumn 2020
Action 8	Identify risks and any mitigation that affect the water courses and any appropriate adaptations that can be implemented or promoted	Parks and Green Spaces Manager	March 2021

STRAND 07

Meadow Planting / Wildlife Corridor

STRAND 07

Meadow Planting / Wildlife Corridor

Contents

> *Thanks to everyone involved in the planting of wild flowers in the Inham Nook park. They look amazing.*

Residents comment 2020

STRAND 07

Meadow Planting / Wildlife Corridor

1.0 Introduction

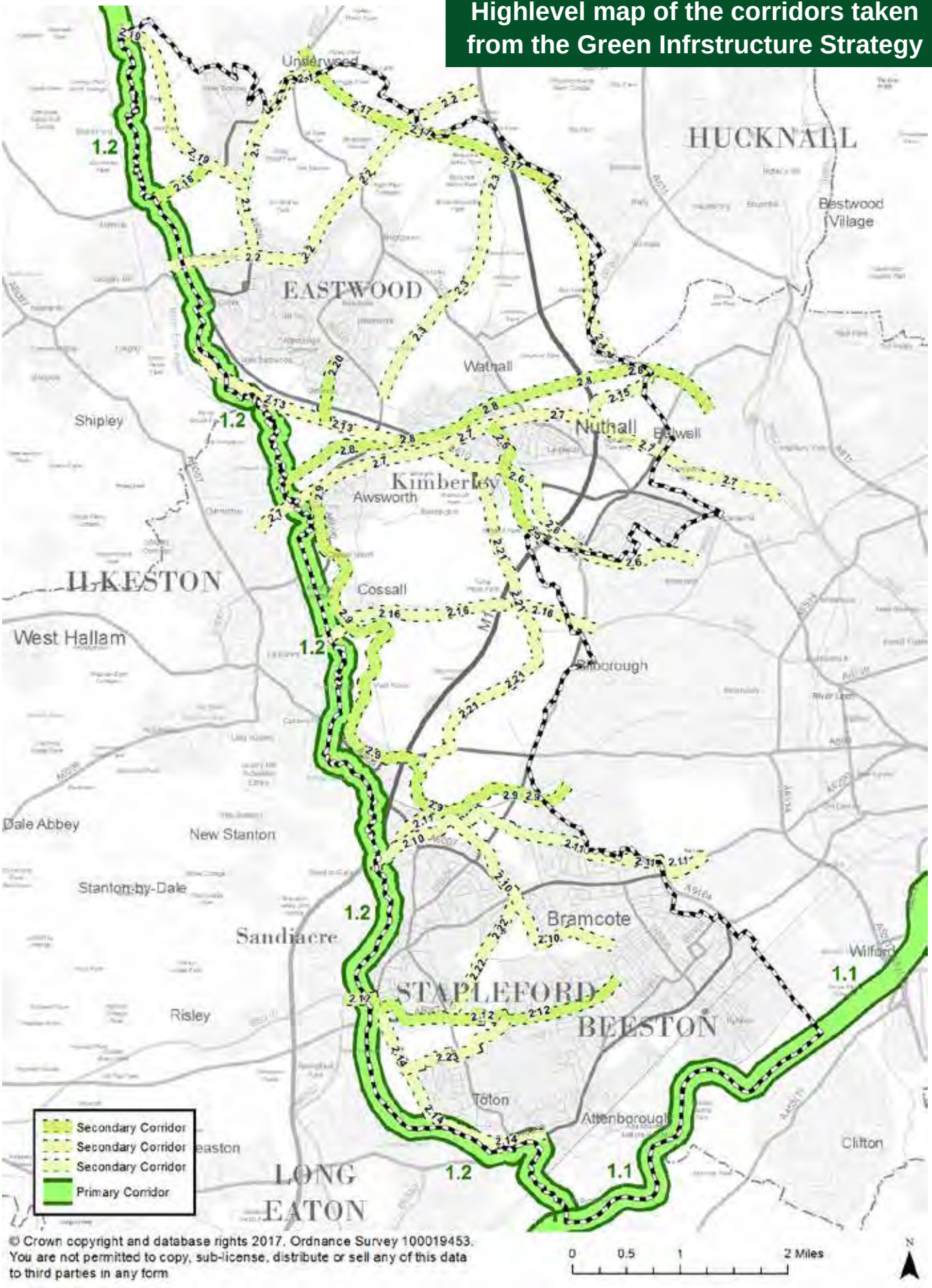
Creating and enhancing the meadows and wildlife corridors has many environmental benefits providing wildlife with important connection networks and habitats. The linking of the networks through green infrastructure also creates both economic and social benefits for the wider community to enjoy.

2.0 Past Achievements

In 2015 the Council created its Green Infrastructure Strategy 2015-2030. The strategy identified 2 primary corridors and 23 secondary corridors in the borough. The strategy has proved a very valuable tool and has enabled the Council's planning team to identify any corridors near to new application sites.

This in turn has raised the awareness of a range of issues and opportunities associated with relevant corridors. This then allows appropriate mitigation to be considered and built in as appropriate. The strategy has also been used to identify potential projects for funding opportunities through the Section 106 process. All of the corridors together with their buffer zones are detailed on the Council's mapping system.

Highlevel map of the corridors taken from the Green Infrstructure Strategy



© Crown copyright and database rights 2017. Ordnance Survey 100019453.
You are not permitted to copy, sub-license, distribute or sell any of this data to third parties in any form

In 2017, the Council as part of the on-going review of opportunities to make cost savings changed some of the seasonal bedding areas to annual meadow plantings. These were very well received and provide an alternative to the traditional seasonal bedding with the added benefit of using varieties that are very beneficial to insects, butterflies and bees. In 2018, the concept of using annual meadow seeds was extended to parks and green spaces with large beds created at Hall om Wong, Kimberley, Mansfield Road Recreation Ground, Eastwood, King George V Park, Bramcote and at various highway locations, with the bed on the A610 near Ikea particularly notable. The bed at Hall om Wong was a sea of poppies in summer 2018 and a poignant backdrop to the Armed Forces event held there. The same site was again a mass of colour in 2019 and the bed of rainbow annuals has been widely used for publicity purposes by the Council. Other good examples include beds at Bramcote Crematorium and Westbourne Court.

In recent years a number of sites were identified with potential to improve the meadow grassland. Where budgets allowed, management regimes were adjusted to maintain diversity. The most important element of this management is the annual cut and collection of the grass to keep nutrient levels low. On fertile sites grasses and undesirable species out compete the wildflowers. Leaving the cut grass on the ground allows nutrients to build up at the expense of the wildflowers. Sites where the grass has been removed include Brinsley Headstocks, Watnall Green and Colliers Wood.

At various sites bird seed crops have been sown which provide flowers which attract nectar and pollen feeding bees and insects and are then a valuable food resource for the birds over the winter period. This has been particularly successful at Colliers Wood and Brinsley Headstocks

3.0 Strand Achievements

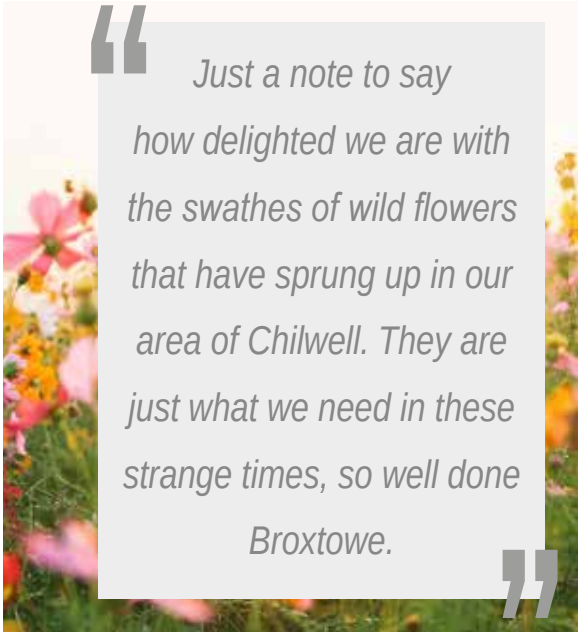
Since the adoption of the Climate Change Emergency on 17 July 2019 opportunities to enhance the meadow areas and wildlife corridors continue to be explored.

At Brinsley Headstocks in winter 2019/20 volunteers introduced Snakes Head Fritillaries and a native wildflower seed mix to one of the meadows. This site is semi improved grassland, meaning it has been improved for agricultural purposes in the past, to the detriment of native wildflowers. This supplementary seeding will allow wildflower populations to recover to their more natural state. The site will now be managed annually as a hay meadow. Last summer a few Spotted Orchids were reported and with good management this species should soon multiply.

At Sandy Lane Local Nature Reserve, Bramcote an area of acid grassland has been restored and will now be managed to maintain this important feature.

At Toton Meadows working with the local volunteer's, changes to the maintenance regimes of the woodland fringes has resulted in a colony of Bee Orchids becoming established

At Colliers Wood new woodland glades have been created by the Friends of Colliers Wood to allow areas within the woodlands to develop different characteristics to the rest of the site to further encourage a diverse range of wildlife and flora.



Residents comment 2020

4.0 Strategic Actions

There is an additional allocation of £15,000 in the 2020/21 revenue budget to improve and enhance meadow planting and wildlife corridors. The table shows the schemes being undertaken this year and proposals for future years.

Strand 07	Meadow Planting / Wildlife Corridor	Responsible Officer	Target Date
Action 1	Continue to deliver the actions within the Green Infrastructure Strategy 2015 - 2030.	Parks and Open Spaces Manager	March 2022
Action 2	Determine and report how the green and blue infrastructure can be enhanced to help protect the environment for our native wildlife corridors.	Parks and Open Spaces Manager	March 2021
Action 3	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Parks and Open Spaces Manager	March 2020
Action 4	Develop further strategic actions as part of the Meadow Planting / Wildlife Corridors project strand delivery.	Parks and Open Spaces Manager	March 2020
Action 5	Improvements to the existing meadow grassland at Archers Field Recreation Ground, Stapleford with scarification of the existing grassland and over seeding with a dedicated wild flower mix to create two large wild flower meadows.	Park and Open Space Manager	May 2020

Strand 07	Meadow Planting / Wildlife Corridor	Responsible Officer	Target Date
Action 6	Introduction of strategic areas of annual wildflower planting on highway verges at Gin Close Way, Awsworth, Bilborough Road, Nuthall, Narrow Lane, Watnall.	Park and Open Space Manager	May 2020
Action 7	Introduction of additional areas of annual wild flower planting on parks and green spaces at Coronation Park, Eastwood and Inham Nook Recreation Ground, Chilwell	Parks and Open Spaces Manager	May 2020
Action 8	Identify further areas for annual seed, wildflower seed and bird crop seed sowing on parks and green spaces and highway verges at strategic locations.	Parks and Open Spaces Manager	Summer 2020 Summer 2021
Action 9	Review of the Local Nature Reserve Management Plan for King George V Park, Bramcote to identify acid grassland areas and a strategic approach to their management.	Parks and Open Spaces Manager	Review Summer 2021 and implement Spring 2022. Repeat for Summer 2022 and Spring 2023
Action 10	Identify further areas for annual seed, wildflower seed and bird crop seed sowing on parks and green spaces and highway verges at strategic locations.	Parks and Open Spaces Manager	Review Summer 2021 and implement Spring 2022. Repeat for Summer 2020 and Spring 2023
Action 11	Assess sites for species rich grasslands that with a change in management could become more favourable for biodiversity. This will be done working with the County Biodiversity Officer and Nottinghamshire Wildlife Trust. Significant sites that offer further potential include the Nottingham Canal, Bramcote Hills Park acid grassland, Colliers Wood with the introduction of yellow rattle to keep grasses down and over seeding with native species.	Parks and Open Spaces Manager	Review Summer 2020 and implement Spring 2021. Repeat for Summer 2021 and Spring 2022
Action 12	Identify areas within woodlands with potential to improve ground flora.	Parks and Open Spaces Manager	Ongoing

Strand 07	Meadow Planting / Wildlife Corridor	Responsible Officer	Target Date
Action 13	Opportunities to undertake grass cutting and collection will be further explored utilising the additional revenue budget to fund the expensive grass collection and disposal.	Parks and Open Spaces Manager	Ongoing
Action 14	The Management Plans for the Local Nature Reserve will continue to be assessed and opportunities for changes to maintenance schedules for grass areas considered to help enhance and improve areas of grassland meadow.	Parks and Open Spaces Manager	Review Summer 2020 and Implement Spring 2021
Action 15	Consider opportunities to increase the number of allotments.	Parks and Open Spaces Manager	March 2022
Action 16	Work with allotment holders to create composting ambassadors.	Parks and Open Spaces Manager	March 2022
Action 17	Consider how the Council may create / support the provision of community food planting areas in addition to the current allotment provision.	Parks and Open Spaces Manager	March 2023

> *I would just like to say what a fantastic addition the wildflower plots have been on Chilwell playing fields. We hoped this was what was coming and what an utter delight the plots have turned out to be. It's wonderful to see such vibrant colours in the delicate flowers and see the huge amount of invertebrate life also enjoying them.*
>
> *Residents comment 2020*

STRAND 08

Tree Planting

STRAND 08

Tree Planting

Contents

STRAND 08

Tree Planting

1.0 Introduction

Trees play an important role in absorbing carbon dioxide and removing and storing carbon whilst releasing oxygen into the air. They also enhance the environment through both economic, social and environmental benefits.

2.0 Past Achievements

In 2009 the Council launched an initiative to plant 100,000 new trees in the borough. This scheme was completed in 2016 with an average of 16,600 trees planted each year. It included work with different partners to create opportunities to plant trees on land in both public and private ownership and included “free tree” events and schemes to plant significant lengths of new hedgerows. It proved to be very successful and there are now many examples where the planting schemes are having a positive impact. Notable schemes would include the new hedges planted at Colliers Wood, the copse areas created at Jubilee Park, Eastwood, Hall om Wong, Kimberley and woodland regeneration at Bramcote Hills Park. In 2018 the Council adopted the Tree Planting Strategy which provides a strategic approach to planting trees with 3 different elements:

- Replacement planting
- New planting programme
- Project planting working with partners

The strategy had a target of planting 1000 new trees a year. This target was increased to 2000 in 2019 and takes into account the significant work undertaken in the 10 years from 2009 and the limited space available on a lot of parks and green spaces for large scale new planting.

3.0 Strand Achievements

Since the adoption of the Climate Change Emergency 17 July 2019 there have been various new initiatives.

The autumn/winter of 2019/20 saw 2102 new trees planted as a result of initiatives linked to the Tree Planting Strand. Notable schemes included:

Free Fruit Trees – 500 apple and pear trees were given away to residents of the Borough at 2 events in January. This proved to be very popular and attracted a lot of very positive publicity and feedback.

Community Tree Events – 700 trees were planted at Hetley Pearson Recreation Ground by local school children in an event working in partnership with Beeston and District Civic Society and Greenwood Community Forest.

Memorial Trees – 21 trees were planted at Brinsley Recreation Ground on 11 November 2019 to mark the 21 servicemen from Brinsley who died in the first and second world wars.

Community Orchards – two new orchards were created, one at Archers Field Recreation Ground and one at Dennis Avenue Allotments

4.0 Strategic Actions

There is an additional allocation of £11,500 in the 2020/21 revenue budget to deliver further tree planting initiatives across the borough. Over the summer officers will be working with residents, schools, businesses and community groups to identify opportunities. These will include the following actions:

Strand 08	Tree Planting	Responsible Officer	Target Date
Action 1	Continue to deliver the actions within the Tree Planting Strategy 2018. Including Specimen tree planting schemes using large trees.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Parks and Green Spaces Manager	March 2020
Action 3	Determine and report on how the Tree Planting Strategy can be enhanced to help provide greater opportunities to encourage residents, schools and businesses to plant more trees and look at innovative ways.	Parks and Green Spaces Manager	Summer 2021
Action 4	Develop further strategic actions as part of the Tree Planting project strand delivery.	Parks and Green Spaces Manager	
Action 5	Second tree giveaway event with small ornamental trees suitable for gardens.	Parks and Green Spaces Manager	January/ February 2021
Action 6	Create additional pocket orchard at an allotment site or appropriate community site.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023
Action 7	Identify a site for new hedge planting in excess of 50m.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023

Strand 08	Tree Planting	Responsible Officer	Target Date
Action 8	Identify opportunities to implement new pocket parks taking advantage of central government funding.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023
Action 9	Implement appropriate signage including the potential for information boards in parks, explaining how and why the Council manages the environment in the way that it does.	Parks and Green Spaces Manager	Autumn 2021
Action 10	Undertaken planting work to enhance existing woodlands.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023
Action 11	Creation of new woodland copses protected by fencing.	Parks and Green Spaces Manager	March 2021 March 2022 March 2023

STRAND 09

Recycling

STRAND 09

Recycling

Contents

STRAND 09

Recycling

1.0 Introduction

The Corporate Plan for 2020-24 sets out the Council's priorities over the next four years. The Council Vision is 'a greener, safe, healthier Broxtowe, where everyone prospers'

The overarching aim for the Environment is to 'protect the environment for the future'. This will be achieved through three specific work areas. The work area relevant to this strand within the Climate Change and Green Futures Programme is 'increasing recycling and composting'.

The Council's Corporate Plan sets a target of achieving a recycling rate of 44% by year four of the plan (2024). Waste analysis undertaken by Measurement Evaluation Learning in 2014 indicated that if all the materials that could be collected as part of the current kerbside recycling schemes were in fact recycled, then a recycling rate in excess of 50% could be achieved in Broxtowe.

2.0 Achievements Recycling 2009 to 2019

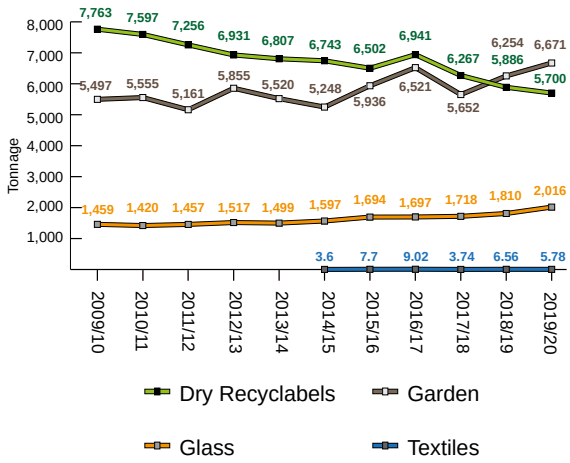
The Council provides the following kerbside recycling opportunities for its residents:

- Dry Recyclables (plastics bottles, yoghurt pots, margarine/butter tubs, can/tins, paper/ cardboard)
- Garden Waste
- Glass
- Textile

With the exception of the textile service all other kerbside services were introduced prior to 2009. The textile service was introduced in November 2014. Although it should be noted that the garden waste service became a chargeable service in 2014/15.

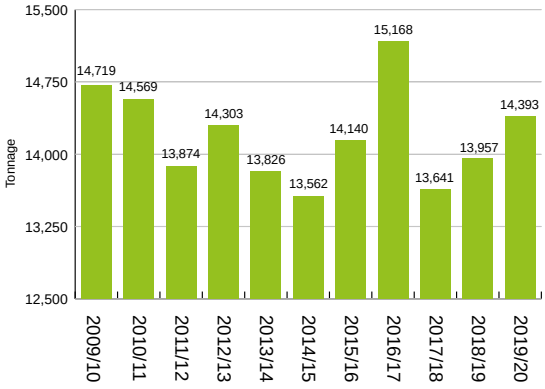
Graph 1 shows the tonnages collected from the kerbside recycling collections between 2009/10 and 2019/20. As can be seen the trend is a gradual decline in the amount of tonnage collected from dry recyclables, an undulating pattern with regards garden waste, which can be attributable to weather patterns affecting growing rates and subscription numbers, a steady increase in the kerbside glass collection

with the textile collection performing at a constant low rate due in part to a number of charities providing textile collection services.



Graph 1: Graph to show tonnages collected of each kerbside collection scheme between 2009/10 and 2019/20

Graph 2 shows the total tonnages collected from the kerbside recycling collection schemes between 2009/10 and 2019/20. As is evident the graph somewhat mirrors the trend on the garden waste line in Graph 1 showing the impact the garden waste tonnages have on the overall amount of materials collected for recycling/composting.

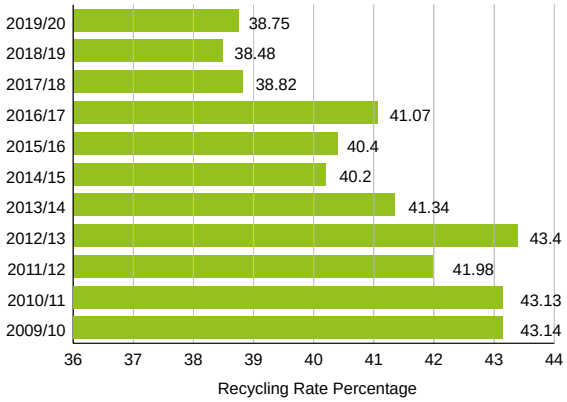


Graph 2: Graph to showing total tonnage collected from the four kerbside collections between 2009/10 and 2019/20

In direct correlation to the information shown in Graphs 1 and 2, Graph 3 shows the Council's recycling rate during the same monitoring period. Again the trend follows the garden waste tonnage pattern which reinforces the influence the tonnage from this service has on the Council's overall recycling rate.

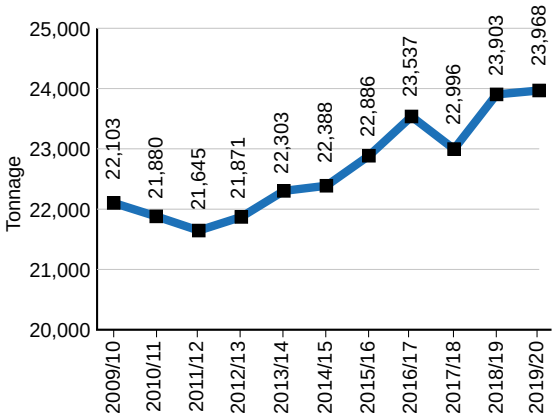
As the figures suggest there has been a steady decline in the Council's recycling rate over the last ten or so years. The recycling rate peaked in 2012/13 at 43.4% and has reduced to 38.75% in 2019/20.

It is not fully understood why there has been a reduction in the recycling rate. It is likely that there are a number of variables at play such as lighter packaging materials, improved purchasing behaviour and reuse of materials. However, recycling apathy could also play a part with the topic of recycling receiving less national coverage in recent times. What is clear is that a percentage is not the best approach to analyse the success of recycling initiatives and it is hoped that the new national Waste Strategy will address this issue.



Graph 3: Graph showing the Councils recycling rate between 2009/10 and 2019/20

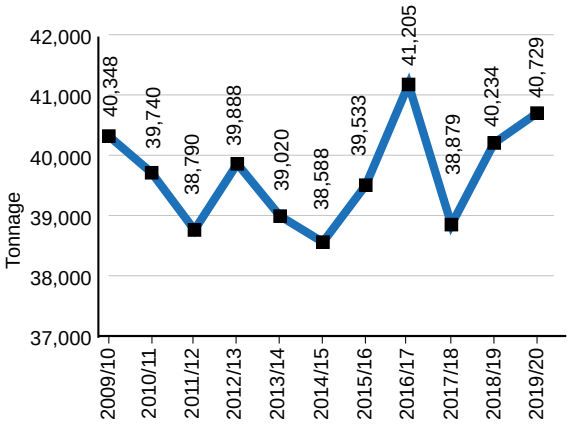
Graph 4 shows the trend in the amount of residual waste collected through the black lidded bins. The number of households and population in the borough will affect these figures. It is therefore more appropriate to compare the statistics based on the figures per head and per household.



Graph 4: Graph showing the amount of residual waste collected through the black bin between 2009/10 and 2019/20

2.1 Per Head / Per Household

As shown in Graph 5 below a total of 40,348 tonnes of household waste was collected in 2009/10 compared to 40,729 tonnes in 2019/20. Factoring in the population growth within Broxtowe, this equates to 365.4kg in 2009/10 per head of population (population: 110,422) compared to 361.4kg in 2019/20 (population: 112,698)



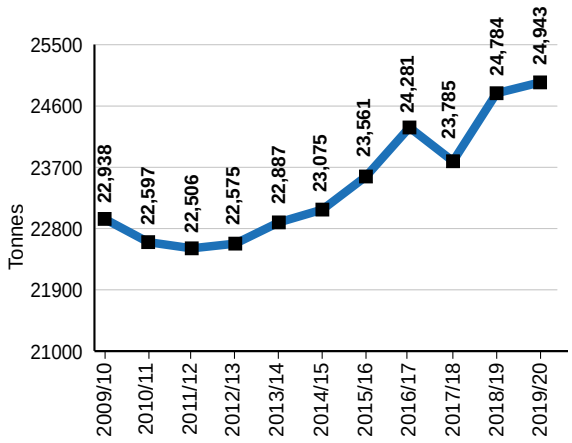
Graph 5: Graph showing the total tonnage of ALL household waste collected per head of population between 2009/10 and 2019/20

A 1% decrease in the overall amount of waste produced per person, which is positive. The aim is to further reduce the amount of waste produced in accordance with the principles of waste reduction / minimisation which sits at the top of the Waste Management Hierarchy (see illustration in section 4.0).

As shown in Graph 6 a total of 22,938 tonnes of residual household waste was collected in 2009/10 compared to 24,943 tonnes in 2019/20. Factoring in the growth in the number of households within Broxtowe, this equates to 471.3kg in 2009/10 (48670 properties) per household compared to 495.1kg in 2019/20 (50380 properties). For the purpose of this analysis, residual waste, includes all the waste from the black lidded bins as well other waste streams such as the bulky waste collection service.

The difference equates to 5% increase in the overall amount of residual waste collected per household. There are many variables affecting this trend, for example, the amount of bulky waste collected each year fluctuates dependent upon the number of requests for the service.

The aim is to reverse the trend in the amount of residual waste produced in accordance with, and the promotion of, the three top principles of the Waste Hierarchy. These principles being to reduce, reuse and recycle.



Graph 6: Graph showing the total residual household waste collected per household between 2009/10 and 2019/20

3.0 Strand Achievements

Since the Climate Change Emergency was adopted on 17 July 2019 the focus has been on designing approaches that will affect resident's behaviour towards recycling in a positive way. Two fundamental aspects of this is crew engagement and communications with the public.

The In-Cab IT system which enables crews to report recycling problems has been upgraded to the latest version. The upgrade combined with the replacement of in-cab units has made it easier for crews to report a contamination issue.

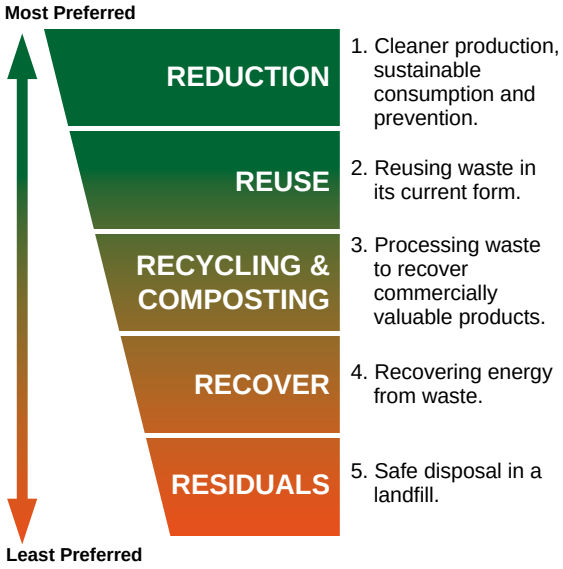
However, this information needs to be acted upon if a difference is to be made. The approval by Members of a new recycling role aimed at following up on the incidents reported by the crews with the intention of educating and engaging with residents, will help significantly towards reducing the contamination and increasing recycling. While appointment to the new role has been delayed due to the coronavirus it is hoped that this will be addressed shortly.

4.0 Strategic Actions

Waste Minimisation sits at the top of the Waste Management Hierarchy followed by 'reduce' and then 'recycling' as the preferred options for dealing with waste. The Council is committed to increasing recycling but also the principles of waste minimisation and reuse.

The strategic actions under the Recycling Strand aimed at improving recycling are set out in the table below. The measures demonstrate how the Council will promote responsible waste management delivering on initiatives that not only promote recycling but also the principles of waste reduction and reuse.

Integrated Waste Management Hierarchy



Strand 09	Recycling	Responsible Officer	Target Date
Action 1	Continue to embed the intent within the Single Use Plastics Policy 2018 including for example reducing the use of plastic bags in refuse and the wider Council.	Waste Services and Strategy Manager	March 2021
Action 2	Develop a programme of activity to ensure that additional resources are immediately effective from appointment.	Waste Services and Strategy Manager	March 2020
Action 3	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Waste Services and Strategy Manager	March 2020
Action 4	Work with the Nottinghamshire Joint Waste Management Group to lobby for additional materials to be recycled.	Waste Services and Strategy Manager	March 2021
Action 5	Develop further video and educational material for schools, businesses, households, and employees in order to encourage behavioural change in regards to recycling.	Waste Services and Strategy Manager	March 2021
Action 6	Develop further strategic actions as part of the Recycling project strand delivery.	Waste Services and Strategy Manager	March 2020
Action 7	Create of a new recycling officer role whose purpose is to promote the principles of the Waste Hierarchy, promote good recycling behaviour and responsible waste management practices	Waste Services and Strategy Manager	June 2020
Action 8	Work in partnership with charities, for example on Clean and Green Bulky Waste days, to promote the reuse of items as an alternative to disposal	Waste Services and Strategy Manager	Ongoing
Action 9	Evaluate the refuse and recycling rounds to consider whether further efficiencies can be made by round reconfiguration to reduce the use of fuel and vehicle emissions.	Waste Services and Strategy Manager	March 2022
Action 10	National Waste Strategy: Implement the statutory measures aimed at increasing recycling for example this may result in additional infrastructure and resources being needed for such as food waste collection and disposal.	Head of Environment / Waste Services and Strategy Manager	Summer 2021

STRAND 10

Housing Delivery

STRAND 10

Housing Delivery

Contents

STRAND 10

Housing Delivery

1.0 Introduction

The Housing Delivery project strand will consider how new properties can be built as energy efficient as possible. Improvements to our current housing stock will not be considered as part of this strand, but by the Housing Improvement project strand. There will be some overlap between the two projects and therefore a consistency in approach is needed.

2.0 Achievements

In June 2019 Housing Committee approved a new Housing Delivery Plan, which set out the plan to build a minimum of 230 new Council homes over the next ten years. Following this an Interim Housing Delivery Manager was appointed to deliver the plan and establish a pipeline of schemes.

The Delivery Plan contained a commitment to ensure that new Council homes built are energy efficient:

> *Alternative delivery methods, such as modular housing will be considered where appropriate, especially on sites which may be otherwise unsuitable for redevelopment.*
>
> *Irrespective of the method of construction used, the Council will provide a sustainable home for future residents, which is built to provide good levels of energy efficiency and reduced utility cost for the occupants. The Council will aim to achieve the equivalent of level 4 in the Code for Sustainable Homes.*
>
> ***(Source: Housing Delivery Plan, p6)***

The Code for Sustainable Homes requires assessment of the performance of new dwellings both during design and once construction is complete. The code has not been mandatory for new developments since 2015. It is still operational but is now voluntary. It provides a good framework for the Council to assess the sustainability of new developments. It is a complex assessment, the technical guidance is almost 300 pages, but in summary it measures sustainability against nine categories:

- Energy and carbon dioxide emissions
- Water
- Materials
- Surface water run-off
- Waste
- Pollution
- Health and wellbeing
- Management
- Ecology

For each category the code provides the known sources of environmental impact for which mitigation measures can be cost-effectively implemented.

3.0 Previous Developments

Prior to the new Housing Delivery Plan, the Prior to the new Housing Delivery Plan, the Council

has previously built new Council homes through partnership work with registered providers (housing associations). On many developments the opportunity was taken to include energy efficient measures:

Energy efficiency measure	Scheme	Number of homes
Geo-thermal heating	Hawker Close, Chilwell	6
	Sunnyside Road, Chilwell	3
Solar-thermal heating for hot water	Anderson Crescent, Beeston	4
	Plumptre Gardens, Eastwood	8
Solar PV panels	Bexhill Court, Beeston	6
	Church Street, Eastwood	2
	Midland Avenue, Eastwood	4
	Peatfield Court, Stapleford	3
	Sherwood Rise/ Linwood Cres, Eastwood	3
	Welch Avenue, Stapleford	6
Solar PV panels (communal areas only)	Nottingham Road, Stapleford	10

4.0 Membership of Good Homes Alliance

The Council has recently joined the Good Homes Alliance. Members and partners include local authorities, architects, planners, developers, universities, urban designers, consultants, building professionals and suppliers.

The Good Homes Alliance has formed a Local Authority Vanguard membership network. One of the main aims of the network is to share resources and conduct further research to facilitate local authorities in adopting enhanced sustainability, quality, health and performance standards for new housing developments.
As part of our membership the following is available:

- Case studies and exemplar site visits
- Resource library/ knowledge base
- New research and guidance
- Meetings and workshops

5.0 Future Opportunities for Improvement

5.1 Analysis of Benefits and Costs

The first Council properties with environmental features were built in 2008. Since this time very little has been done to analyse the benefits of the various technologies which were installed. The tenants who currently live within our properties will be able to provide useful information in regards to their experience and assist the Council to learn from previous developments.

It is also essential to review the additional management and maintenance costs of the technologies installed within properties, so that these can be included in analysis of future developments. For example, Repairs Operatives are not trained to repair some of the specialist equipment and this work is currently completed by external contractors. By reviewing the expenditure on these properties we can review if it would be more cost effective to train our own Repairs Operatives.

5.2 Training and Guidance for Tenants

It is important that tenants are shown how to use the systems in their property correctly and that they understand how to achieve full benefit. For new developments the Council will write clear guidance notes, specific to the features that are included within the new development.

Tenants will be given training as part of their tenancy sign up and discussions around the use of the system will form part of the 1 month, 4 months and 9 months tenancy visits completed during the first year of a new tenancy.

5.3 Pilot of Energy Efficient Measures

Willoughby Street in Beeston is part of phase one of the Housing Delivery Plan. Air Source Heat Pumps will be installed as part of a trial to see if these should be included in future developments. Tenant guides and training will also be included as part of the pilot.

Each site will be assessed to consider what energy efficiency features should be installed.

6.0 Strategic Actions

In summary, the Council has previously installed energy efficiency features within new developments. Through the work of the new Interim Housing Delivery Manager there will be many opportunities to build upon this. This needs to be informed by further research. The following actions will be taken:

Strand 09	Housing Delivery	Responsible Officer	Target Date
Action 1	Continue to deliver the actions within the Housing Delivery Plan 2019 – 2029 .	Head of Housing	Ongoing
Action 2	Research eco-friendly methods of construction.	Head of Housing	
Action 3	Identification of potential solutions to reduce on-going energy use in all Housing Delivery Plan phase 1 sites, including: • Air Source Heat Pumps • Ground Source Heat Pumps • PV Panels • Water Conservation • Energy efficient lighting • Small wind turbines.	Head of Housing	December 2020
Action 4	Review of existing environmental solutions included in new build developments at Broxtowe Borough Council in last ten years, including survey of tenant experience.	Head of Housing	September 2020
Action 5	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Housing	June 2020
Action 6	Determine and report on how the Housing Delivery Plan can reduce carbon impact for all new developments.	Head of Housing	December 2020
Action 7	Develop further strategic actions as part of the Housing Delivery project strand delivery.	Head of Housing	June 2020
Action 8	Analysis of repairs and maintenance costs for our properties with energy efficient features, since they were built	Head of Housing	September 2020

STRAND 11

Housing Improvements

STRAND 11

Housing Improvements

Contents

STRAND 11

Housing Improvements

1.0 Introduction

This part focuses on the Council's housing stock (HRA) buildings (4,600 homes). With the exception of some communal areas (eg. stairwell lighting, communal lounges), the Council does not measure the energy used in any of these homes. This is because they are all individually metered and the tenants are responsible for paying their own energy bills and for day-to-day decisions such as whether to use heating and to what extent. Nevertheless, the Council has a very important role to play as these 4,600 homes make up nearly 10% of all homes in the Borough and the Council can have a major impact on reducing tenants CO_2 emissions through a variety of measures.

2.0 Achievements

The SAP comparison between 2012 and the latest estimates is very encouraging: –

- SAP in 2012 was averaged out at around 62.55, (environmental rating of 58.65)
- Latest estimates are an average SAP of 68.24, (environmental rating of 66.81) – an improvement of 9%

(SAP stands for 'Standard Assessment Procedure'. It is the only official, government approved system for assessing the energy rating for a new home – a higher figure indicates a more energy efficient home)

This improvement has been achieved through the following measures: -

- Gas Heating Replacements (Mainly energy-efficient Worcester condensing combination boilers) – 3565 homes

- Electric Heating Replacements (Using high heat retention Lot20 compliant storage heaters) – 37 homes
- Cavity wall and loft insulation – 79 homes (the rest of the stock had been treated prior to 2010)
- UPVC double-glazed Windows – 619 homes (approximately 4100 homes were completed prior to 2010)
- External Wall Insulation to solid wall properties – 564

- PV (solar panels) on new builds – 24 homes
- PV on retirement living schemes - 4 communal installations
- Ground Source Heat Pumps on new builds – 9 homes

Tenant (and wider public) education is also important as, for example, improved insulation may simply lead to homes being heated to a higher temperature than required with less reduction in CO_2 emissions than expected.

3.0 Strategic Actions

In addition to the ongoing decarbonisation of the electricity grid the main future activities proposed are as follows. They will be pursued using existing approved HRA budgets and external grant sources where available/appropriate: -

Strand 11	Housing Improvements	Responsible Officer	Target Date
Action 1	Formulate the appropriate response to the outcome of the stock condition survey.	Capital Works Manager	October 2020
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Capital Works Manager	June 2020
Action 3	Research alternatives to conventional heating systems and report finding.	Capital Works Manager	December 2020
Action 4	Develop further strategic actions as part of the Housing Improvements project strand delivery.	Capital Works Manager	June 2020
Action 5	Install external wall insulation to the remaining 94 solid wall properties – this requires careful assessment as most of them are hard to treat as they are in Eastwood's conservation area	Capital Works Manager	December 2024
Action 6	Stock Condition Survey: act on recommendation to install external wall insulation to 53 steel-framed properties in the short term 1 – 5 years	Capital Works Manager	December 2024
Action 7	Consider how best to address the 30 properties remaining with less-efficient gas boilers and implement the solution / solutions	Capital Works Manager	December 2022
Action 8	Consider how best to address the 285 properties remaining with less efficient all-electric systems. In the short term these will primarily be replaced with high heat retention storage heaters, but air source heat pumps will also be trialed at suitable properties	Capital Works Manager	December 2024

Strand 11	Housing Improvements	Responsible Officer	Target Date
Action 9	The two new dementia-friendly bungalows at Willoughby Street, Beeston will have air source heat pumps with under floor heating and PV on the roof	Capital Works Manager	March 2021
Action 10	Trial emerging technology: The future of the gas network is under review. Gas boilers are being developed to work on both hydrogen and gas. There is a stock of over 4000 gas boilers in domestic properties. In the short term high efficiency condensing boilers will continue to be used, but emerging solutions will also be trialed.	Capital Works Manager	Ongoing
Action 11	Consideration will be given to retro-fitting of PV panels – especially to stock that is not subject to right to buy.	Capital Works Manager	Summer 2021
Action 12	Loft insulation will continue to be upgraded to the very latest standards every time that other work is undertaken in a property	Capital Works Manager	Ongoing

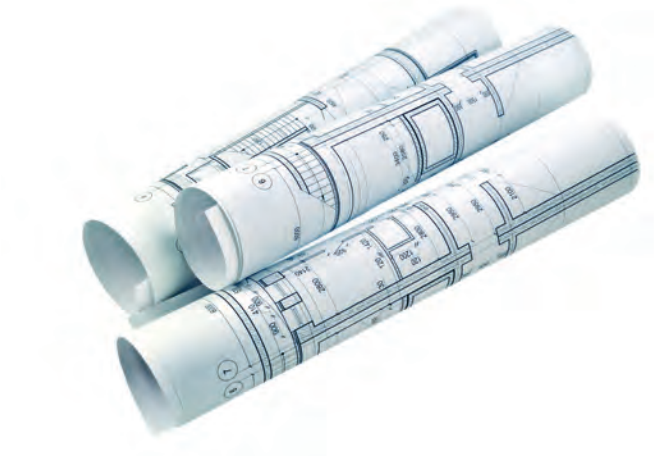
STRAND 12

Core Strategy and Planning

STRAND 12

Core Strategy and Planning

Contents



STRAND 12

Core Strategy and Planning

1.0 Introduction

Planning Law in the 1990 Town and Country Planning Act and repeated in other amended Acts since, is that planning decisions need to be taken in accordance with the development plan unless material considerations indicate otherwise.

In Broxtowe the Development Plan comprises the Greater Nottingham Aligned Core Strategy (ACS) which was adopted in September 2014 (prepared over the Greater Nottingham geography with each Council adopting it individually), and the Broxtowe Part 2 Local Plan (P2LP) adopted in October 2019. The ACS contains the strategic policies applicable across Greater Nottingham and provides a consistent strategic framework, and the P2LP contains the more detailed policies and allocations to deliver the strategy.

2.0 The Adopted Development Plan

Policy 1 of the ACS sets the over-arching framework regarding sustainable design and adaption, reducing CO_2 emissions, decentralised energy generation, flood risk and sustainable drainage with more detail to be provided in Part 2 Local Plans and or other planning documents.

Policy 14 provides the strategy for managing travel demand, policy 16 for Green Infrastructure and Policy 17 biodiversity, again in strategic terms with the detail to be added in subsequent documents.

Policy 1 of the P2LP requires new development to be located in areas of lowest risk of flooding and that effective sustainable drainage systems are provided. The detailed allocations of the plan (Policies 2 to 7 inclusive), are made in locations that provide the best opportunities for walking, cycling and the use of public transport, are accessible to local services, and incorporate green infrastructure provision to provide wildlife habitat, walking and cycling routes, sustainable drainage systems and recreation space.

Policy 17 (applicable to any new development requiring Planning Permission) requires a host of standards to be met regarding place making, design and amenity. This includes the encouragement of walking and cycling, the use of native species for landscaping, encouraging biodiversity and for major developments a need

to score highly in the governments building for life criteria (which itself contains a number of key sustainable development criteria).

Policy 20 relates to Air Quality and requires the provision of Electric Vehicle Charging Points for major developments.

Policy 28 identifies the Green Infrastructure Assets in the Borough (drawing on evidence in the Councils Green Infrastructure Strategy from 2015) and includes a requirement that development proposals that will affect these assets also includes measures to enhance them.

3.0 Emerging Planning Policy

There is work underway with partners beyond Broxtowe's boundaries to prepare Supplementary Planning Documents (SPDs) (to provide further detail on the Local Plan policies) regarding development in the vicinity of the proposed HS2 Station at Toton, and separate work is underway being led by others on HMA/ County wide SPD on Climate Change issues. These SPDs cannot 'rewrite' the policies referred to above, but can provide additional detail to the way in which they'll be applied.

Broxtowe are again working collaboratively with all partners across Greater Nottingham to review the ACS and the initial round of consultation on this is due to start by June 2020.

In addition, a number of Town and Parish Councils and Neighbourhood Forums are in the advanced stages of preparing their Neighbourhood Plans. One at Nuthall has been 'made' following a referendum in December 2018.

3.1 Monitoring

Given the recent adoption of the P2LP there is limited data available regarding the success of these policies. However, there is clear data that the allocations are coming forward in the locations planned for with number of applications already submitted and several more expected soon.

3.2 What more should we do?

In order to have weight in planning decision making, policies relating to climate change need to be contained in the adopted Development Plan. SPDs have an important role to play, but if the initial policy on which it is based has shortcomings then these can't be rectified via an SPD process. This has to be done via the review of the Development Plan.

3.3 Engagement

The consultation mentioned above into the Core Strategy will be important in shaping policy for the future. Regrettably groups that tend to be more positive about embracing opportunities for new development and ensuring that climate change policies are sufficiently robust are more difficult to reach. Those that comment as a matter of routine on planning matters are the

development industry and their representatives, who are keen for very understandable reasons not to want more regulation, and members of local communities who are directly affected by development in terms of additional traffic, pressures on local services and loss of open space, and who object to it for these reasons and others.

A review of the Council's Planning Statement of Community involvement is underway with a view to using more modern forms of communication including social media, review actions for engaging with younger and other difficult to reach members of the community, including less adversarial forms of developing policy for example workshops, attendance at schools / youth groups, and use of specialist organisations to reach hard to reach groups. This should be complete in Autumn 2020.

3.4 Policy Development

This will need to reflect the outcome of the Consultation work described above, should be subject to testing through the plan making process including viability testing, and should include consideration of the merits of the following key themes. These are split into factors around the location of new development, the timing of new measures, and then the standards expected of new development.

3.4.1 Location of New Development to:

- Reduce the need to travel.
- Provide the best opportunities for sustainable forms of travel.
- Provide the best opportunities for use of lower emission vehicles.

This is one of the very most effective ways of helping to achieve a net zero carbon future. If new development is located where it is safe and convenient for new residents to walk or cycle to work, shop and spend leisure time then this will go a long way to reducing the number of trips made by private car and will also have positive impacts on air quality.

3.4.2 Use of S106/ Planning Conditions to ensure that measures to support reduced emissions are provided at the right time (i.e. early in the build out of development). This would include:

- Cycle routes.
- Bus lanes.
- Electric Vehicle Charging points.
- Green infrastructure to enable both outdoor recreation and attractive walking routes.
- Any low energy infrastructure.

This timing of provision of new facilities is important. For example, if a new cycle route should be provided for a new development, if this is not provided until the completion of the development, then for large schemes residents already living there will have got into the habit of using other means to get around including driving their cars for short trips. Once they are

in this habit, it is more difficult to change it. On the other hand, if the cycle route is provided early, then the occupiers of the new homes will get more used to using it early and the same can be said for bus routes and enhanced green infrastructure for attractive walking routes.

3.4.3 Standards expected of New Development (when complete and during construction) to include:

- Production of a 'sustainable design and construction guide'.
- Use of sustainability statements.
- Efficient use of minerals.
- Incorporation of recycled materials.
- Minimisation of waste.
- Re-use of excavation and demolition waste.
- Sustainable design.
- Zero carbon development.
- Reduction in energy demand including through landform, layout, orientation, massing and landscaping, with regard to the efficient use of natural resources and to maximise the use of the sun's energy for heating and cooling.
- Incorporation of measures that enable sustainable lifestyles for building occupants.
- Compliance with the highest national standards of water efficiency.
- Climate change adaptation that provides resilience and reduces vulnerability to a changing climate and changing weather patterns and the full range of expected impacts.
- Prioritisation of suitable drainage systems (SuDS) to manage surface water drainage.

In assessing the value of measure described above (and potentially others) consideration will need to be given to the merit of going beyond minimum standards required under other legislation including building regulations, the governments minimum size standards for residential rooms or nationally proscribed design standards. Any uplift in these standards would need to be applied in a consistent way across the Housing Market Area and would need to be tested for its viable delivery. The best mechanism for achieving this is through the review of the Core Strategy. The aim being, to provide areas with more ambition in respects to achieving carbon net zero, greater influence over the environmental standards used for new developments in their Housing Market Area.

3.5 Monitoring

For all of the new measures introduced it will be necessary to monitor these in the Council's local authority monitoring report liaising as appropriate with the County Council for transport use information.

4.0 Strategic Actions

The table below provides a list of strategic actions to move this agenda forward:

Strand 12	Core Strategy and Planning	Responsible Officer	Target Date
Action 1	Include proposals relating to energy efficiency and climate change as part of ongoing work on implementing Policy 17 of the Part 2 Local Plan, 'Place-making, design and amenity'	Head of Planning and Economic Development	December 2020
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Planning and Economic Development	May 2020
Action 3	Gather evidence, including viability evidence, to inform ACS policies that will enforce / expand on NPPF requirements regarding energy efficiency and climate change.	Head of Planning and Economic Development	May 2021
Action 4	Develop further strategic actions as part of the Core Strategy / Planning project strand delivery.	Head of Planning and Economic Development	May 2021
Action 5	Ensure that all Neighbourhood Plans include reference to policies regarding climate change and climate change mitigation.	Head of Planning and Economic Development	On-going
Action 6	Engaging with and ensuring the adoption of a Toton Masterplan which contains innovative proposals for an advanced model of living and working which is highly sustainable.	Head of Planning and Economic Development	March 2021
Action 7	Complete the review of the Aligned Core Strategy.	Head of Planning and Economic Development	December 2022
Action 8	Approve the council's participation in a new development corporation which will include ambitious proposals for the development of an international centre for zero carbon futures.	Chief Executive	March 2021

STRAND 13

Technology

STRAND 13

Technology

Contents

STRAND 13

Technology

1.0 Introduction

The Corporate Plan for 2020-2024 sets out the Council's priorities over the next four years. The Council Vision is 'a greener, safe, healthier Broxtowe, where everyone prospers'.

One of the aims of the Corporate Plan and that area that is relevant to the Technology project strand within the Climate Change and Green Futures programme is to 'protect the environment for the future'.

2.0 Achievements

Through successive ICT Strategies the Council has taken the opportunity as technology has developed to enhanced its ICT platforms. These developments have often resulted in a rationalisation of devices resulting in reduced power consumption and in some instances reduced cooling requirements. In order to demonstrate this process two case studies are provided below:

- Server virtualisation
- Multi-Functional Devices

2.1 Case 1: Server Virtualisation

In simple terms a server provides the core processing power of any ICT infrastructure. Before server virtualisation technology was developed and proved to be an economically viable solution, Council's would purchase a minimum of two physical servers for each main software system. Broxtowe had 74 servers all housed within specialist racking within a large data centre. These devices required power to operate and cooling to ensure that they continued to operate efficiently.

The work to virtualise the Council's server estate began prior to 2009. By the end of the 2009/10 financial year 53 servers had been virtualised (a total of 72%). The remaining 21 servers (a total of 28%) were all virtualised to the degree possible by the end of 2012/13. The Council had, by this time, in excess of 100 virtual servers housed on just 6 physical servers.

While the data is not available to easily demonstrate the reduction in power and cooling achieved from the server virtualisation project (the energy meters within the Town Hall did not allow for segregation of the billing) it is clear

that a reduction from 74 physical servers to 6 physical servers, a circa 93% reduction, would have a positive effect.

To further show the benefits achieved the Council has recently relocated its data centre from the Town Hall to the Council Offices. The transfer has resulted in a data centre that is less than a third of the size of the original data centre.

Reduced electricity consumption through fewer, more efficient devices and smaller storage requirements results in a reduction in the environmental impact of providing and maintaining the ICT Service.

2.2 Case 2: Multi-Functional Devices

In the early 2000's the accepted approach for delivering printing facilities in many cases was to provide users with a small printing device. The Council had in excess of 200 laser printers.

As the technology developed network devices were purchased and installed to service multiple users. This resulted in the number of devices installed falling to 76 at least a 62% reduction

A further leap was achieved when photocopiers were capable of operating as a photocopier, printer and scanner (these devices were known as multi-functional devices). Previously the printer estate and the photocopier estate operated independently.

200 to 18 a reduction of
at least 91%

In 2012/13 the printer estate fell from 76 devices to 26 multi-functional devices, a further 65.8% reduction. In 2018/19 this fell again from 26 multi-functional devices to 18, a further 30.8% reduction in the number of devices.

An overall reduction from in excess of 200 to 18 of at least 91%.

In each of the steps taken to rationalise the printing estate and enhance its functionality the technology had improved such that the energy consumed was reduced.

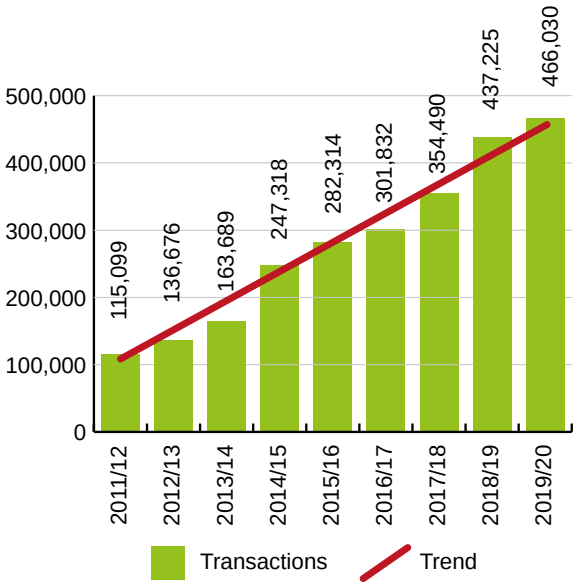
Another noticeable change identified as a result of each of the changes to the printing estate implemented over the last decade and the enhancements in terms of storage of documents is the reduction in the overall printing produced by employees.

Reduced number of printing devices, reduced power consumption and reduced consumption of paper and other consumables results in a reduction in the environmental impact of providing and maintaining the ICT Service.

2.3 Digital Strategy

Another example of where the Council has made significant strides over the last decade is in its delivery of the strategic actions associated with its digital strategies.

During the life of the strategy, developed in 2014/15, online transaction have increased by 88% to 466,030 by 2019/20. The graph illustrates the growth in digital and self-service transactions since 2011/12.



2019/20 saw an overall reduction in face to face and telephony transactions coming into the Customer Contact Centre. While it cannot be easily quantified this is likely to have reduced the overall travel undertaken by residents undertaking Council business.

Social media has also proven to be a valuable communications vehicle. The Council's Facebook pages reaches on average 58,996 people each month (statistics as at 31 March 2020) and its Twitter account an average of 103,000 each month. At the end of 2019/20 the Email Me service had 20,808 subscribers, with 86% of those surveyed feeling better informed about the Council and its services.

online transaction have
increased by 88%

With more digital and self-service transactions resulting in fewer face to face visits being necessary, the likelihood is that there has been a reduced need for customers to travel. This will have enhanced the customer experience for many, made the Council's service delivery more sustainable and saved both the customer and the Council time and money.

3.0 Strand Achievements

There have been a number of achievement delivered since the Climate Change Emergency was adopted 17 July 2019. A number have been referenced in this and other project strands for example the outcome of the previous and new Digital Strategies and the installation of upgraded software solutions for example the In-Cab devices installed in refuse vehicles to help to deliver more efficient services.

However, the achievement that stands out in most minds is the accelerated delivery of the New Ways of Working programme.

3.1 New Ways of Working

During the 2020/21 financial year the task of installing the Microsoft Teams platform was within the Broxtowe Borough Service Improvement (BBSi) programme.

As a result of the COVID-19 emergency, what should have been a 12 months phased implementation and integration with pilot groups, training, floor walking and face to face support became a 2-week implementation with training delivered, where necessary, through a combination of documentation, colleagues and a broader constituency of support across both employees and Members.

How has this enabled the Council to continue to deliver services, the Democratic process and simply remain in contact? The following statistics answer that question:

90% of office based employees working from home

36 laptops allocated to priority services

100 headsets purchased, installed and allocated

Over 2000 virtual meetings

Over 20,000 video calls

370 Employees and 44 Members using Microsoft Teams platform which enables the Council to keep delivering services and stay connected

20 LIVE Committee meetings and Full Council meetings

Over 80,000 instant messages

Source: Broxtowe Borough Council statistics as at end of July 2020

4.0 Strategic Actions

Much of the detailed work that needs to be completed in this area is already captured within key strategies for example the Council's ICT Strategy and Digital Strategy. These are referenced below in the list of strategic actions that have been developed for the Technology project strand.

Strand 13	Technology	Responsible Officer	Target Date
Action 1	Continue to deliver the actions contained within the ICT Strategy 2017-2021	ICT Manager	Ongoing
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Strategic Director	June 2020
Action 3	Monitor technology development to ensure the Council is able to take advantage of developments that are economically and environmentally advantageous.	Strategic Director / ICT Manager	Ongoing
Action 4	Develop further strategic actions as part of the Technology project strand delivery.	Strategic Director	June 2020
Action 5	Continue to deliver the actions contained within the Digital Strategy 2020-2024 including building on the existing digital culture to enhance the digital awareness, increase the number of digital services for customers, Members and employees.	Strategic Director / ICT Manager / Corporate Communications Manager	Ongoing
Action 6	Work with all parts of the organisation to leverage the benefits achieved through the use of technology during the COVID-19 emergency.	Strategic Director	August 2021

STRAND 14

Air Quality

STRAND 14

Air Quality

Contents

STRAND 14

Air Quality

1.0 Introduction

Broxtowe's Climate Change Strategy has a target of reducing the carbon footprint of the borough in order to become net carbon zero by 2027.

The strategy sets out to encourage a low carbon economy and tackle the causes of climate change. The strategic priorities encourage a reduction in emissions, energy saving, more careful use of resources and more generally, the adoption of the principles of sustainability across all sectors within the borough. These ideals have close links with the aims of the authority's action in respect of air quality and most actions taken to reduce carbon emissions are likely to have co-benefits for air quality for example modal shift to public transport, cycling and walking.

The main air quality issue within the borough arises from the M1 and the A52 roads.

The main pollutant of concern within the borough is nitrogen dioxide, which is emitted from vehicle exhausts and is prevalent in areas where there are congested roads. However, it must also be noted that ambient background levels are affected by emissions from domestic heating for example oxides of nitrogen from boilers and particulate matter from solid fuel burners.

The 2019 nitrogen dioxide results show that the air quality levels are below the objective of 40µg/m³ for all of the monitoring locations throughout the borough.

In respect of particulates, the modelled background level provided by the Department for Environment, Food and Rural Affairs (Defra) for the Borough of Broxtowe is modelled to be between 8µg/m³ and 11µg/m³ for 2019, with the annual mean for 2019 being 9.73µg/m³. The World Health Organisation (WHO) guideline level for $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter) is 10µg/m³.

2.0 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. Once those levels are reduced to appropriate levels, an AQMA can be revoked.

There were four AQMA's in Broxtowe. However, three have now been revoked and there is one remaining AQMA situated in Trowell. Monitoring is still being undertaken in the three revoked AQMA's as well as the current AQMA. The table below shows the four AQMA's and there locations.

AQMA Name	Location	Date Declared	Date Revoked
AQMA 1	Trowell – Iona Drive & Tiree Close	2006	-
AQMA 2	Trowell – Derbyshire Avenue	2006	2010
AQMA 3	Trowell – Nottingham Road	2006	2010
AQMA 4	Nuthall - Nottingham Road	2006	2017

3.0 Achievements

A lot of the issues around air quality in the borough centre on the road network. Control of this rests with Highways England and Nottinghamshire County Council. As such, there are limited actions that Broxtowe Borough Council can take to improve air quality problems arising from the road network. However, the Borough Council has implemented a number of measures in pursuit of improving local air quality.

3.1 Planning and Policy Guidance

Broxtowe Part 2 of the Local Plan (2018-2028), includes Policy 20 on Air Quality.

This policy ensures that air quality remains an important consideration when granting planning

permission and to encourage developers to include sustainable travel measures as part of the planning application.

3.2 EV charging points

Developer requirements to provide of EV charging points at new development.

Broxtowe Local plan includes Policy 26 that requires a Travel Plan to be submitted with any planning application for 10 or more dwellings or 1,000 square metres or more floor space.

3.3 Sustainable travel information for the public

The Council has leaflets on safe cycling on the tram lines, bus routes, Broxtowe cycling map, Broxtowe Country and Erewash Valley routes and walking leaflets.

Sustainable Travel methods are also available on the Council's website.

3.4 Vehicle emissions testing

The Council's fleet vehicles are annually emission tested in house prior to MOT emission testing.

The Council also undertakes additional emissions tests on all fleet vehicles if any new fuel or engine components have been changed. This is to ensure continued vehicle emission compliance.

3.5 Taxi licensing conditions

From 13 June 2018, all petrol vehicles are required to meet Euro 5 standards, all new diesel vehicles are required to meet Euro 6 emissions.

Hybrid and Electric Vehicles to be licensed as "Taxis" by quoting minimum 70kW and reducing boot space requirement to allow for battery storage

3.6 Cycle to work scheme

Cycle to work scheme – to assist and give tax relief on bike purchases for employees of BBC.

3.7 Low emission vehicle procurement

All new fleet vehicles procured by the Council are Euro 6 emissions complaint.

The Council has procured two electric vans in 2019.

Subject to satisfactory trials another two electric vehicles will be purchased in 2020.

4.0 Strategic Actions

In order to further improve and influence the improvement of Air Quality the council will take the following strategic actions.

Strand 13	Recycling	Responsible Officer	Target Date
Action 1	Continue to provide an annual Air Quality Status Report for the Borough which is fit for purpose	Head of Public Protection and HR	Ongoing
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Public Protection and HR	May 2020
Action 3	Continue to work with relevant partners in order to bring about improvements in local air quality	Head of Public Protection and HR	Ongoing
Action 4	Review the NO_2 diffusion tubes network; take proactive action to discontinue sites where the annual air quality levels are comfortably below the objective, and relocate them to new sites within the Borough allowing the identification of "problem" areas to be focussed on.	Head of Public Protection and HR	March 2021
Action 5	Develop further strategic actions as part of the Air Quality project strand delivery.	Head of Public Protection and HR	October 2020
Action 6	To encourage employees of BBC to purchase hybrid vehicles and electric vehicles for their personal and business use	Head of Public Protection and HR	March 2021
Action 7	Investigate the installation of vertical gardens, using moss to absorb CO_2 and particulate matter	Head of Public Protection and HR	March 2022

STRAND 15

Hospitality and Support Services

STRAND 15

Hospitality and Support Services

Contents

STRAND 14

Hospitality and Support Services

1.0 Introduction

The introduction of the New Ways of Working programme gave the opportunity to review the way in which refreshments and facilities for making drinks for and by employees, members and visitors was achieved with the aim of reducing single use plastic, in particular. Alongside this, the way in which waste is collected throughout the Council Offices has also be reviewed, again with the aim to reduce the amount of plastic being used.

2.0 Achievements - Hospitality

New facilities for Members have been provided on the ground and second floors of the Council Offices. In both:

- wooden stirrers are now provided rather than plastic spoons
- china cups/mugs and glasses have replaced paper/plastic ones

The coffee machines purchased for the second floor facility and the Leader's Office use recyclable pods which are taken by Support Services to a local collection point in Beeston.

In addition, tea, coffee and sugar in the second floor Members' Room are now stored in airtight containers, reducing the need for any packaging, apart from the original delivery packaging.

Plastic cups have been removed from water coolers. Staff are now encouraged to use their own drinking container and glasses are available for visitors and those attending meetings

3.0 Achievements - Support Services

Plastic bags are used in both the waste and recycling bins throughout the Council Offices.

The Cleaning Team now re-use the bags wherever possible by emptying waste and recyclables into used bags rather than taking out the bags every day and replacing them with new ones. This is not only saving money, but reducing the amount of plastic bags used.

4.0 Strategic Actions

Although some action has already been taken to reduce single use plastics in both hospitality and support services, there are further initiatives which can be introduced to reduce plastic and packaging further, for example tea, coffee and sugar will continue to be replaced with loose goods when supplies need to be replenished in the ground floor Members' Room and the Alder Room.

Strand 14	Recycling	Responsible Officer	Target Date
Action 1	Determine and report on approaches that can further reduce the use of single use resources in both the areas of hospitality and support services.	Head of Administration	May 2020
Action 2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Administration	May 2020
Action 3	Develop further strategic actions as part of the Hospitality / Support project strand delivery.	Head of Administration	May 2020
Action 4	Investigate the use of environmentally-friendly cleaning products using only naturally derived materials which has a less damaging effect on the environment	Head of Administration	March 2021

Climate Change and Green Futures Programme

Appendix

Appendix

Appendix 1.0

Carbon Trust Foot Print Assessment 2018/19

CARBON TRUST

Broxtowe Borough Council
Carbon Footprint Report - 18/19

Alp Katalan, Hector Wilson, Rob Hatcher

February 2020

Contacts

Prepared by:

Alp Katalan
Analyst
Alp.Katalan@carbontrust.com
+44(0)20 7832 4578

Hector Wilson
Senior Analyst
Hector.Wilson@carbontrust.com
+44(0)20 7832 4565

Robert Hatcher
Senior Manager
Robert.Hatcher@carbontrust.com
+44(0)20 7832 4619

Prepared for:

Kevin Powell
Strategic Director
Kevin.Powell@broxtowe.gov.uk

Contents

2

1

About the Organisations

3

About Carbon Trust

Our mission is to accelerate the move to a sustainable, low carbon economy.

The Carbon Trust is an independent, expert partner of leading organisations around the world, helping them contribute to and benefit from a more sustainable future through carbon reduction, resource efficiency strategies and commercialising low carbon technologies.

About Broxtowe Borough Council

The Council's statutory remit combines responsibility for a wide range of local government services with a focus on the Borough of Broxtowe, one of the 7 districts which make up the county of Nottinghamshire. It operates services including: Planning and building control; Housing; Parking; Waste management; Leisure facilities; and parks. Broxtowe Borough Council has approximately 478 employees.

Broxtowe is located west of the City of Nottingham. The Borough covers an area of 31 square miles and is home to around 113,200 residents.

5

2

Executive Summary

6

Executive Summary

Background

- The need for taking immediate and bold action on climate change is being increasingly recognised by businesses, government and the general population.
- The amount of action that needs to be taken, and the speed at which this must be done has been recognised by the UK through its ratification of the Paris climate agreement – to limit global temperature rise to well below 2°C.
- Consequently, the UK has declared a climate emergency, and the independent committee on climate change has laid out what needs to be done for the UK to become net-zero carbon by 2050.
- Broxtowe Borough Council has acknowledged their role in the need to take action and have themselves passed a motion to develop a strategy to achieve net zero carbon emissions.

7

Executive Summary

Aim

Ultimately, this exercise has the aim of informing Broxtowe Borough Council's activities to meet its objective of carbon neutrality by 2027.

Through this exercise, Broxtowe Borough Council will receive an updated carbon footprint of their activities for 2018/19. The footprint will include all Scope 1 (direct fuel use, such as gas and petrol) and Scope 2 (electricity) emissions, as well as business travel emissions (part of Scope 3 emissions).

This will also provide a basis for review/comparison with Broxtowe Borough Council's previous carbon footprint, conducted in 2009/10. In this way, the Council will be able to determine what types of activities have been most/least useful in the past decade to reduce their emissions.

8

Executive Summary

Key Findings

2,328
tCO_2e
Broxtowe Borough Council s carbon footprint for the FY 2018/19

- Over ¾ of Broxtowe Borough Council's measured emissions come from Scope 1 emissions (direct emissions from the fuel consumed).
- Natural gas for heating, predominantly leisure centres, accounts for 40% of the Council's footprint, followed by their vehicle fleet (36%) and electricity (just over 20%).
- Over 70% of the fleet emissions come from refuse trucks/road sweepers.
- 99.8% of all business travel miles are by petrol or diesel vehicle. The rest is done via cycling, public transport and trains are used for business travel but often unaccounted for.
- Broxtowe Borough Council's carbon footprint dropped 45% from its 2009/10 emission sources. This was mainly due to the grid decarbonising, a reduction in the number of buildings in scope, and the implementation of the 35+ CMP recommendations. Thus already meeting the 34% reduction target by 2020.

9

3

Introduction & Background

10

Background

- Greenhouse gas (GHG) emissions produced from anthropogenic sources and activities have resulted in an increase in the average global temperature; and over the next century average global temperatures are anticipated to increase by a further 2-4°C.
- This will have an inevitable effect on the planet's climate and natural cycles.
- To combat this, nations have pledged within the Paris climate agreement to drastically reduce emissions in order to limit the rise in average global temperatures to well below 2°C.
- The UK has recognised the scale of the problem and as such has declared a climate emergency, aiming to achieve net zero emissions by 2050.

11

Purpose of Our Work

- Broxtowe Borough Council have declared their intention to become a carbon neutral organisation and borough by 2027. In doing so, the Council are raising their carbon management ambitions, having previously developed a carbon management plan with The Carbon Trust in 2009/10. Whilst the carbon neutral target refers to the Council's own estate and operations only, ultimately the Council would also like to use their influence across the Borough to lead by example and encourage businesses, homeowners and other key stakeholders to take action on climate change.
- The council have been swift in taking action thus far, having implemented a list of over 60 carbon reduction projects, they have also:
  - Created a new Committee focused on taking action on the Environment and Climate Change.
  - Developed a Climate Change Strategy and Action Plan.
  - Established a Climate Change Steering Group to lead on 15 key areas.
  - Launched its Green Futures campaign to encourage residents, businesses and community groups in Broxtowe to do their bit.
- The first step in further developing a carbon reduction strategy has been to determine the current emissions produced directly and indirectly by the council. This report highlights the main emissions sources, and thus target areas where emissions should be reduced as a priority.

12

Greenhouse Gases (GHGs)

- Carbon dioxide is not the only greenhouse gas, there are five other key greenhouse gases that contribute to global warming, these are: Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons and Sulphur Hexafluoride.
- Not all of these gases arise from combustion of fossil fuels, with some originating from refrigeration/cooling, agriculture, chemical production and electrical applications.
- Each gas has its own global warming potential (GWP), by comparing each gas's GWP to that of Carbon Dioxide (CO_2) we are able to derive a Carbon Dioxide equivalent value (CO_2e).
  - Example: CO_2 has a GWP of 1, Methane has a GWP of 24; therefore we can say that 1 ton of methane emissions is equal to 24tCO_2e.
- CO_2 has the lowest GWP, with some other GHGs having a GWP thousands of times higher. However, CO_2 is by far the most abundant GHG.
- Hence the focus on carbon (dioxide) when discussing emissions reduction and climate change and the use of the term carbon dioxide equivalent (CO_2e).

13

GHG Protocol

- The green house gas (GHG) protocol is the most widely used, and accepted methodology for greenhouse gas accounting.
- It provides a framework for businesses, governments and entities to measure and report greenhouse gas emissions that support ongoing reduction efforts in a consistent manner.
- The standard has been developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD)
- Carbon Trust has been working with and applying the mechanisms of the GHG protocol for almost 20 years including providing support to the WRI in developing Scope 3 accounting methods.

14

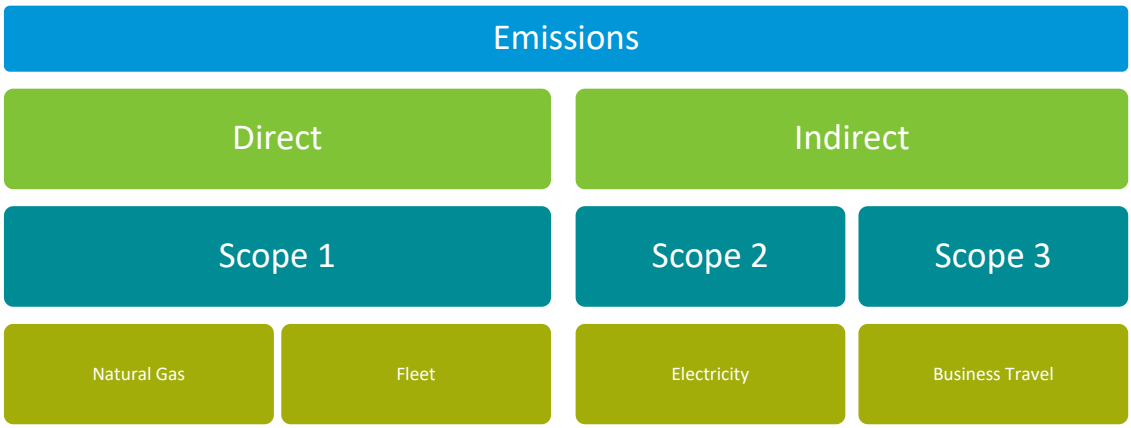
4

Footprint

15

Footprint Boundary

Emission inventory and categories included for Broxtowe Borough Council's footprint (shown below). Not all GHG protocol categories are included, only those that were deemed relevant and where data is easily available.



16

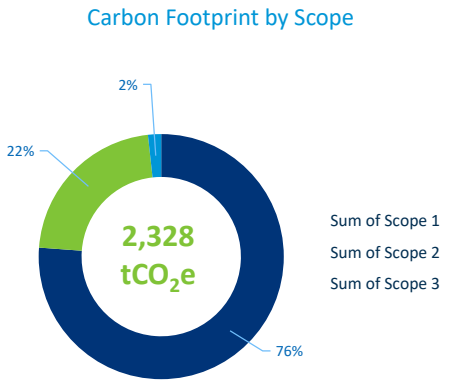
Historical Footprint

- Broxtowe Borough Council had worked previously with the Carbon Trust in completing a similar exercise, undertaking a carbon management plan (CMP) in the FY 2009/10.
- Within this plan the council measured their carbon footprint and used this as a baseline for target setting and progress reporting for carbon reduction projects.
- The carbon footprint for 2009/10 was calculated to be **4,242 tCO_2e**, this took in to account a range of energy usage in buildings (namely gas and electricity), as well as emissions from fleet and business travel.
- From this baseline the Council aimed to reduce emissions by 25% by 2015 and 34% by 2020.
- The CMP listed a total of 37 quantified projects which if were undertaken would result in a potential reduction of 834 tCO_2e; this would equate to meeting 79% of the 2015 target.

17

2018/19 Carbon Footprint

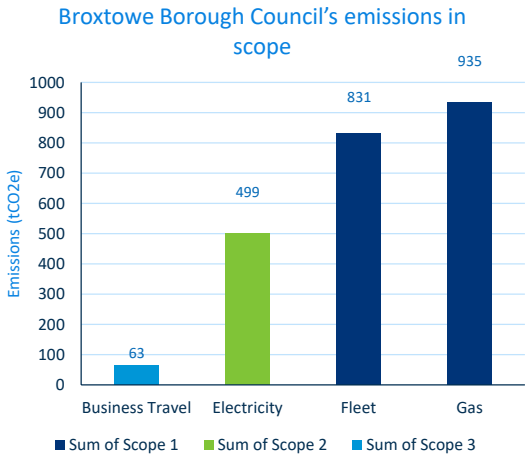
- The total green house gas emissions from Broxtowe Borough Council in the financial year 2018/19 have been measured to equal **2,328 tCO_2e**.
- The vast majority (see right) of emissions fall under 'scope 1', these are direct emissions from the fuel consumed, e.g. to power vehicle fleets and gas boilers.
- Of the remaining emissions, 21% is scope 2, meaning the emissions from using electricity (based on the grid's carbon intensity), and 2% from Scope 3 emissions (in this case, business travel).



18

2018/19 Emissions

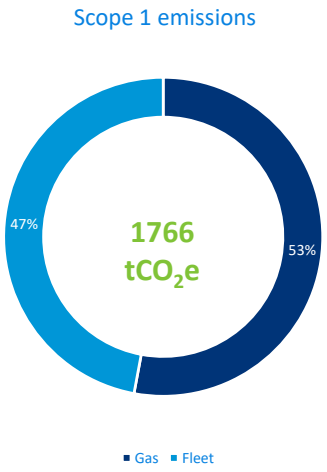
- The graph opposite details the emissions produced from individual emissions sources/fuels, as well as by scope.
- The vast majority of the council's emissions arise from the consumption of gas (40%), typically used for heating and hot water services.
- Emissions from electricity consumption and fleet usage account for 21% and 36% of the total emissions respectively.
- Business travel for Broxtowe Borough Council accounts for a small proportion of total emissions (approximately 3%).



19

Scope 1 Emissions

- Scope 1 emissions are a result of the direct burning of fossil fuels by the council. This arises from two measured sources: natural gas burnt in boilers to provide heating and hot water; and the councils owned transport fleet which burns petrol, diesel and gas oil (red diesel) within internal combustion engines.
- Broxtowe Borough Council's Scope 1 emissions are split between fleet and gas emissions, emissions from buildings' gas consumption are around 100 tCO_2e higher than emissions from vehicle use.
- Electrification or switching to low/zero carbon fuels for the council's owned transport fleet and industrial machinery will be the main option to move towards net zero in this area. UK government policy mandates that new petrol and diesel vehicles cannot be purchased after 2035, recently brought forward from 2040. However, cost parity and the business case is likely to indicate Broxtowe should move to low carbon vehicles (LCVs) or EVs much sooner (e.g. 2024). Therefore we would advocate that Broxtowe thoroughly assess the potential for LCVs or EVs for any new vehicles purchased from this date.
- To reduce consumption of natural gas the council should investigate alternative heating and hot water technologies. This can be achieved through using heat pumps, electric boilers, or utilising biogas or hydrogen. Heat pumps and electric boilers require either the grid emissions to be less than natural gas (expected in the next few years) or make use of onsite renewables to achieve carbon emissions lower than those currently associated with natural gas.

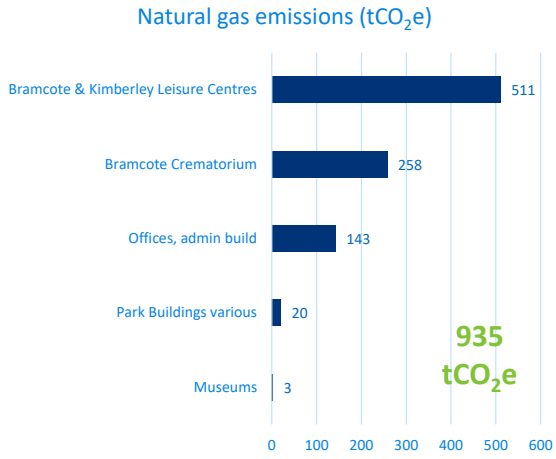


20

Scope 1 Emissions

Natural Gas Consumption in Buildings

- Scope 1 emissions arising from the combustion of natural gas have been recorded from all sites operated by the council, and include a mix of office, parking, and recreational spaces.
- Broxtowe borough council has combined consumption data in to 5 broad categories, this approach is advantageous in seeing overall trends for the different building stocks. However, it is recommended in future that the council footprints each site as a separate data point. This way it is possible to identify particularly poor performing sites and are able to readily account for property rationalisation from year to year.
- The most effective methods for reducing natural gas consumption and associated emissions are to upgrade building fabrics; service or replace aging boilers; adjust and monitor heating controls and temperature set points.
- The above energy efficiency measures should always be prioritised in order to reduce heating demand before then upgrading to an electric heating system, which will likely be required in future to further reduce emissions.
- Based on available data, the total annual spend on natural gas consumption equals £112,312.



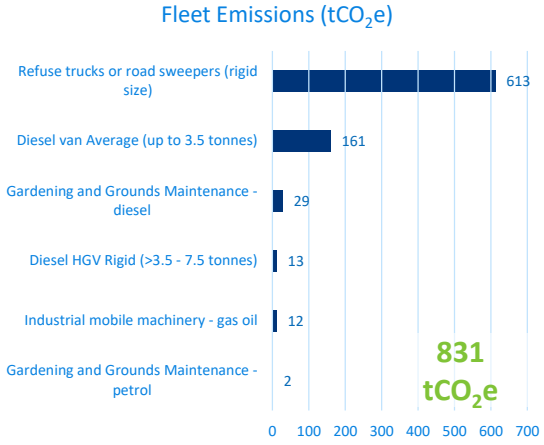
21

Scope 1 Emissions

Fleet and Other Equipment

Note: electric vehicles are an effective way to improve air quality as well as reducing carbon emissions by decreasing harmful levels of particulate matter (PM)

- The overwhelming majority of emissions arise from the running of refuse trucks/road sweepers – forming 74% of all fleet emissions.
- The council should consider moving from fossil fuel based transport to electric vehicles to radically reduce emissions; an electric vehicle *currently* emits 70% fewer emissions per mile compared to a diesel vehicle, this will increase further as the grid decarbonises.
- The assortment of electric vehicles is increasing, with electric HGVs and refuse trucks entering the market. Furthermore, range is no longer an issue for vehicles travelling locally and there is an increasingly strong business case for vehicles that conduct regular journeys.

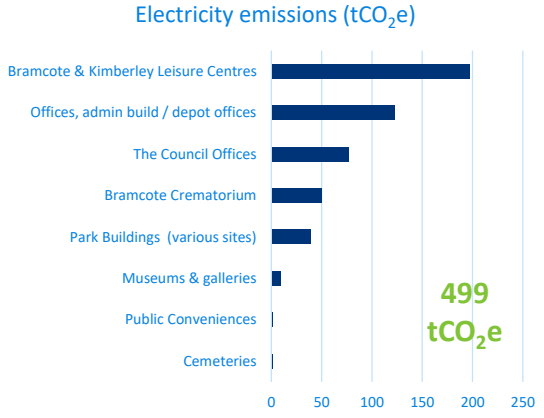


22

Scope 2 Emissions

Electricity Consumption in Buildings

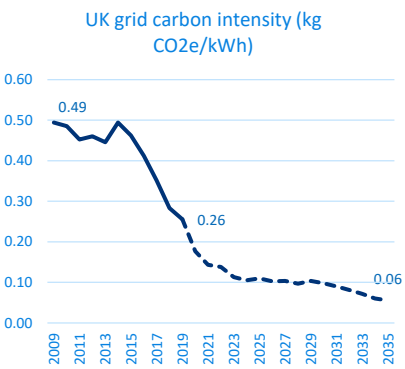
- Scope 2 emissions arising from electricity consumption have been recorded from multiple sites that have been aggregated into 8 categories, and include a mix of offices, public buildings and facilites, lighting, and recreational spaces.
- **The top two highest emitting sites, account for 64% of all electricity emissions**. These include: Bramcote & Kimberley Leisure Centres; and Offices, admin build / depot offices.
- The most effective methods for reducing electricity consumption and associated emissions are to switch to LED lighting (this is of particular importance to car parks and street lighting, but also relevant to all other buildings); service or upgrade HVAC systems, upgrade appliances to energy efficient types and make sure to switch them off when not in use.
- The council should also consider installing renewable energy generation to provide zero carbon electricity. Building mounted and standalone Solar PV systems will provide the council with options to relatively cost effectively decarbonise scope 2 emissions (e.g. < 10 years simple payback)
- Total annual expenditure on electricity consumption equals £214,511; this high cost of electricity per kWh is further reasoning to deploy on-site renewables to provide electricity.



23

Scope 2

Grid Decarbonisation



Source: BEIS, Annual conversion factor publications

- The UK power sector has undergone significant changes in the last 5-10 years: coal power stations have been increasingly phased out and replaced by renewable electricity generation sources such as solar and offshore wind. Between January and May 2019, Britain generated more power from clean energy than from fossil fuels for the first time since the Industrial Revolution.
- In 2010 consuming 1 kWh of electricity would result in 0.49 $kgCO_2e$ being emitted, by 2019 this value had almost halved.
- The UK plans to have coal power completely phased out by 2023, and have offshore wind supplying 30% of all electricity by 2030.
- By 2025, it is expected the emission factor for UK electricity will approach 0.1 $kgCO_2e$ per kWh; and almost zero by 2050.
- The 'greening of the grid' means that the council's footprint will naturally shrink over time. The more the council moves to electrify its heating systems and transport, the more its footprint will decrease over time.

24

Scope 2

Market Based versus Location Based

- At present there are two methodologies that can be used to account for scope 2 emissions:
  - A **location-based approach** is the most frequently used and uses an emission factor based on all the generating supplies of electricity to the grid (national grid). This is the approach that has been used within this report. The introduction of any renewable generators exporting to the grid is captured in a lower UK wide grid emission factor, that everyone benefits from within their carbon accounting.
  - Alternatively, a **market-based approach** looks at where the consumer of electricity pays to have their electricity come from, such that if a consumer makes the conscious decision to purchase electricity from a 'green' supplier then this is accounted for in their carbon footprint. When a market-based approach is used and the footprint reported, the location-based footprint must always be reported alongside.
- Incentivising the reporting of a location based approach is good practice as it ensures that the challenge of reducing demand through energy efficiency is tackled first. Moreover, reduced demand means less consumption and thus cheaper bills, whereas simply switching to a green supplier may result in increased electricity bills.
- Broxtowe Borough Council does currently purchase all of its electricity through green tariffs, and thus under a market based approach benefits from a reduced footprint.

25

Scope 2

Green Tariff definitions

- Green **electricity tariffs** are those in which some or all of the electricity purchased from your supplier is 'matched' by purchases of renewable energy that your energy supplier makes on your behalf. This can be through:
  - Owning renewable energy generation (e.g. solar or wind farms), or
  - Purchasing electricity directly from renewable energy generators, such as through contracts called Power Purchase Agreements (PPAs), or
  - Buying REGO (Renewable Energy Guarantee of Origin) certificates to match what their customers use with renewable electricity already put into the grid.
- REGO certificates: When 1MWh of renewable electricity is created and put into the grid, the generator receives a certificate called a REGO. The generator can then make money through either selling the electricity and/or the REGO certificate. Energy firms buy REGO certificates to show the proportion of renewable electricity they sell. Some suppliers will purchase any electricity, including from renewable generation, but not the accompanying certificates (for example large commercial customers that aren't worried about proving where their electricity comes from). This leaves some certificates unsold, which can be purchased by other energy suppliers.
- This means that some green electricity tariffs will be based on purchasing electricity generated from fossil fuels and unsold REGO certificates.
- Green **gas tariffs** this can either mean:
  - That a percentage of the gas supplied is biomethane (produced through purifying biogas generated from waste through a process called anaerobic digestion) as opposed to natural gas (a fossil fuel), or
  - The emissions from the natural gas are offset (such as through planting trees that soak up carbon dioxide or funding low-carbon energy projects elsewhere to displace fossil fuels).

26

Scope 2

Green tariffs

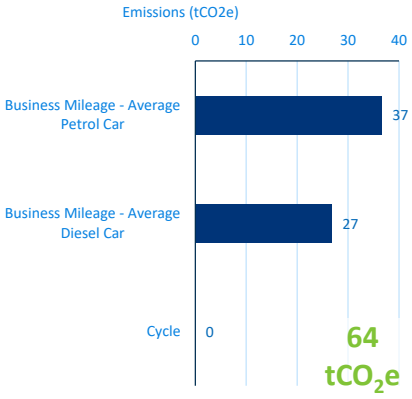
- **Purchasing green tariffs sends a signal to your supplier and the wider industry** that you wish to avoid electricity generated from fossil fuels and demonstrates that there is a demand for renewable energy.
- It is also important to note that it is not technically possible for renewable power to be directed to your buildings unless you have a direct line to a generator (e.g. solar panels on your roof). The electricity consumed will be the same regardless of the tariff you're on, as it's delivered from the grid. It's not possible to direct 'renewable' electrons to some buildings and 'non-renewable' electrons to others.
- **For carbon accounting purposes, switching to a green tariff would bring all of BBC's electricity emissions (Scope 2) to zero if taking a market-based approach, but would keep its electricity emissions the same if taking a location-based approach (recommended).**

27

Scope 3

Business Travel

- 99.8% of all business travel miles are by petrol or diesel vehicle, 0.2% of business travel miles are completed using a low carbon mode of transport.
- Furthermore, no business travel miles were logged using public transport or walking.
- Broxtowe encourages employees to use public transport and there are a number of expenses claims relating to train, tram and bus trips. However, because their data collection process is not based on mileage and it was only made electronic in 2018, there is not enough data to provide a good overview of business travel emissions form public transport.
- We recommend BBC to enhance other current process so that the impact of this activity can be better understood.
- It is suggested that the council continues encouraging its staff to firstly reduce business travel mileage by using online meetings, conference and/or video calls where possible, and secondly to use low carbon modes of transport, walking/cycling or public transport. In addition to this, the council could also capture the distances travelled by its staff on public transport.



28

Footprint Summary Table

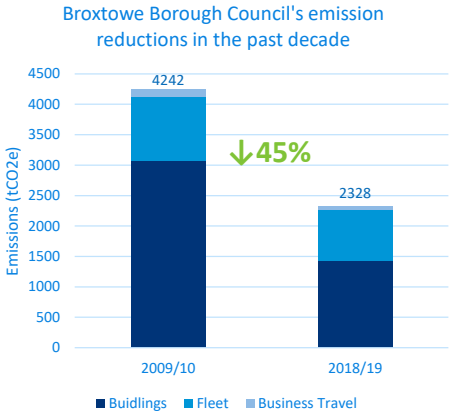
Category	Scope 1	Scope 2	Scope 3
Electricity	0	499.2	0
Gas	934.7	0	0
Fleet	831.0	0	0
Business Travel	0	0	63.4
Total	**1765.7**	**499.2**	**63.4**

29

Progress Against 2009/10

Overview

- Since 2009/10 Broxtowe Borough Council has achieved emissions reductions of 45%, meaning that the **council has exceeded its original CMP target** of 34% reduction by 2020.
- The largest absolute and relative reduction has come from **building emissions**, at 1632 tCO_2e equating to a 53% reduction. This is due to a variety of factors, including:
  - A reduction in scope of buildings,
  - Decarbonisation of the electricity grid over the past decade,
  - Implementation of a majority of the measures set out in the 2008/9 CMP.
- Business travel has also seen a significant reduction as emissions have halved, and fleet emissions have dropped by 21%.

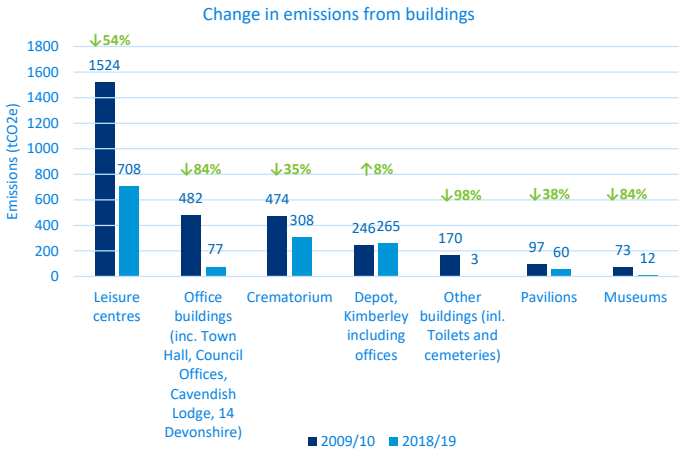


30

Progress Against 2009/10

Buildings

- The building emissions are the aggregate emissions from gas (Scope 1) and electricity (Scope 2) consumption.
- All building sites apart from the *Depot, Kimberly buildings including offices* saw a reduction of at least 35% over the past decade.
- This can be partly attributed reduction in emissions is grid decarbonisation, which alone is expected to have reduced emissions by approximately 500 tCO_2e.
- Since 2009/10, Broxtowe Borough Council have also removed three buildings from their assets - the Town Hall, 14 Devonshire Drive and Cavendish Lodge – which made up close to 11% of total emissions in 2009/10.
- Broxtowe Borough Council has also been extensively implementing the 35+ projects proposed under the CMP.



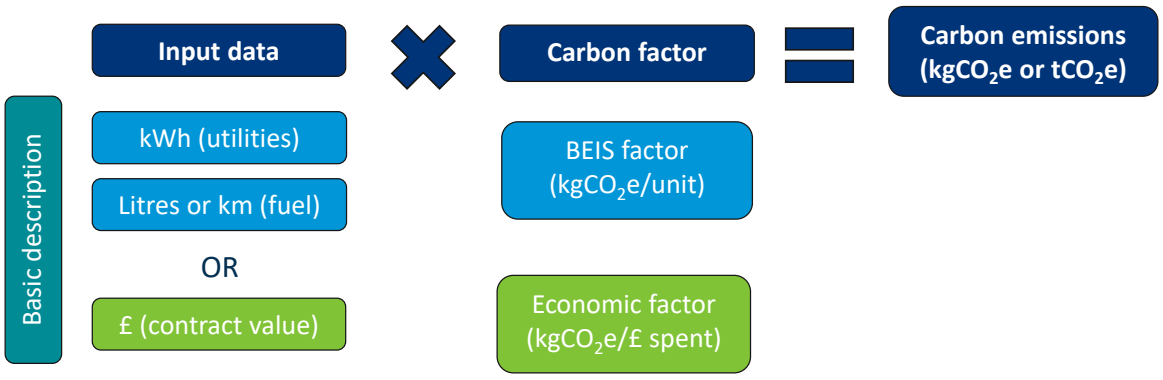
31

5

Methodology

32

How to Calculate Emissions



33

Data Sources

- Emission factors for all fuels/sources and all years have been sourced from BEIS annual emission reporting data tables.
- Activity data (fuel consumption, miles covered, etc.) has all been collected by Broxtowe Borough Council and reviewed by the Carbon Trust.
- Cost data has been compiled by Broxtowe Borough Council.
- Carbon Trust cannot be held responsible for any errors within the analysis as a result of missing or incorrect data.

34

Data Quality Assessment

Data Quality Ranking

1. No data provided
2. Data mainly incomplete, industry standard values have to be used.
3. More than 10% of data entries missing, supporting information can be used to fill some gaps.
4. Majority of data and supporting information present; data gaps can be filled with supporting information (i.e. floor area or cost).
5. All data and supporting information present, sources referenced.

Footprint Quality Ranking

1. Emission factor or activity data not available.
2. Heavily assumed activity data used or assumed emission factor used due to misalignment with activity.
3. Proxy value or other metric needed (eg. EEIO or waste density) to align emission factor to activity data that has been assumed or calculated.
4. Proxy value or other metric (eg. EEIO or waste density) needed to align complete activity data to emission factor.
5. Emission factors align directly with complete activity data, no proxies or assumptions needed.

35

Data Quality

Item	Data Source	Data Quality (1 5)	Footprint Quality (1 5)	Comment
Gas	Utility Bills	4	5	Consumption data aggregated across all sites for consumption, in future all sites should be provided as individual data points. No proxies needed to calculate emissions.
Electricity	Utility Bills	4	5	Consumption data aggregated across all sites for consumption, in future all sites should be provided as individual data points. No proxies needed to calculate emissions.
Fleet	Fuel Cards	4	5	Consumption data aggregated across all vehicles, in future all vehicles should be provided as individual data points. No proxies needed to calculate emissions.
Business Travel	Internal records	4	5	All data, apart from public transport mileage, provided as required. No proxies were needed to calculate footprint. In future, the council should try to capture the mileage of its business travel through public transport to provide a more accurate picture of this emissions category.

36

6

Next Steps

37

Model handover

- The Carbon Trust 'footprint calculator' will be handed over to the council so they may explore the data.
  - This also offers the opportunity to undertake carbon footprints yourselves in future years, an important step in order to understand progress against targets.
  - Carbon Trust will be on hand to guide the process and use of the tool.

38

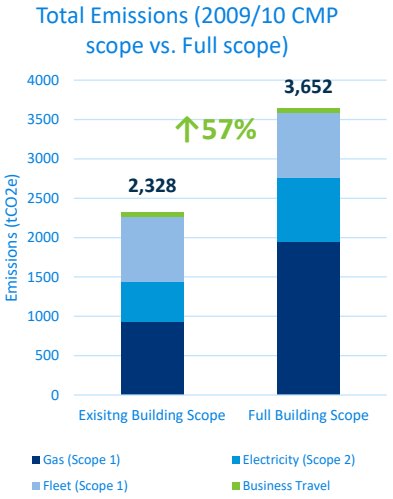
Climate Action Plan

- A Climate Action Plan would quantify specific emission reduction projects that the council can undertake in order to try and meet their 2027 carbon neutral target.
- As part of a Climate Action Plan, it is possible to determine the ease of reaching the carbon neutral target; thereby also determining the likely level of offsetting the council must carry out.
- Carbon Trust would be pleased to discuss the development of a bespoke Climate Action Plan with Broxtowe Borough Council based on the existing and potential footprint work.

39

Re-baselining

- In order to make a fair comparison with Broxtowe Borough Council's previous carbon footprint, this report has looked at the carbon emissions from the same buildings as those in the CMP from 2009/10.
- The 2009/10 baseline did not consider all buildings under the council's ownership, buildings such as sheltered housing, care homes and landlord's lighting.
- If accounted for, this would increase the council's carbon footprint by 57%, which would adversely mean that its total footprint (Scopes 1 and 2, and business travel) will have only reduced by 14% in net terms from their 2009/10 levels, well below the council's 34% target.
- Going forward, the Carbon Trust recommends that Broxtowe Borough Council use 3,652 tCO_2e, which includes all buildings, as its 2018/19 baseline emissions figure.
- Conversely, if the entire building scope were to have been accounted for in 2009/10 then the baseline footprint would have been greater than 4,600 tCO_2e; equating to an approximate 21% reduction in emissions between 2009/10 and 2018/19.



40

Scope 3 Footprinting

- The only Scope 3 emissions category that as assessed for this project was business travel. This was because Broxtowe Borough Council wanted an initial analysis of the same emissions categories as their 2009/10 footprint.
- For a deeper understanding of its indirect carbon footprint, Broxtowe Borough Council could commission a Scope 3 footprint. This is significant as for many organisations, the majority of their GHG emissions and cost reduction opportunities lie outside their own operations.
- This could include looking at the emissions generated from: purchased goods; water supply and treatment; waste disposal and treatment; upstream transportation and distribution; staff commuting; contracted services; leased buildings; and investments.

41

Whilst reasonable steps have been taken to ensure that the information contained within this publication is correct, the authors, the Carbon Trust, its agents, contractors and sub-contractors give no warranty and make no representation as to its accuracy and accept no liability for any errors or omissions. All trademarks, service marks and logos in this publication, and copyright in it, are the property of the Carbon Trust (or its licensors). Nothing in this publication shall be construed as granting any licence or right to use or reproduce any of the trademarks, services marks, logos, copyright or any proprietary information in any way without the Carbon Trust's prior written permission. The Carbon Trust enforces infringements of its intellectual property rights to the full extent permitted by law.
The Carbon Trust is a company limited by guarantee and registered in England and Wales under company number 4190230 with its registered office at 4th Floor Dorset House, Stamford Street, London SE1 9NT.
Published in the UK: 2019.
© The Carbon Trust 2019. All rights reserved.

Appendix 1.1

Carbon Trust Foot Print Presentation

CARBON TRUST

Broxtowe Borough Council

Carbon Footprint Presentation

Hector Wilson, Alp Katalan

Board Meeting - 23rd March 2020

Agenda

1. **Scope of Works**
2. **Footprinting Recap**
3. **Results**
4. **Next Steps**

1

1

Scope of Works

2

Purpose of Our Work

- Broxtowe Borough Council have declared their intention to become a carbon neutral organisation and borough by 2027
- Last completed a carbon management plan in 2009/10
- To first develop a carbon reduction strategy you need to know where to focus efforts, thus this work has included:
  - A carbon footprint of direct and indirect emissions from the council
  - Analysis of progress against previous CMP
  - Highlight priority areas for the council to focus their efforts on
  - Provide background and supporting information around emissions accounting and sustainability.

3

What are Others Doing?

Nottingham City Council

- Carbon Neutral
- 2028
- Declared

Rushcliffe Borough Council

- Carbon Neutral
- 2030
- Proposed

Amber Valley Borough Council

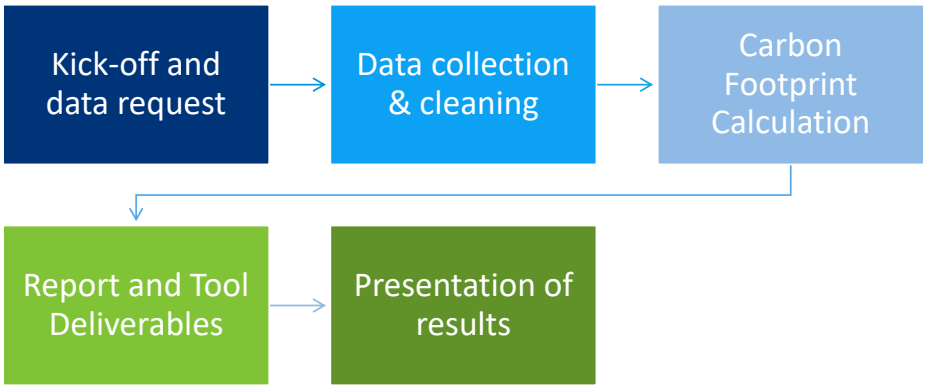
- Carbon Neutral
- 2030
- Declared

Ashfield District Council

- No target
- Committed to doing everything possible

4

Overall project approach



5

2

Footprinting Recap

6

Greenhouse Gases

- Greenhouse gases are not limited to CO_2 and under the Kyoto protocol we must consider the emissions of several other GHGs when producing a footprint.
- Each GHG has a specific global warming potential (GWP).
- We measure all gases in tCO_2e

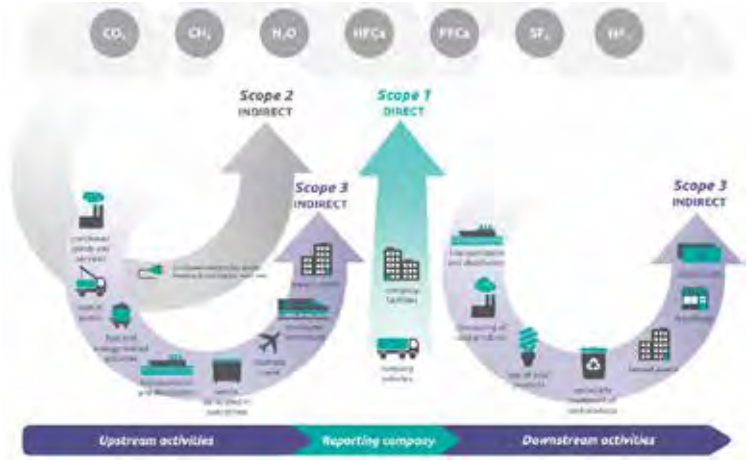
	CO_2	N_2O	PFCs	HFCs	SF_6	CH_4	NF_3
GWP:	1	310	~10,000	1,500 – 15,000	23,900	21	17,000

From left to right: Carbon Dioxide, Nitrous oxide, Perflurocarbons, Hydrofluorocarbons, Sulphur Hexafluoride, Methane, Nitrogen Trifluoride

7

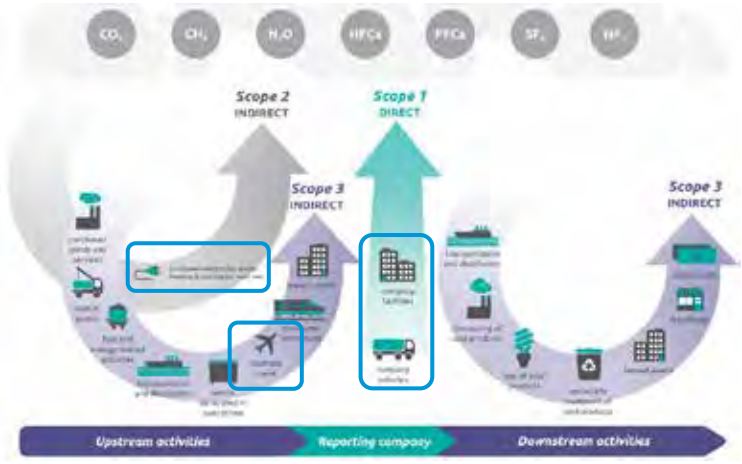
Greenhouse Gas Protocol – Scopes 1, 2 & 3

GHG protocol is an internationally recognised carbon accounting standard



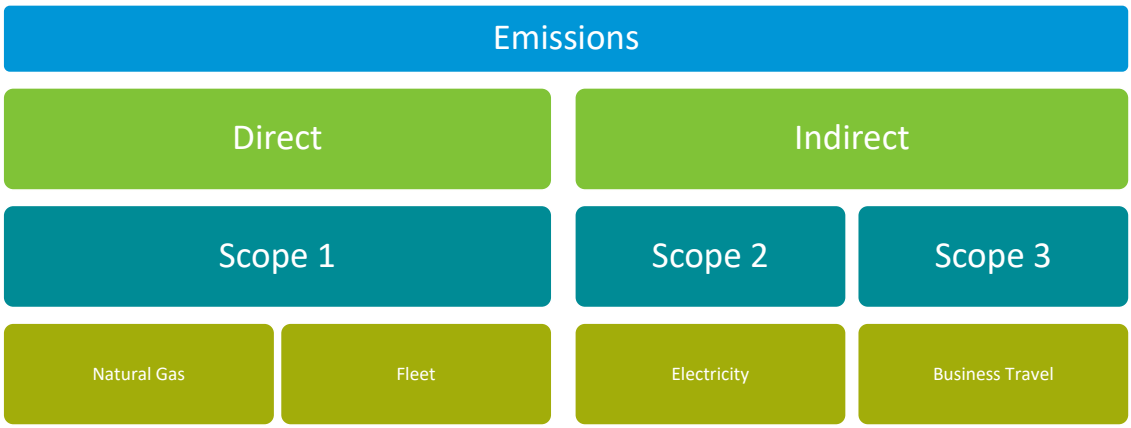
8

Greenhouse Gas Protocol – Scopes 1, 2 & 3



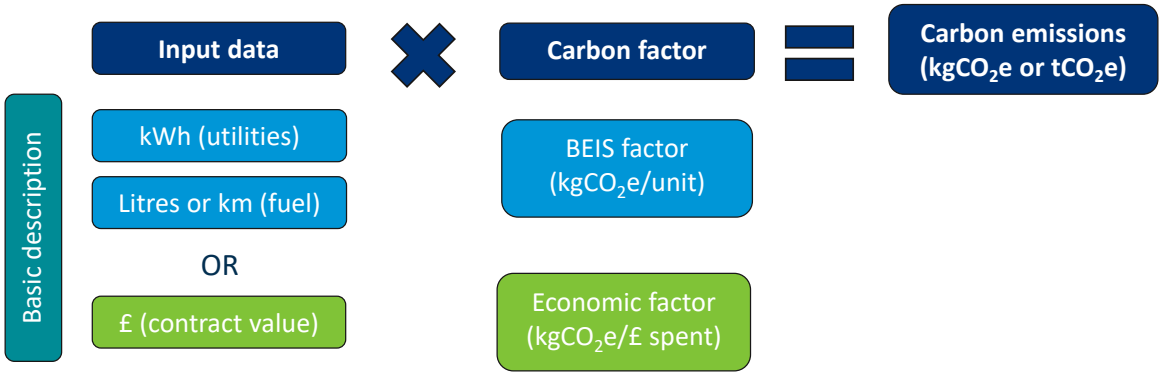
9

Footprint Boundary



10

How to Calculate Emissions



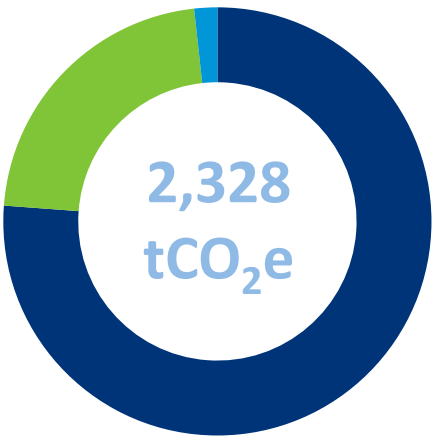
11

3

Results

12

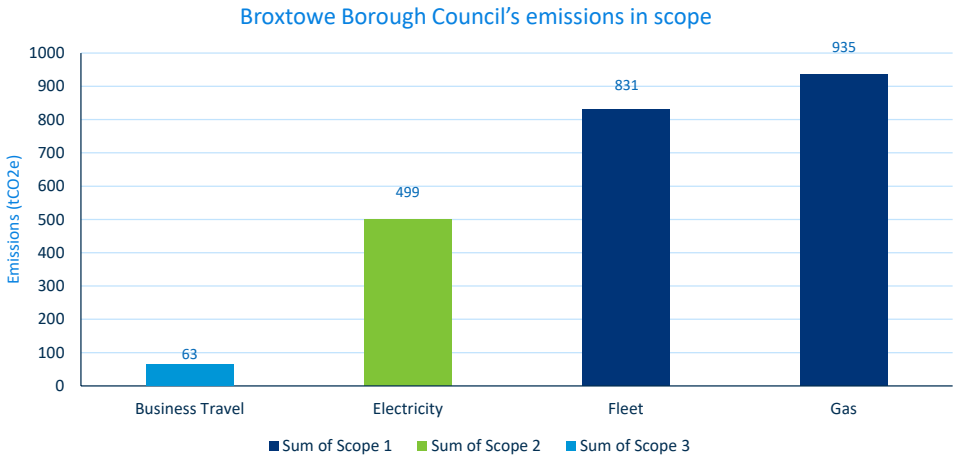
2018/19 Carbon Footprint



- **76%** of emissions from scope 1 – direct burning of fossil fuels in vehicles and boilers
- **22%** from scope 2 emissions sources – indirect emissions relating to electricity consumption
- **2%** from business travel scope 3 emissions

13

2018/19 Emissions



14

2009/10 Carbon Management Plan

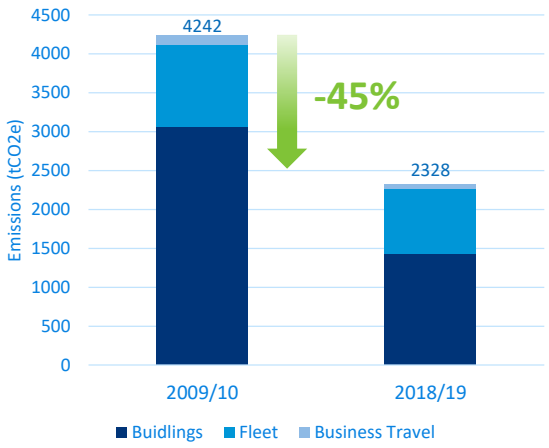
Carbon emissions in 2009/10 were reported to be **4,242 tCO_2e**

Reduction target was originally set at 34% by 2020

Building emissions decreased by 53%

Fleet emission decreased by 21%

Business Travel decreased by 50%

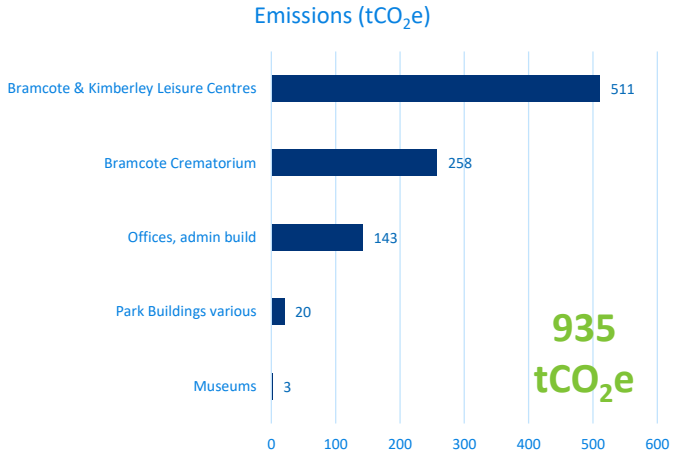


15

Scope 1 Emissions

Natural Gas Consumption in Buildings

- Scope 1 emissions arising from the combustion of natural gas have been recorded from all sites operated by the council, and include a mix of office, parking, and recreational spaces.
- Based on available data, the total annual spend on natural gas consumption equals £112,312.

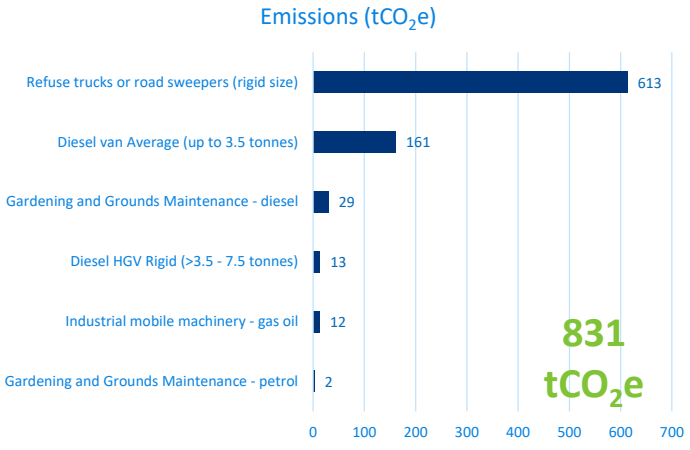


16

Scope 1 Emissions

Fleet and Other Equipment

The overwhelming majority of emissions arise from the running of refuse trucks/road sweepers – forming 74% of all fleet emissions.



17

Reducing Scope 1 Emissions

Adjust temperature set points and install heating controls	Install insulation – cavity wall, loft or solid wall	Upgrade boilers to a new more efficient model	Switch gas boilers to electric, air or ground source heat pumps	Switch to electric vehicles for cars and LGVs

18

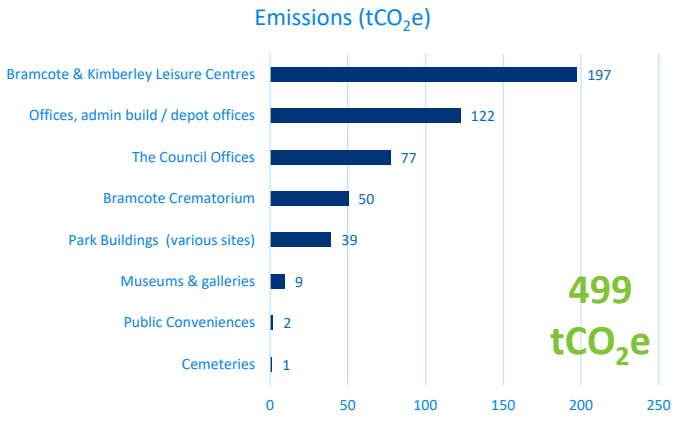
Scope 2 Emissions

Electricity Consumption in Buildings

Multiple sites have been aggregated into 8 categories, and include a mix of offices, public buildings and facilities, lighting, and recreational spaces.

The top two highest emitting sites, account for 64% of all electricity emissions. These include: Bramcote & Kimberley Leisure Centres; and Offices, admin build / depot offices.

Total annual expenditure on electricity consumption equals £214,511



19

Reducing Scope 2 Emissions

Invest in more energy efficient appliances and systems

Upgrade lighting to LED and install lighting controls

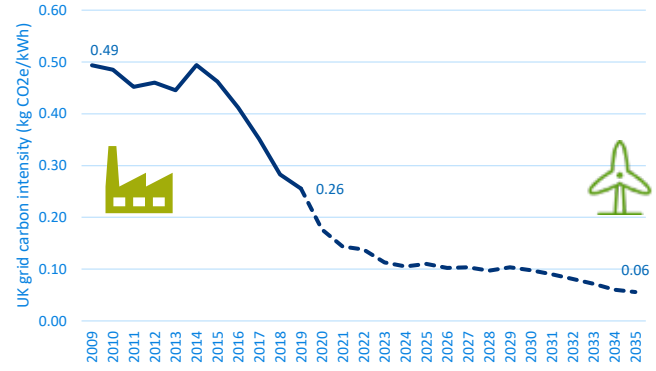
Check HVAC and other electrical system set points, timings and controls

Invest in renewables, such as solar PV, to supply electricity directly to buildings

20

Scope 2

Grid Decarbonisation



Source: BEIS, Annual conversion factor publications

- The UK power sector has undergone significant changes in the last The UK plans to have coal power completely phased out by 2023, and have offshore wind supplying 30% of all electricity by 2030.
- By 2025, it is expected the emission factor for UK electricity will approach 0.1 $kgCO_2e$ per kWh; and almost zero by 2050.

21

Green Tariffs

Green electricity tariffs are those in which some or all of the electricity purchased from your supplier is 'matched' by purchases of renewable energy that your energy supplier makes on your behalf. This can be through:

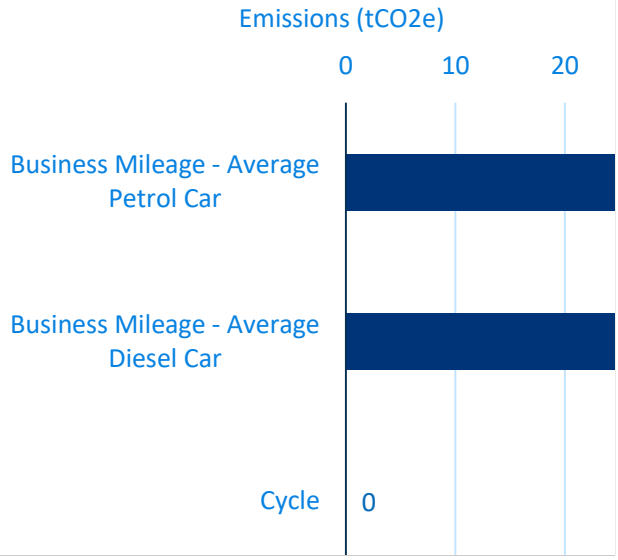
- Owning renewable energy generation
- Purchasing electricity directly from renewable energy generators
- Buying REGO (Renewable Energy Guarantee of Origin) certificates

- It is not technically possible for renewable power to be directed to your buildings without a direct line to a generator. The electricity consumed will be the same regardless of the tariff, as it's delivered from the grid.
- Purchasing green tariffs **sends a signal to your supplier and the wider industry** that you wish to avoid electricity generated from fossil fuels.
- For carbon accounting purposes, switching to a green tariff would bring all of the Scope 2 electricity emissions to zero if taking a **market-based approach**, but would keep electricity emissions the same if taking a **location-based approach** (recommended).

22

Business Travel

- 99.8% of all business travel miles are by petrol or diesel vehicle, 0.2% of business travel miles are completed using a low carbon mode of transport.
- Broxtowe encourages employees to use public transport and there are a number of expenses claims relating to train, tram and bus trips. However, because their data collection process is not based on mileage and it was only made electronic in 2018, there is not enough data to provide a good



Reducing Scope 3 Emissions

Online meetings and work from home policy

Encourage employees to use low carbon modes of transport

24

3

Next Steps

25

Climate Action Plan

Scoping
- What does a climate emergency mean for the organisation?
- What are other councils doing?
- How should your organisation proceed?

Carbon footprinting

Option 1
- Scope 1, 2 and simple 3

Option 2
- Scope 1, 2 and full 3

Target Setting
- What target should be set?
- Carbon neutrality and net zero
- Science based targets

Planning
- Step 1 - Strategy
- Step 2 - Roadmap
- Step 3 - Action Plan

Offsetting
- What can and should be done to reach zero carbon through GHG removal?

26

Scope 3 Footprinting

- For a deeper understanding of its indirect carbon footprint, Broxtowe Borough Council could commission a Scope 3 footprint. This is significant as for many organisations, the majority of their GHG emissions and cost reduction opportunities lie outside their own operations.
- This could include looking at the emissions generated from: purchased goods; water supply and treatment; waste disposal and treatment; upstream transportation and distribution; staff commuting; contracted services; leased buildings; and investments.

27

Appendix 2

Climate Change Campaign Plan

Broxtowe Borough COUNCIL

Climate Change Campaign Plan

Objective 1: Develop a communications programme to raise awareness of what the Council is doing to tackle climate change and reduce its carbon emissions

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Promote overall progress on each strand in the Climate Change Strategy	Run a series of informal polls to gauge current level of awareness and knowledge to help benchmark improvements	C&EO	August	Increased awareness		
	Develop an infographic to illustrate what we have done so far and what steps we are taking moving forward	CCM / C&EO	August	Views and reactions	Produced but has not been shared widely – may need amendments	
	Audit existing materials and partner materials which can be utilised in promotional campaigns.	C&EO	August	Views and reactions		
	Update Green Futures page as a central point for all updates and news	CCM	February	Page views	/greenfutures /climatechange	
	Update the Green Futures page monthly with news and achievements	C&EO	Ongoing	Page views		
	Ensure Green Futures is easy to find on the website	C&EO	August	Increased page views and awareness		
	Develop a 'did you know' campaign to showcase all the things we have done in the past and are working on now and the positive outcomes these have had.	C&EO with Steering Group	August onwards	Increased awareness	Various info gathered to utilise	
	Provide fact sound bites to help people understand climate change.	C&EO with Steering Group	August onwards	Increased awareness	Various info gathered to utilise	
	Include appropriate messages from the 'Did You Know' campaign in the monthly social media programme.	C&EO / CCO	Ongoing	Post performance		

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Promote overall progress on each strand in the Climate Change Strategy	Include appropriate messages from the 'Did You Know' campaign in weekly Latest News bulletins and other relevant email bulletins	C&EO / CCO	Ongoing	Email performance		
	Consider establishing a monthly Climate Change Email bulletin to provide updates on what we are doing, progress so far and tips on how local people can help.	CCM / C&EO	Septem-ber	Email performance and number of subscribers	Currently awaiting decision on software upgrade which may impact on this	
	Produce a press release outlining progress so far and future plans	CCM	February	Publication performance	May 2020	
	Quarterly press releases on achievements, events and using information in the 'Did You Know' programme	C&EO	Ongoing	Publication performance		
	Other press releases as required for significant developments and achievements	C&EO	Ongoing	Publication performance	July 2020	
	Double page spread in Broxtowe Matters summer edition	CCM	June	Feedback and awareness	Summer edition cancelled due to COVID-19	
	Include messages in Housing specific communications to tenants	C&EO with EM	Sep-tember onwards	Feedback and awareness		
	Dedicated page in Broxtowe Matters winter edition	CCM / C&EO	Novem-ber	Feedback and awareness		
	Email information about Green Futures, the infographic and how groups can get involved to stakeholder list	C&EO	Septem-ber	Stakeholders engaged with		

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer
EM - Engagement Manager

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Use storytelling to engage residents in what we're doing and how they can contribute	Create content to show the journey of the fruit trees given away to residents	C&EO	August	Content performance	Speak to CCO about contacts. Tree giveaway expected winter 2020	
	Develop a 'totaliser' to use in communications activity to show progress on our targets	C&EO	September	Increased awareness	Started work on this – chase up	
	Develop "Green Futures" graphic templates to ensure a consistent look and feel and build the brand	CCM	January	Increased awareness		
	Identify and promote national awareness weeks and campaigns as an opportunity to promote what we're doing and what local people can do. Incorporate into Did You Know campaign.	C&EO	August onwards	Increased awareness		
	Produce a video on wildlife corridors and wildflower meadows to explain the changes we're making to our parks and open spaces and the benefits, as well as what residents can do at home.	CCM / C&EO	TBC	Views and reactions	To discuss with Environment at catch up on 4.8.20	

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer

Objective 2: Use the EAST framework to 'nudge' residents and encourage them to change their behaviour to reduce their carbon footprint

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Make information about recycling easy to find, understand and act upon	Review website content to make sure it is easy to find information about recycling and composting and it is clear	C&EO	October	Increased page views		
	Raise awareness of the A-Z of recycling tool on the website for residents to check what can and can't go in the recycling bin.	C&EO	October onwards	Increased page views/ searches		
	Create a 're-use' directory on the website of where items can be taken to be re-used by other groups and organisations.	C&EO	January 2021	Page views		
	Review existing recycling publicity information to ensure that it is clear what can and cannot be recycled.	C&EO	Septem-ber	Increased awareness	To coincide with new bin calendars – check date with WSSM	
	Provide a resource pack for community groups on what they can and can't recycle and how they can help us spread the message.	C&EO	Septem-ber	Stakeholders engaged with	Initial draft produced but not finished or shared – would be good to reference in next Broxtowe Matters Nov 2020	
	Send a leaflet with Council Tax bills, bin calendars with small changes residents can make.	C&EO	March	Increased awareness	Liaise with WSSM – was due to happen March 2020	
Make being conscious about recycling an attractive proposition	Investigate options for how we can 'shout out' streets who recycle well and don't have any contamination issues e.g. postcode prize draws, work with businesses to provide prizes	C&EO	Novem-ber	Increase in streets who don't have contamina-tion issues		

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer
WSSM - Waste Services Strategy Manager

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Create social opportunities to promote recycling	Investigate how we can call out streets who have regular contamination issues and ask them to do better.	C&EO	November	Increase in streets who don't have contamination issues		
	Develop and launch a challenge to create a sense of competition and shared goal e.g. double your recycling challenge or 50% recycling rate challenge.	C&EO	TBC for best measurement from stats	Number of people participating and achievement of challenge		
	Identify local influencers e.g. bloggers, mums, community groups, Facebook groups, schools, tenant groups and engage with them to help us increase participation in the agreed challenge. Incentivise them with publicity for taking part.	C&EO	TBC for best measurement from stats	Number of people participating and achievement of challenge	CCO has researched influencers and produced a list as a starting point	
	Support and promote social initiatives like 'Meat Free' Monday, Walk to Work etc.	C&EO / CCO	September onwards	Views and reactions		
	Work with community groups to run workshops for residents to find out more about what they can do to help.	C&EO	Winter	Number of workshops run and number of attendees	May need to be virtual events	
Ensure that messages about recycling are timely	Increase frequency of waste and recycling email bulletins to monthly to ensure a regular flow of information about recycling. Offer a prize for a significant subscriber milestone to increase subscribers	C&EO	September onwards	Increase in subscribers and email performance		
	Add an Email Me pop up to the Waste and Recycling pages inviting website visitors to sign up to this topic and increase subscribers so the messages reach a wider audience	CCM	January	Increase in subscribers	CCO producing stats on impact of this so far	
	Review advisory bin stickers and consider the best methods and placement of reminders for residents to have at home	C&EO	Early 2021	Decrease in contamination		
	Develop a campaign which focuses on the what was in the black bin which could have been recycled to help reach the 50% target.	C&EO	Early 2021	Increase in recycling rate		

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer

Objective 3: Use the EAST framework to 'nudge' businesses and encourage them to change their behaviour to reduce their carbon footprint

THIS SECTION NEEDS REVIEWING IN LIGHT OF COVID

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Make information about recycling easy to find, understand and act upon	Run a series of informal polls to gauge current level of awareness and knowledge to help benchmark improvements	C&EO	TBC	Increased awareness		
	Run business training sessions with partners on more sustainable business practices.	C&EO	TBC	Number of workshops run and number of attendees		
	Produce a business resource pack to help them make small changes and highlight training opportunities.	C&EO	TBC	Views		
Make being conscious about recycling an attractive proposition	Research existing reward schemes or develop a new business pledge scheme with bronze, silver and gold standards which businesses can subscribe to and promote their achievements. Produce window stickers for them to promote their status to customers, along with other publicity opportunities	C&EO	TBC	Number of registered businesses		
Create social opportunities to promote recycling	Investigate ways to identify and promote businesses who are taking steps to be more environmentally friendly to share best practice. Incentivise them with publicity.	C&EO	TBC	Increase in the number of businesses we are engaging with		
Ensure messages about recycling are timely	Consider sending a leaflet or the resource pack with Business Rates letters	C&EO	TBC	Increase in the number of businesses we are engaging with		
	Develop a Trade Waste customer email newsletter using Email Me to share tips and information about the correct way to recycle.	C&EO	August	Email performance	Completed December 2019 but no further email bulletins have been sent	

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer

Objective 4: Educate and encourage internal stakeholders to help them reduce their carbon footprint

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Make information about recycling easy to find, understand and act upon	Run a series of informal polls to gauge current level of awareness and knowledge to help benchmark improvements	C&EO	February to co-incide with launch of campaign. Repeat at agreed intervals	Increased awareness		
	Create a framework for employees to use as a guide for managing hospitality and events in a sustainable way, including suggested suppliers and products. This could be adapted for Town and Parish Councils and Members who may be running their own events.	C&EO	March	Reduction in single use products	Completed but not shared and hospitality not being offered at the moment due to COVID	
	Organise a series of training sessions for employees and Members to learn more about climate change and ensure they understand its importance in service delivery. This will also allow them to act as ambassadors within the local community.	SD / C&EO	February onwards	Number of sessions and number of attendees	HOS/Senior Managers attended a seminar in early 2020	
	Refresher training for key services e.g. Environment, Customer Services to ensure the correct messages are passed on to customers.	WSSM / HRB	February onwards	Number of people retrained	Progress on this to be checked with Paul/ Phil	
	Develop a Members Briefing pack, highlighting what the Council is doing and what Members can do. This can also be adapted and shared with Town and Parish Councils.	C&EO	September	Reactions	Template produced but content not yet added	
	Create a “Green Futures” intranet presence to share the work of the Steering Group, promote achievements and information about what Employees can do to help.	CCM	February	Views	Page produced but not updated recently	

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer
SD - Stragetic Director
HRB - Head of Revenues and Benefits
WSSM - Waste Services and Strategy Manager

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Make being conscious about recycling an attractive proposition	Review location and signage around recycling bins within Council buildings to ensure it is an easy choice to recycle the right things	WSSM / C&EO	March	Reduced contamination	Progress on this to be checked with WSSM	
Create social opportunities to promote recycling	Share the agreed challenge with Employees to create a sense of competition and shared goal e.g. double your recycling challenge or 50% recycling rate challenge.	C&EO	TBC for best measurement from stats	Achievement of challenge		
Ensure messages about recycling are timely	Regular promotion of internal achievements, as well as wider achievements	C&EO	August onwards	Increased awareness - consider poll to benchmark	May 2020	
	Include appropriate messages from the 'Did You Know' campaign in all internal newsletters including Broxtowe Employee News and Members Matters email bulletins	C&EO	Ongoing	Email performance		

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer
WSSM - Waste Services and Strategy Manager

Objective 5: Educate younger generations so thinking about the environment becomes second nature **THIS SECTION REQUIRES MORE DEVELOPMENT**

Action	Tasks	Responsibility	Timescales	Measures	Notes	Status
Make discussing Climate Change easy	Develop a short lesson plan and distribute to all secondary schools, asking them to deliver it	C&EO / WSSM	September for new school year	Number of lessons delivered	Initial ideas discussed but needs completing	
Make being conscious about recycling an attractive proposition	Investigate options for how we can 'shout out' schools who engage and how we can incentivise them	CCM / WSSM	June	Increased number of schools engaged with		
	Produce a pack and video to promote the primary school visits and encourage take up	CCM / WSSM	September for new school year	Number of visits taken place		
Create social opportunities to promote recycling	Investigate how we can call out schools who don't engage with us to put social pressure on them.	CCM / WSSM	September for new school year	Increased number of schools engaged with		
	Engage all schools in the agreed challenge	CCM / WSSM	TBC for best measurement from stats	Number of schools taking part and achievement of target		
	Engage with school 'influencers' e.g. parents at school gates, PTA, govenors to encourage them to work with us on Climate Change	CCM / CCO / WSSM	TBC for best measurement from stats	Increased number of schools engaged with		
Ensure messages about recycling are timely	Work with the Youth Mayor and Broxtowe Youth Voice on ways to reach young people and engage them in what the Council is doing	CCM / CCO / WSSM	March	Demographic monitoring	This section needs more development and ideas	

CCM - Corporate Communications Manager
C&EO - Communications and Engagement Officer
CCO - Communications and Content Officer
WSSM - Waste Services and Strategy Manager

Climate Change Steering Group Meeting Dates

(updates on communications to be provided at each meeting)

- 14th August 2020
- 9th October 2020
- 10th September 2020
- 13th November 2020

Appendix 3

Water Courses Trent Gateway Masterplan 2020

Environment Agency

Trent Gateway Landscape Vision

March 2020

Environment Agency

Trent Gateway Landscape Vision

The Vision

- To create a thriving river corridor for fish, wildlife and people along the River Trent, achieved through collaboration and engagement with communities and partners.

Strategic Objectives

- Achieve a natural, functioning and healthy river through creation of a high-quality and well-connected environment.
- Bring key partners together to align initiatives that achieve multiple outcomes and transform the river in the most sustainable and relevant way.
- Pro-actively coordinate and influence activities to develop opportunities and set an agenda for future change.

Environment Agency

ii

Trent Gateway Landscape Vision

> Contents

> Appendices

© Environment Agency 2020
All rights reserved. This document may be reproduced with prior permission of the Environment Agency.
All photographs taken by Atkins unless otherwise noted.

1

Introduction

Cromwell Lock and weir

2

Introduction

Background

The Environment Agency (EA) and partners, identified the need to define a strategic landscape vision and masterplan for the Trent Gateway in the East Midlands, covering a 75km length of the River Trent between Sawley Weir and Cromwell Weir.

The scale of the ambition for the Trent Gateway is large and aims to deliver a functioning watercourse that reduces flood risk, creates habitats, complements the aims of a wide range of stakeholders as well as supporting sustainable growth and local economic agenda.

It has been identified that there is the need and potential for concerted action and projects to enhance the connective corridor for wildlife and for key, threatened species which require particular action.

Alongside larger opportunities, there is a range of smaller scale but important projects that will make a difference for a range of species and habitats, enhancing the catchment for wildlife and people to experience that rich and varied wildlife in this important, blue corridor.

In returning the river and landscape back to an earlier state, in addition to improving the areas wildlife and its habitats, it is aimed to connect more people with their environment and their part in the long story of interconnectivity between human activity and the Trent Gateway landscape and how each has shaped the other.

The vision and aims of the Trent Gateway Steering Group support and compliment the aims of the following strategic plans:

- 'D2N2 Strategic Economic Plan-Vision 2030', a blueprint for economic growth across Derby, Derbyshire, Nottingham and Nottinghamshire
- 'DEFRA 25 Year Environment Plan' which sets out how DEFRA, Forestry Commission, Environment Agency and Natural England 'will improve the environment over a generation by creating richer habitats for wildlife, improving air and water quality and curbing the scourge of plastics in the world's oceans'.
- 'Environment Agency eMission 2030' - Tackling our negative impact and creating a better place
- 'Environment Agency 5 year Action Plan EA2025'

This document sets out the vision for the future of the river valley.

It has been agreed by stakeholders and it is intended to act as a catalyst over the next ten years to:

- Inspire investment decisions and improvements in the area
- Guide development
- Assist with engagement
- Secure funding for the delivery of blue green infrastructure.

Stakeholder Engagement

To facilitate preparation of a successful and deliverable vision and masterplan, a Project Steering Group was formed with key, local stakeholders to inform and shape its development.

The Project Steering Group met regularly throughout the development of the vision and comprised representatives from: Canal & River Trust; Derbyshire Wildlife Trust; Derbyshire County Council; Nottingham City Council; Nottinghamshire County Council; Nottinghamshire Wildlife Trust; Royal Society for the Protection of Birds and Severn Trent Water.

Other stakeholders include: Trent Rivers Trust; Lower Trent & Erewash Catchment Partnership; Gedling Borough Council; Newark & Sherwood Borough Council; Rushcliffe Borough Council; Forestry Commission; Natural England; Canalside Heritage Centre and River Trent Joint Anglers Association.

This report is just the start of the vision engagement process. Once the vision is agreed, the proposals will need to seek further consultation, more detailed design and appropriate funding prior to implementation.

3

Approach

View north from North Muskham

4

Approach

As the process of visioning at a catchment level is an emerging process, the approach was developed between Atkins, the Environment Agency and partners through reference to previous linear infrastructure and river corridor studies, feedback on successful approaches from project stakeholders and a response to the specific issues associated with the Trent Gateway.

Methodology

The landscape vision has been developed with delivery in mind.

The process for delivery is made clear so as not to lose the input and support from the stakeholders in developing the agreed vision. The methodology is outlined below across six broad stages:

- Catchment Overview
- Vision and Strategic Objectives
- Masterplan
- Case Study Site Proposals
- Detailed Design
- Implementation and Management

This document covers the first four stages of the process for the Trent Gateway.

Trent Gateway Area

For the purpose of this Vision and Masterplan, the Trent Gateway is deemed to include a 1km area either side of the River Trent between Shardlow and Cromwell Weir - a total length of 75km covering an area of 14 hectares. South of Shardlow the Trent Gateway project adjoins the 'Transforming the Trent Valley 'project area.

Catchment Overview

A context mapping exercise was undertaken to inform analysis of the catchment features and designations covering: Topography and Drainage; Landscape and Ecology; Heritage; Accessibility; Local Context; Built Form; and Tranquillity. Broad literature and policy reviews were undertaken covering: Local Planning Policy; Environment Agency data; and other Local Plans, Neighbourhood Plans and initiatives.

Following completion of the desk-study exercises, a site visit was undertaken along the length of the Trent Gateway through the catchment to ground-truth findings and understand the nature of specific features and areas along the river.

Vision and Strategic Objectives

A workshop was held in April 2018 and stakeholders were invited to share their ambitions for the Trent Gateway and to explore how the various organisations can help shape the project. Feedback from this workshop has been reviewed - alongside the findings of the mapping and literature review - to identify correlation and synergies between them.

Engagement continued through 2019 which has led to a draft Vision and set of Strategic Objectives developed by the Trent Gateway Project Steering Group that have then been refined throughout the Masterplan process. A list of the Trent Gateway Project Steering Group members is provided at the end of this document

Masterplan

Due to the varied nature of the study area, the needs and approach required to achieve the vision and strategic objectives will be different depending on the location. To communicate and manage this variation, the masterplan is overlaid by a number of Action Zones. These are broad areas that have a similar character, condition, issues and opportunities.
The masterplan identifies areas of land, lengths of river or specific points within the study area around the River Trent, within which, a project or groups of projects could be delivered.

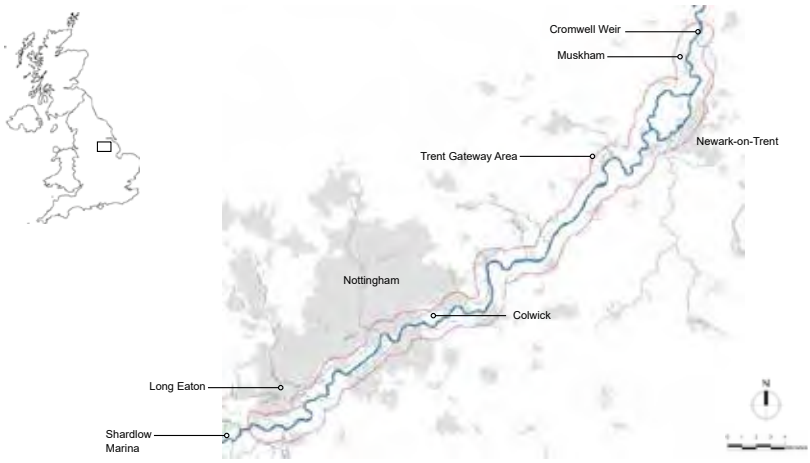
Case Study Sites

To illustrate how the vision might be delivered, a number of case studies have been developed. The details of these can be found in the appendices of this report.

Area Overview

'Clapper Gate' on public footpath south of Cromwell Weir

Area Overview



7

Area Overview

Environmental and Social Context

Desk top analysis and research of the environmental context has been undertaken and is summarised below. Associated context mapping is provided in Appendix A.

History and Cultural Context

The Trent Gateway covers an area shaped by geology, nature and people. The landscape has developed and evolved in response to human cultural development over thousands of years. Navigation, farming, mineral extraction and drainage works, have meant that much of the riparian landscape has been altered, which has had an effect on the natural habitat.

Early evidence of human impact in the area appears after 5000BC in the form of woodland clearance and cultivation of crops with a significant population in the area by 2000BC. During the Middle and Bronze Age large scale woodland clearance took place causing major flooding across the area.

The Romans brought trade and prosperity to the area which continued into the Dark Age based on exploitation of its natural resources and suitability for farming. Development continued into Medieval times as nucleated villages began to form. The River Trent became increasingly important as a resource for food and power. Prosperous mills and fisheries developed along the river and areas of river meadow grasslands increased. The river was a principal route for trade and travel making the crossing points such as the bridge at Newark and the seasonal ferry crossings important to the communities and for travellers.

During the Industrial Revolution the river continued to develop as a transportation route and resource for industry. Efforts to harness the river lead to diversions and manipulation of the river course. Connections were made with the canal network and locks and weirs were installed to manage water levels.

In more recent time the area has been changed again by the appearance of gravel extraction and coal fired power stations. These are just some of the ways it can be seen that human development and activity has shaped the Trent Gateway. In return the potential of the river and its associated lands have shaped the culture of its communities, both intrinsically tied over time.

Historic landscape characterisation was carried out in 1997 by Nottingham County Council and the Countryside Commission which maps the county including the Trent Gateway. This provides detail historic context and describes the evolution of the landscape in each zone since the end of the Ice Ages. Additionally there is authoritative research available about the archaeology of the Trent Valley which is listed in the references in Appendix E.

8

Area Overview

Topography and Drainage

The topography of the Trent Gateway area varies in elevation from a highpoint in the vicinity of Sawley Weir of around 30m AOD to a low point of around 9m AOD near Cromwell. The nature of landform is mainly flood plain gently rising to level ground to the west and east as the river runs south-west to north-east.

Throughout the Trent Gateway, extensive human interventions - such as gravel extraction, flood protection embankments and engineered riverbanks - dominate the topography creating and restraining water bodies throughout the flood plain. The exception is an area of low, exposed cliffs in the area of Gunthorpe Weir.

Arable farmland dominates much of the riverside

The drop-in elevation is managed through weirs and locks. The river is intersected and bypassed by a number of canals (and cuts). It divides near Staythorpe Power Station re-joining west of Winthorpe.

Canals and by-passes include Sawley Cut, Cranfleet Canal and the Nottingham and Beeston Canal. Tributaries include the River Soar, River Erewash, River Devon and Dover Beck.

As the river passes Nottingham and Newark, the urban realm closes in on the river and the banks become heavily engineered.

Landscape

The Trent Gateway is located within National Character Area (NCA) 48: Trent and Belvoir Vales to the north and NCA 69 Trent Valley Washlands to the south. However, the local character - particular to the river and its associated floodplain - changes significantly as the river and the surrounding land, transitions back and forth from rural to urban.

For much of the area, the land surrounding the River Trent is dominated either by arable farmland or the results of previous or ongoing gravel and sand extraction. This is contrasted with the urbanised settings of Nottingham and Newark-on-Trent.

In addition to these major conurbations the Trent Gateway includes a string of villages and smaller settlements associated with and contributing to the character and context of the area.

Most of the land within the Trent Gateway has been shaped by man and little of the semi-natural habitat remains. Although there are hedgerow trees associated with field boundaries, there is relatively little woodland cover resulting in long open views.

Areas of historic sand and gravel extraction have been made into wildlife and major recreational assets.

Over time the course of the River Trent has changed. This has left remnants of its former self as features in the landscape.

Human interventions have divided and diverted the river. Construction of canals and linking features have further added to the complexity and diversity of the river.

The riverine environment provides habitat for wildlife

Area Overview

Ecology

Relevant to the Trent Gateway is the Nottinghamshire Local Biodiversity Action Plan (2nd Edition July 2018) which contains Habitat Action Plans for 19 habitat types including canals, farmland, grassland, woodland, rivers and streams and urban and post-industrial habitats. It also contains Species Action Plans for 13 species including Atlantic salmon, birds, bats, butterflies, otter, water vole and white-clawed crayfish.
Farming is by far the principal land use in the area and while its value to wildlife is limited it does contain features such as hedgerows, field margins, ponds, 'unimproved' grassland, and copses which provide habitat for species such as farmland birds.

The rivers, streams and associated habitats are a significant feature of the Trent Gateway. Important species include water vole, spined loach, white-clawed crayfish, and otter.

There are numerous gravel pits along the River Trent and its main tributaries. Some have been restored to provide habitat for breeding and wintering birds. This includes Langford Lowfields near Collingham - a major RSPB habitat creation project on a working gravel extraction site where reedbed has been planted to attract bitterns to breed. It is planned to extend the reedbeds in the next phase of restoration. An additional reedbed construction project is planned for the Attenborough Nature Reserve.

Flood plain grazing marsh is the most extensive semi-natural habitat and is focussed along some stretches of the River Trent throughout the Trent Gateway.

Public footpaths in the Trent Gateway include the Trent Valley Way long distance

Accessibility

Roads, footpaths and cycleways play a key part in how Trent Gateway functions for employment and leisure.

The number and quality of these links, influence people's ability to access the destinations and resources of the area.

With limited opportunities to cross the river through the catchment, the connectivity between those crossing points determines how well the area serves its various communities.

As urban areas expand, opportunities are materialising to make new and reinforced links. At the same time, the urban expansion is putting greater demand on the existing ones.

The importance of access is expressed in the Rights of Way Management Plan (ROWMP) 2018-2026. The plan has six key aims that include: "increase awareness of accessing the countryside and the understanding of the wider benefits arising from its use, such as leading an active and healthy lifestyle, and making a positive contribution to the local economy." The Plan goes on to say, "The most popular activities are cited as walking and cycling, although horse riding continues to be a popular activity in Nottinghamshire."

Providing access for all is a focus of the ROWMP which "recognises that the promotion of the network is essential in highlighting the opportunities, increasing usage and maximising the potential rights of way for both recreational and utility type journeys."

Some of the key problems faced: obstructions; difficulty in negotiating structures; poor connectivity (busy road walking/crossing); lack of off-road provision for cyclists and equestrians (particularly for circular routes); litter and control of dogs, and; illegal motorbike access.

Area Overview

Footpaths

There is a diverse range of accessible spaces and routes within and around the Trent Gateway including the Trent Valley Way (TVW), a way-marked, long-distance footpath. The 'Transforming the Trent Valley Partnership' have plans to extend the TVW to extend to 170 miles from the source of the River Trent (near Stoke-on-Trent) to the Humber. It is already established for 84 miles through Nottinghamshire and Lincolnshire and links the cities and towns which have built their industry and heritage on the River Trent including Nottingham, Newark, Gainsborough and Scunthorpe.

Cycling

National Cycle Route (NCR) 6 runs parallel with the River on the north side from Long Eaton, through Attenborough, before routing north around Nottingham. NCR 15 runs South of the river from West Bridgford, through Pierrepont towards Radcliffe-on-Trent before continuing west, away from the river, towards Saxondale where it picks up NCR 48 which returns towards the river, south-west of Newark-on-Trent. NCR 64 north-east of Newark then follows the Trent gateway area through Holme and Collingham before heading east and away from the river.

In March 2020, in response to a bid for funding from the Government's 'Transforming Cities' Fund, Derby and Nottingham have received £161m from the Department for Transport for transport improvements which will include: bike hire for both cities, upgrading of cycle links and cycle lane improvements along key routes to employment sites, potentially including a new bridge over the River Trent to Lady Bay.

These improvements will build on an earlier phase of the Transforming Cities scheme which have delivered improved cycle paths to key employment sites, including recently completed paths on Farnborough Road, Clifton Lane and along the canal in Nottingham.

Cycling important through out the Trent Gateway for leisure and commuting

Proposed foot-cycle bridge between Trent Lane and Lady Bay

Boating and Canoeing

In the Trent Gateway the River Trent makes navigable connections with the Trent and Mersey Canal, The Erewash Canal and the River Soar which connects to the Grand Union Canal. The river is not continuously navigable but continuous passage is achieved by diversions along the Cranfleet Cut and Nottingham and Beeston Canal. The river passes numerous historic villages some of which have moorings however some of the villages have limited or no moorings near them meaning that access from the river can be difficult.

Within the Trent Gateway there are a number of marinas where boats can be moored or from where they can be hired at Sawley, Beeston, Colwick, Farndon and two at Newark.
The River Trent is easily navigable down to the Cromwell lock after which the river is tidal and should only navigated by experienced skippers.

Leisure boat cruises are available from Nottingham at moorings near the racecourse. These provide casual access to the river as well as range of river trips and events.

Through the Trent Gateway the river and canals are also suitable for canoes and kayaks which can be used independently or hired for organised trips through the area.

Area Overview

The river provides a valuable resource for leisure

Water sports

Holme Pierrepont Country Park hosts the National Water Sports centre which in addition to hosting regional, National and International sports events also provides a range of water based and countryside recreational activities.
There are open water swimming opportunities at Hoveringham and Colwick Country Park.

Angling

Much of the angling within the Trent Gateway is controlled by numerous angling clubs and societies where access without membership is limited however there are day ticket opportunities throughout the area. Generally, the right to fish has to be paid for but some free fishing is available around Nottingham. Access to the river banks are often restricted by the clubs and societies.

Angling is a major passtime on the River Trent with around 20 Angling clubs in the Trent Gateway

Country Parks and Nature Reserves

Trent Gateway includes nine nature reserves managed by the Nottinghamshire Wildlife Trust (NWT). The reserves are open to members of the trust providing access to the public to experience a wide range of wildlife and habitat types. Additionally, the RSPB run the Langfield Lowfields reserve where they are working with Tarmac to create 40Ha of reedbed.

There are two Country parks within the Trent Gateway, Holme Pierrepont run by the County Council and Colwick run by the City Council. Both are accessible by public transport.

Area Overview

13

Vision and Strategic Objectives

View across the River Trent, north of Cromwell Weir

14

Vision and Strategic Objectives

A vision and principle, strategic objectives have been developed through consultation between the Environment Agency and stakeholders who, together, formed the Trent Gateway Partnership Steering Group.

These are to be used as principles to inform the direction and suitability of future projects.

The Vision

- To create a thriving river corridor for fish, wildlife and people along the River Trent, achieved through collaboration and engagement with communities and partners.

Strategic Objectives

- Achieve a natural, functioning and healthy river through creation of a high-quality and well-connected environment.
- Bring key partners together to align initiatives that achieve multiple outcomes and transform the river in the most sustainable and relevant way.
- Pro-actively coordinate and influence activities to develop opportunities and set an agenda for future change.

Installation of fish passes will reconnect 400km of natural migration pathways

Proposed fish pass at Colwick

The vision embraces a desire to generate a sustainable environment to be enjoyed by both people and wildlife.

Through analysis and consultation, specific areas of improvement and intervention have been identified to deliver the objectives to fulfil the vision.

Some of the identified activities are specific and focused on a location / destination / defined area, however, many of them are generic and could be applied across wide areas of the Trent Gateway.

Improving fish passage throughout the Trent Gateway area via the installation of fish passes within the River Trent will reconnect fish to 400km of natural migration pathways into upstream reaches in Derbyshire and beyond. A healthy and flourishing fish population promotes other wildlife within the wider ecosystem, whilst also facilitating the regeneration of recreational fishing activities. Installation of fish passes would remove restriction to migration and will link fish to new spawning, rearing and feeding habitats, supporting the sustainable growth of the UK's fish populations.

Vision and Strategic Objectives

Meadow isolated on the river side of flood defences offers opportunity to create more biodiverse habitats

In addition to fish passes, there are other interventions which would improve the habitat fish require to breed and develop in the Trent Gateway. These include creating shelter from predatory birds by providing overhead cover, creating fish fry refuges and developing river backwaters. These may be provided through the creation of either engineered or more naturalised options to realise the vision of a more naturally functioning river corridor.

The river habitat is not only comprised of the channel but also the floodplains which were once regularly connected to the Trent. Human intervention has reduced connectivity between the river and its floodplain through the creation of flood protection measures and urban developments.

Whilst flood protection remains paramount, the Trent Gateway Vision recognises multiple opportunities for the river corridor to be restored to having a more naturally functioning floodplain.

Nottinghamshire County Council and partners of the Biodiversity Action Group have produced Biodiversity Opportunity Mapping (BOM) for the county. This mapping provides a spatial vision of how Nottinghamshire could look in 50 years' time, by focusing on areas where action to enhance, enlarge, expand and link up habitats would have the most benefit for the county's biodiversity. This is a valuable resource which supports the vision and can inform the objectives of the Trent Gateway.

The principles of the mapping opportunities are:

- Better - degraded habitat that needs to be improved
- Bigger - areas of existing habitat that could be expanded
- More - New areas of habitat to increase the overall resource
- Connected - Enhancing existing and creating new connections between existing and planned areas of habitat

Example of the RSPB and gravel abstraction industry collaborating to create wetland habitat

Throughout the Trent Gateway area, there are several locations where the presence of existing flood embankments has led to the isolation of fields on the river side. These isolated fields provide ideal opportunities to create new wetland features connected to the river.

Floodplain features could be designed to have multiple benefits, such as storing water on the floodplain to reduce downstream flood risk, increased biodiversity through the creation of new open wetland features, scrapes, backwaters and wet woodland and provide new vistas in the landscape.

Vision and Strategic Objectives

There are continuing prospects within the Trent Gateway to develop new and enhance existing wetlands in collaboration with the gravel abstraction industry. These opportunities could work with key existing sites - such as the Nottinghamshire Wildlife Trust's, Attenborough Nature Reserve and the RSPB Langford Lowfields Reserve - to create a larger, inter-connected complex of inland wetlands along the river corridor. These inland wetlands would benefit waders and various aquatic species, re-instating important habitats that are under threat throughout the UK.

The 'Bigger and Better' vision - published by the RSPB - promotes why and how small collaborations with the minerals and aggregates industry can create valuable, joined-up wetland habitats. These are important at local, national and international levels.

The Trent Gateway area also provides excellent opportunities to achieve the region's aspirations for building with nature through the provision of blue green infrastructure.

Examples of this include:

- Creation of 30m grass/vegetated margins on pastoral fields to reduce bank erosion and improve habitat connectivity
- Creation of 6m grass/vegetated margins around hedgerows and boundaries on arable fields

Example of inland wetland

Example of a 'wet woodland'

- Creation of wetland habitat (wet woodland, ditches, ponds, wet meadows, fish refuge) between flood embankments and the River Trent
- Opportunistic hedgerow tree planting, including black poplar
- Retrofit or improvement of habitat to water's edge in engineered scenarios
- Provision of woodland planting or habitat creation on areas of lower quality agricultural land.

In addition to benefits for nature, the potential for Natural Flood Management (NFM) through storing water on the floodplain, carbon sequestration via the planting of new woodlands and novel building developments incorporating nature and sustainable energy, could act to provide economic, environmental and health benefits for local communities.

Developing a range of habitat features and wildlife sites along the River Trent will lend resilience to ecological communities and increase biodiversity within Nottinghamshire and Derbyshire and beyond. The Trent Gateway Masterplan has the potential to act as a blueprint to be adopted across many other river corridors and associated towns and cities.

Vision and Strategic Objectives

Site of historic ferry crossing

In addition to the desire to generate a sustainable environment for wildlife, the vision also recognises the need for Trent Gateway's improved use and enjoyment by people. In many cases the benefits of improvements can and should be symbiotic.

Improving and increasing the opportunities for people to access and use the River Trent, its associated water bodies and the amenity afforded by the land resources within the Trent Gateway could contribute greatly to the local community and visitors in terms of health, fitness and general well-being.

The area includes nature reserves run by the Nottinghamshire Wildlife Trust and reserves run by the RSPB. These provide opportunity for people to witness and learn about nature at close quarter.

Within these resources, there is potential to enlarge and improve them through better interpretation and access as well as providing new and improved visitor centres. Events and exhibitions in these centres can bring life to the subject and provide leisure and educational opportunities which have the potential to open up this natural resource to a wider cross-section of the community.

The area already provides a network of public rights of way including the Trent Valley Way and National Cycle Routes 6, 15, 48 and 64. However, there are many opportunities to join up and extend what is already there to create a richer and more readily-accessible experience.

Much of the riverbank in rural areas is difficult to access in terms of land access, public transport and visitor parking. There are opportunities to work with land-owners, fishing clubs and local authorities to create a more comprehensive network of access routes and widen the communities the area serves.

Opportunities to cross the River Trent are limited. For both pedestrians and cyclists, the permeability and connectivity of the area could be greatly enhanced by new bridges such as the one proposed between Lady Bay on the south of the river with new developments on the north and reinstatement of historic ferry crossings such as the ones at Wilford and Colwick. This might be on public holidays, special occasions or at particular times of the day to aid the daily commute.

Clapper gate on public footpath south of Cromwell Weir

Vision and Strategic Objectives

The Trent Gateway is rich in heritage, geological features and nature. It has changed dramatically from pre-human times through to the present, creating a long and complex story of human influence on the landscape and the landscape's influence on culture. By engaging the public in this story it can be told in a manner which can educate and entertain in equal measure. In seeking funding to deliver the vision and the objectives there is a landscape wide synthesis that should allow the projects to link up culture and nature/wildlife holistically. This would present a stronger encouragement to funders and collaborators.

Individuals, private organisations and/or public bodies have the potential to collaborate and:

- Better interpret and tell the Trent's story so it engages a wider audience at a deeper level
- Deepen community involvement
- Create new visitor and exhibition facilities to stage events
- An improved visitor experience, bringing people closer to their environment and fostering a sense of connection and belonging.
- Typical projects could include:
- Heritage and biodiversity interpretation overlay on the Trent Valley Way route
- Creation of small diversions and circular walks associated with the Trent Valley Way
- Improvements to interpretation around historic fords/ferry crossings and historic monuments
- Facilitation and encouragement of ad-hoc leisure usage of water environment by the wider population
- Improvements to pedestrian/cycle connectivity across the River Trent - including new or improved bridges and reinstatement of historic ferry boat crossings.

Throughout the Trent Gateway area, there is a range of water sport and leisure opportunities on the river and adjacent water bodies. Improvements to and expansion of the existing centres for leisure and sport in the area along with new facilities that could encourage a wider section of society to participate in outdoor activities bringing with it relaxation, greater health and fitness opportunities and general well-being. Whilst not exhaustive, a list of identified improvements is included in Appendix D of this document.

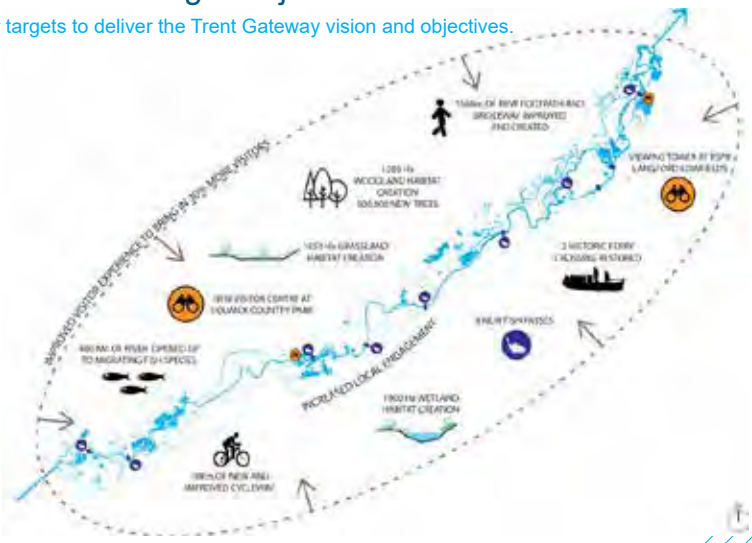
As previously stated, the character and nature of the Trent Gateway changes as it moves down-stream. There are a number of quite distinct sub-areas that differentiate through their character, land use and condition. Recognising these differences, in addition to generic improvements, and that each area could benefit from specific intervention six 'Action Zones' have been identified across the catchment, an overview of the context, issues and opportunities for each is provided across the following pages.

Improvements throughout the Trent Gateway should encourage a wider section of the community to engage with the landscape and the story of the River Trent

19

Vision and Strategic Objectives

10 Year targets to deliver the Trent Gateway vision and objectives.



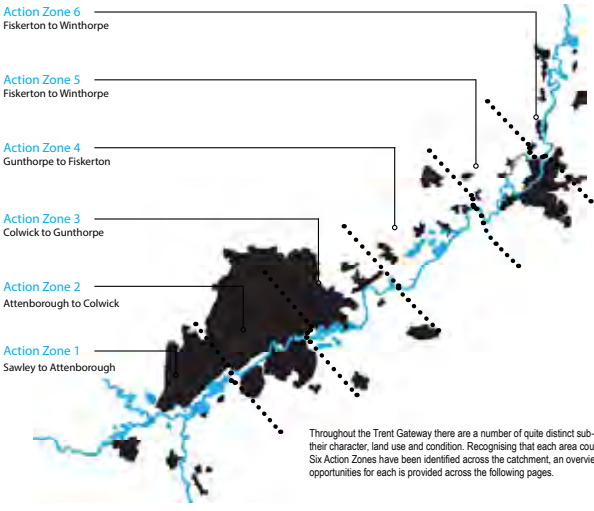
20

Action Zones

© CC2.0 Ratcliffe-on-Soar Power Station across Attenborough Nature Reserve (Explored) - Arran Bee - Flickr

21

Action Zones



Throughout the Trent Gateway there are a number of quite distinct sub-areas that differentiate through their character, land use and condition. Recognising that each area could benefit from specific intervention Six Action Zones have been identified across the catchment, an overview of the context, issues and opportunities for each is provided across the following pages.

22

Action Zones

Action Zone 1: Sawley to Attenborough

Key Characteristics and Issues:

Situated in Nottinghamshire, Leicestershire and Derbyshire County Council areas, this action zone is dominated by water bodies associated with historic gravel extraction sites now restored as lakes and pools that provide amenity and environmental habitat. The Nottinghamshire minerals local plan has identified a site at Mill Hill, west of Barton-in-Fabis on the opposite side of the River Trent to Attenborough,for future gravel extraction. This could both potentially create negative visual and environmental impacts in the medium term and long term opportunities for wetland habitat creation in the long term.

From Shardlow, the River Trent is navigable and the action zone includes Shardlow, Sawley and Beeston Marinas. Passage through the area requires the use of the Cranfleet, Beeston and Nottingham canals to circumnavigate the weirs at Cranfleet and Beeston. The weirs have a negative impact on natural habitats primarily those for fish).

Through this area, the river and associated wetlands, provide a wide green corridor south of the urban edge. This includes the Attenborough Nature Reserve which is a major leisure and ecological resource in the area and where seasonally, Starling murmurations can be seen.

South of the river, the Ratcliffe Power Station is a prominent landmark sitting within largely poor-quality agricultural land.

Despite the wide green corridor, the area enjoys relatively low tranquillity due to the adjacent urban context, road corridors and power station. Potentially this may be exacerbated by the development of the HS2 rail development planned to route across the river, south of Long Eaton.

View across Sawley Marina towards Ratcliffe Power Station

Attenborough Nature Reserve

Potential Action Zone Specific Interventions:

- Provision of improved access and interpretation within Attenborough Nature Reserve to maintain and increase usage by a wider population through an enriched experience leading to improved well-being and health
- Wetland habitat creation / enhancement, work with Soar Catchment Partnership on wetland habitat enhancement
- Creation of grassland and wetland habitats along east bank of River Trent on the flood plain opposite Attenborough Nature Reserve to increase biodiversity and habitat type as part of the Mill Hill minerals extraction scheme.
- Enhanced wetland habitat creation to reinforce green infrastructure along River Erewash leading to Toton Fields Nature Reserve
- Fish pass at Sawley Weir to facilitate passage of migratory fish along the River Trent
- Fish pass at Thrumpton Weir to facilitate passage of migratory fish along the River Trent

Action Zones

Action Zone 2: Attenborough to Colwick

Key Characteristics and Issues:

Situated within Nottingham City and Nottinghamshire County Council areas, the character of this action zone changes from rural to mostly urban river context with predominantly engineered riverbanks as it comes in to the city. Much of the northern riverbank offers high potential for urban redevelopment.

Within this action zone, there are areas of relatively high deprivation.

Much of the green space is given over to sports and recreation grounds with Meadow Lane and City Ground football pitches and Trent Bridge County Cricket ground close to the river at times attracting large numbers of visitors.

The Beeston Cut canal arm links to the city centre and bypasses the unnavigable section of the River Trent between Trent Bridge and Beeston Weir. Whilst the river offers potential for amenity through the zone, there is a general lack of tranquillity through the area however this could be improved and increased to the wider area in contrast to the more densely developed areas.

Much of the river course is served by the Trent Valley Way Long Distance Footpath but there are gaps in accessibility to the riverside, necessitating pedestrians and cyclists to venture away from the river, into the developed areas to the south.

View from Trent Field towards 'Waterside' development

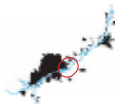
Towards Nottingham from eastern end of Beeston Cut

Potential Action Zone Specific Interventions:

- Improved surfacing and provision of seating and interpretation along 'Big Track', a shared pedestrian and cycle path linking Beeston Marina and Victoria Embankment, to make it more inclusive and encourage increased usage. This could be expanded to include Holme Pierrepont, Grantham Canal, Barton and Clifton Wood and Colwick
- Enhanced and promoted walking routes between the River Trent and Nottingham city centre to encourage a wider population to use the river and thereby lift well-being
- New riverside green corridor and pedestrian/cycle route on north side of the River Trent through Nottingham as development progresses to encourage physical activity and well-being
- Continuation of the Grantham Canal restoration including refurbishment of lock gates and potential wharf/marina thereby reinforcing historic context and widening heritage awareness
- Archaeological investigation, engagement and interpretation of Clifton Pile Settlement
- Retrofit habitat to water's edge along engineered riverbanks and retain walls to create areas of slower water and improve fish habitat
- Creation of grassland and wetland habitats - along the river corridor in the flood plain - to increase biodiversity and habitat type and reinforce green infrastructure through urban areas.

Action Zones

Action Zone 3: Colwick to Gunthorpe



Key Characteristics and Issues:

This Action Zone is primarily situated in Nottinghamshire County. Colwick Country Park - in Nottingham City Council - provides a natural environment close to the city. It has a single area of higher ground - located north of Radcliffe-on-Trent - and gravel extraction areas restored for leisure uses and ecological features which have given rise to the Colwick Country Park (with Designated Bathing Water), the National Watersports Centre and Skylarks Nature Reserve at Holme Pierrepont and Netherfield Lagoons.

Colwick Country Park and the National Watersports Centre (situated across the river from each other) both attract high visitor volumes however there is no public access from site to site.

Holme Lock and Sluices sit between Holme Pierrepont and Colwick Country Park. A fish pass has been designed and is proposed for construction at this location on the Country Park side of the river.

There is a notable increase in tranquillity as the river heads north away from Nottingham. Further north, the river travels through large, arable, fields, sitting behind flood embankments with isolated, pastoral land on the riverside.

There are riverside settlements at Radcliffe-on-Trent and Burton Joyce. The agricultural land is poor quality north of Radcliffe-on-Trent.

Whilst tranquillity increases, lengths of riverbank are inaccessible to the public (particularly to the south) or require longer walks to access the river from the nearest road.

There are no road or pedestrian river crossings between Lady Bay Bridge and Gunthorpe. Historically there were ford and river ferry crossings at Stoke Bardolph and Burton Joyce.

Position of historic ford at Burton Joyce

Holme Lock and Sluices

Potential Action Zone Specific Interventions:

- Increase opportunities for visitors at Colwick Country Park, including provision of Visitor Centre and link/public access to proposed fish pass
- Create fish pass at Stoke Bardolph Weir to facilitate passage of migratory fish along the River Trent
- Exploit wetland habitat creation/enhancement opportunities across River Trent flood plain on the river side of the flood defences between Netherfield Lagoons and Gunthorpe to increase habitat extents and quality
- Exploit opportunities to create woodland habitat to link and extend existing woodland between East Bridgford and Radcliffe-on-Trent to reinforce green infrastructure
- Restoration of ferry crossing at Stoke/Shelford on bank holidays and designated weekends

25

Action Zones

Action Zone 4: Gunthorpe to Fiskerton

Key Characteristics and issues:

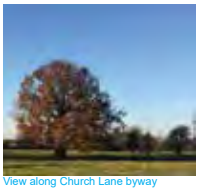
Between Gunthorpe and Fiskerton, the river travels through large, open, arable fields punctuated with a few hedgerow trees and sparse built development. Throughout this zone, much of the agricultural land is of a good quality.

There is a continuous, designated, right of way on the north bank of the river. An escarpment along the southern side of the river contains views from the riverside and also provides elevated viewpoints.

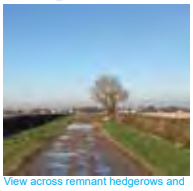
There is a break in riverside access near RAF Syerston. Locks and weirs situated at Gunthorpe and Hazelford and the Notts County Sailing Club east of Hoveringham provide a leisure destination. Additionally, this zone includes Stoke Field Battle Ground which is the only Registered Battlefield in Nottinghamshire.

There are no river crossings after Gunthorpe until Newark-on-Trent. There are historic ford and river ferry crossings at Fiskerton.

View north from the edge of Fiskerton



View along Church Lane byway towards Fiskerton



View across remnant hedgerows and enclosed pasture north of Gunthorpe

Gunthorpe Weir and exposed geology

Potential Action Zone Specific Interventions:

- Creation of fish passes at Gunthorpe Weir and Hazelford North Weir to facilitate passage of migratory fish along the River Trent
- Exploit opportunities south-west of the river to create woodland, wetland and grassland habitats on the flood plain between Gunthorpe weir and Hazelford Lock
- Potential to create wetland habitats as the river meanders between East Stoke and Fiskerton and to the west of the river between Hazelford Weir and Hoveringham

26

Action Zones

Action Zone 5: Fiskerton to Winthorpe

Key Characteristics and Issues:

Through this zone, the River Trent splits into a navigable section through Newark-on-Trent and an unnavigable section past Kelham. There are long sections of inaccessible riverbank on the south side between Fiskerton and Farndon and on the western arm past Kelham.

There are large arable fields with few hedgerow trees between the two arms of the River Trent.

Staythorpe Power Station and British Sugar provide notable industrial landmarks with high visual impact and Kelham Hall as well as, the spire of St Mary Magdelene Church, are notable heritage landmarks.

There are large areas of exposed riverbank prone to erosion. This western arm of the river is renowned for its good fishing.

For much of this zone, the river is tranquil. The calm and stillness reduce in the urban areas such as at the British Sugar Factory, the Staythorpe Power Station and Newark-on-Trent suburbs.

Newark-on-Trent contains areas of deprivation. The town contains a mix of heritage and leisure opportunities and has a popular accessible river frontage.

River crossings in this zone are restricted to the east of Newark-on-Trent via the footbridge south of Kings Marina, the A46, the Great North Road and the A1 at Winthorpe. There used to be a ford and river ferry crossing at Kelham.

View from Trent Lane towards British Sugar and Parish Church of St Mary Magdalene

View along bankside footpath near Farndon Marina

Potential Action Zone Specific Interventions:

- Improve leisure and access opportunities within 'island' area west of Newark-on-Trent
- Creation of a fish pass at Averham Weir to facilitate passage of migratory fish along the River Trent
- There is potential for habitat improvements between the Staythorpe Power station site and the Marlock Dyke north of Fiskerton and the area within the river meander west of Farndon, north of the Farndon Marina
- Seek opportunities for woodland enhancement around Smeatons Lakes

27

Action Zones

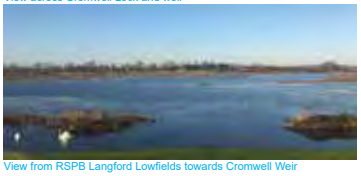
Action Zone 6: Winthorpe to Besthorpe

Key Characteristics and Issues:

This zone includes large areas of wetland habitat on both sides of the River Trent. There are rights of way along the majority of both sides of the river and Open Access land at Holme. The tidal extent of the river is at Cromwell Weir west of Collingham. Between here and the Humber estuary, the river is navigable but only by more experienced sailors.

There are some areas of grazing along the river edge with high quality agricultural land between North Muskham and Cromwell. There are no current river crossings in this zone historically there were ford and river ferry crossing at North Muskham and Cromwell.

View across Cromwell Lock and weir



View from RSPB Langford Lowfields towards Cromwell Weir

View towards Holme from the site of the Muskham Ferry

Two RSPB nature reserves, Langford Lowfields and Besthorpe, add to the levels of tranquillity which are relatively high compared to the surrounding area.

Future gravel extraction activity and activity is planned for the area providing potential for future collaboration between nature groups and charities and the minerals and aggregates industry.

Potential Action Zone Specific Interventions:

- Build a viewing tower and bird hide at RSPB Langford Lowfields to be able to view the reserve and River Trent (upstream and downstream) in its entirety without disturbing the habitat and wildlife
- Install a webcam to record Salmon jumping at Cromwell weir. Possible citizen science project getting public to record numbers they see. Opportunity to inspire and educate the public about the ecosystem and ecology of the River Trent
- Create a fish pass at Cromwell Weir to facilitate passage of migratory fish along the River Trent
- There is potential for grassland and wetland habitat creation to the east of the river between Winthorpe and Cromwell Weir and to the west of the river to just south of Carleton-on-Trent
- Enhance the wetland habitat around Besthorpe Nature Reserve and the grassland habitat north of the reserve
- Facilitate special events to re-enact the ferry crossing at Muskham Ferry to attract visitors to use the river for recreation and attract them to the RSPB Langford and Nottinghamshire Wildlife Trust Besthorpe Nature Reserve sites.

28

Masterplan

29

Masterplan

As a high-level visual aid, the Trent Gateway area has been graphically represented across three A3 plans. These plans are subdivided to show the extents of the six action zones described in this report.

The plans are intended to work on two levels:

- Firstly, they act as a high-level indicator of the potential to enhance or create one of the three, key, habitat types
- Secondly, the plans show locations where an intervention could have specific benefits. The latter are indicated by a series of coloured icons which are keyed in the legend.

Where potential projects and interventions have previously been discussed, the plans include a letter at specific locations which is also explained in the key.

The River Trent, its tributaries, other significant water bodies and areas of urban development, have been indicated for context and orientation.

The plans are intended to be high level. They do not intend to detail all the potential and positive interventions that could be made which are too numerous to articulate. Instead, the plans serve to bring to life the full scope of which interventions could have the most positive impact on the natural resources of the area and in ways which would lift how people interact with it for leisure, health and education.

Full size copies of the masterplan can be found in appendix B of this report.

30

Case Study Site Proposals

31

Case Study Site Proposals

Three sites have been selected as case studies to illustrate the type of interventions that could be made and how they could benefit the Trent Gateway area. These case studies are not intended to be priority projects and it is not intended that they should be seen as any more deserving than other interventions indicated in this report. The intention is that they provide a flavour of what might be achieved and what resource might be required to do so.

The three Case studies are:

- Improved visitor experience and destination at RSPB Langford Lowfields and Colwick Country Park
- Access and interpretation at Attenborough Nature Reserve
- Habitat creation in the flood plain

Each case study is discussed in detail in Appendix C of this report.

32

Next Steps

The next steps for the project are for the Trent Gateway Partnership Steering Group to continue to work together facilitated by the Environment Agency to share and communicate the Vision, Strategic Objectives and Masterplan to a wider audience, identify funding mechanisms and deliver physical improvements or activity on the ground.

Funding

This report, the Masterplan and Case Study Site proposals will be used along with a summary brochure to access funding streams and potential application routes associated with single or multiple aspects of the vision across flood risk, accessibility, health and well-being, biodiversity, heritage, interpretation and others.

The Partnership Steering Group will explore the potential for grants match-funding across organisations to deliver projects that could not be delivered or funded individually.

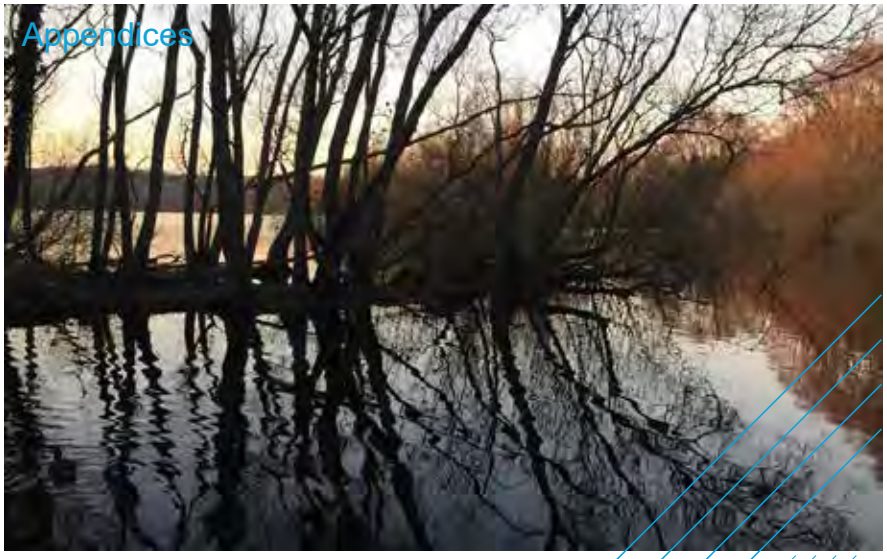
Individually or in collaboration members of the Partnership Steering Group will:

- Prepare or encourage funding applications to appropriate funds, for example the National Lottery, Business and Local Economy Funds.
- Embed the opportunities for delivery of the Vision in local authority Community Infrastructure Levy or Section 106 initiatives.
- Promote the Vision to private developers or businesses to encourage biodiversity offsetting or contribution to initiatives.
- Identify an appropriate organisation to take ownership of catchment wide initiatives in order to collate funding from multiple agencies to facilitate delivery of initiatives.

The Trent Gateway Partnership Steering Group is formed of representatives from the following organisation:

- Environment Agency
- Canal and River Trust
- Beeston Canalside Heritage Centre
- Gedling Borough Council
- Broxtowe Borough Council
- Natural England
- Nottingham City Council
- Nottinghamshire County Council
- Derbyshire County Council
- Nottinghamshire Wildlife Trust
- Derbyshire Wildlife Trust
- RSPB
- Severn Trent Water
- Trent Rivers Trust
- Trent Anglers Joint Council

© Environment Agency 2020
All rights reserved. This document may be reproduced with prior permission of the Environment Agency.
All photographs taken by Atkins unless otherwise noted.


Appendices

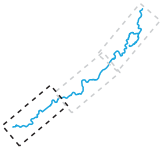

Appendix A
Baseline Mapping
December 2019
Quwick Sluices

Overview

Legend

River Trent and other waterbodies

Sheet 1 of 3 Scale at A3 1:50,000

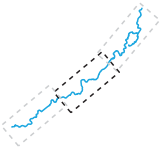


Overview

Legend

River Trent and other waterbodies

Sheet 2 of 3 Scale at A3 1:50,000

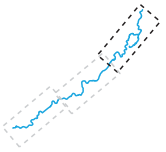


Overview

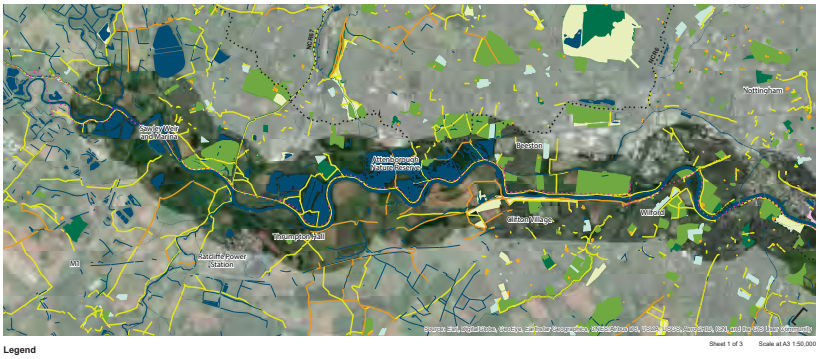
Sheet 3 of 3 Scale at A3 1:50,000

Legend

River Trent and other waterbodies



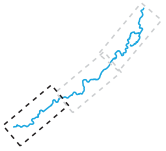
Accessibility



Sheet 1 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Trent Valley Way
- National Cycle Route
- National Cycle Network Link
- Public Bridleway
- Public Footpath
- Local Nature Reserve
- Country Park
- CROW Access Land
- Allotment / Growing Space
- Sports Pitch
- Play Space
- Public Park or Garden

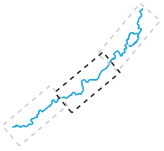


Accessibility

Sheet 2 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Trent Valley Way
- National Cycle Route
- Byway Open to All Traffic
- Public Bridleway
- Public Footpath
- Local Nature Reserve
- Country Park
- CROW Access Land
- Allotment / Growing Space
- Sports Pitch
- Play Space
- Public Park or Garden

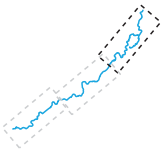


Accessibility

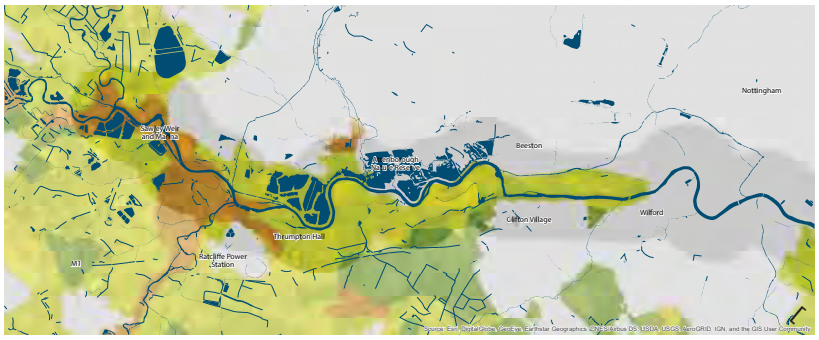
Sheet 3 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Trent Valley Way
- National Cycle Route
- National Cycle Network Link
- Byway Open to All Traffic
- Public Bridleway
- Public Footpath
- Local Nature Reserve
- CROW Access Land
- Allotment / Growing Space
- Sports Pitch
- Play Space
- Public Park or Garden



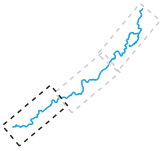
Agricultural Land Classification



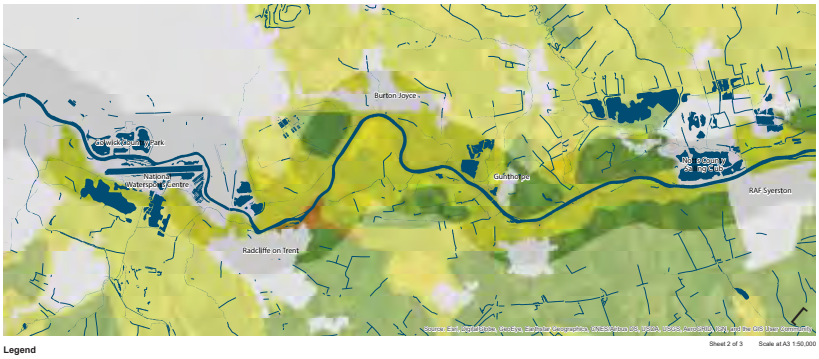
Sheet 1 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Urban and Non-Agricultural
- Grade 2 - Very Good
- Grade 3 - Good to Moderate
- Grade 4 - Poor



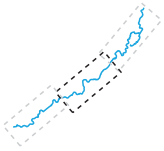
Agricultural Land Classification



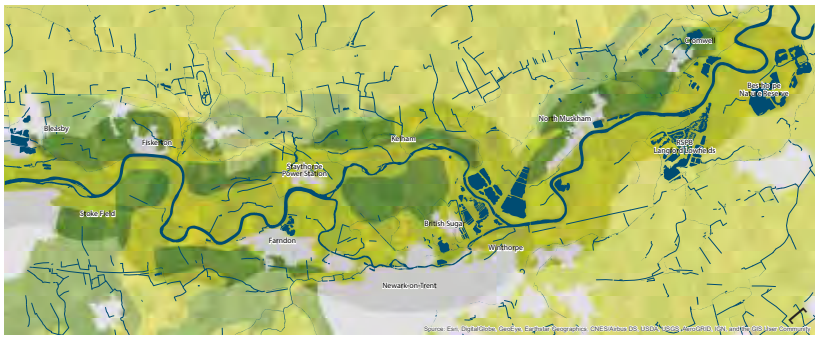
Sheet 2 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Urban and Non-Agricultural
- Grade 2 - Very Good
- Grade 3 - Good to Moderate
- Grade 4 - Poor



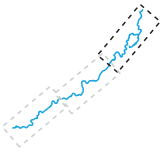
Agricultural Land Classification



Sheet 3 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Urban and Non-Agricultural
- Grade 2 - Very Good
- Grade 3 - Good to Moderate

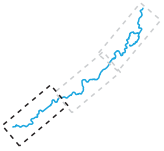


Heritage Context

Sheet 1 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Church
- Grade I Listed Building
- Grade II* Listed Building
- Grade II Listed Building
- Conservation Area
- Registered Park & Garden
- Scheduled Monument
- Woodpasture and Parkland

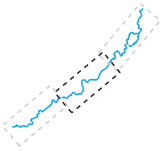


Heritage Context

Sheet 2 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Church
- Grade I Listed Building
- Grade II* Listed Building
- Grade II Listed Building
- Conservation Area
- Registered Park & Garden
- Scheduled Monument
- Ancient and Semi-Natural Woodland
- Planted Ancient Woodland Site
- Woodpasture and Parkland
- Registered Battlefield

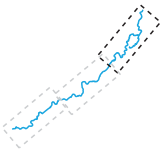


Heritage Context

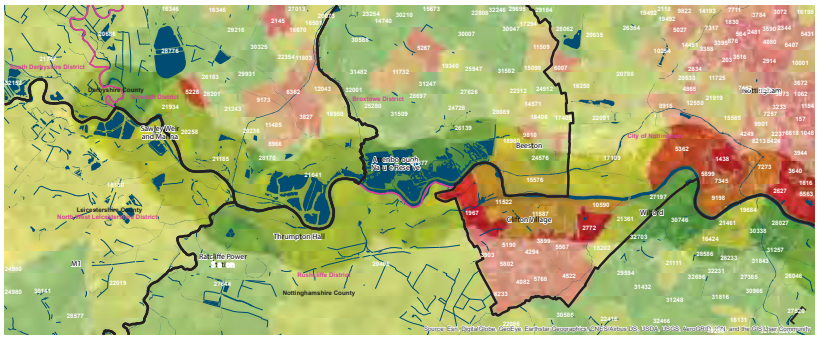
Sheet 3 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- Church
- Grade I Listed Building
- Grade II* Listed Building
- Grade II Listed Building
- Conservation Area
- Registered Park & Garden
- Scheduled Monument
- Ancient and Semi-Natural Woodland
- Woodpasture and Parkland
- Registered Battlefield



Index of Multiple Deprivation

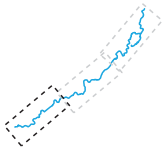


Sheet 1 of 3 Scale at A3 1:50,000

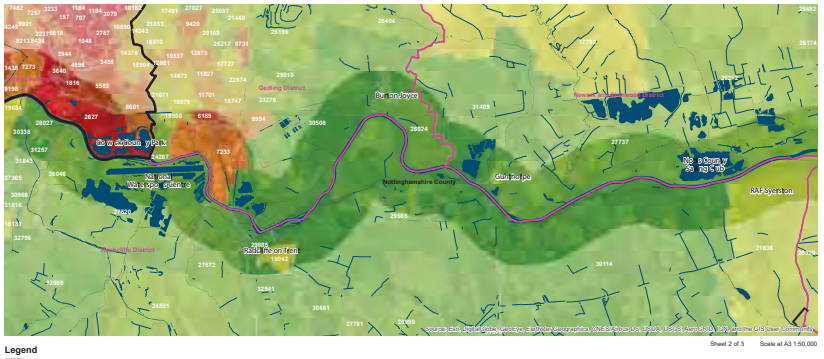
Legend

- County Boundary
- District / Borough Boundary
- River Trent and other waterbodies
- 1-10% (Most Deprived)
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 71-80%
- 81-90%
- 91-100% (Least Deprived)

Notes:
The Index of Multiple Deprivation ranks each small area in England from 1 (most deprived area) to 32,844 (least deprived area).
The numbers shown illustrate the rank of each area within England whilst the colour represents the rank of each area within the geographic extent of the map (dark red most deprived, dark green least deprived).
More information can be found in the guidance note: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015



Index of Multiple Deprivation

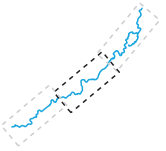


Sheet 2 of 3 Scale at A3 1:50,000

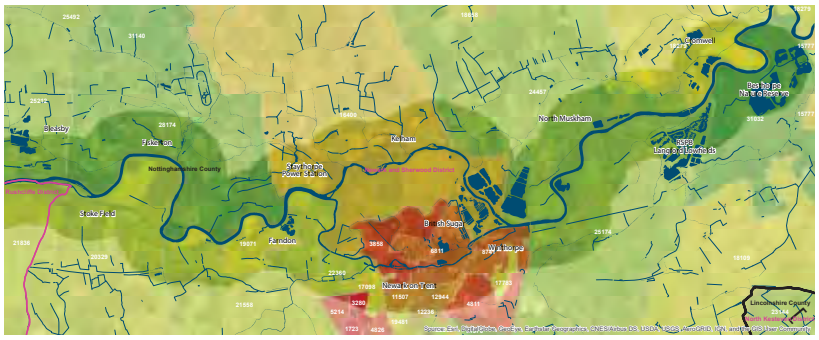
Legend

- County Boundary
- District / Borough Boundary
- River Trent and other waterbodies
- 1-10% (Most Deprived)
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 71-80%
- 81-90%
- 91-100% (Least Deprived)

Notes:
The Index of Multiple Deprivation ranks each small area in England from 1 (most deprived area) to 32,844 (least deprived area).
The numbers shown illustrate the rank of each area within England whilst the colour represents the rank of each area within the geographic extent of the map (dark red most deprived, dark green least deprived).
More information can be found in the guidance note: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015



Index of Multiple Deprivation

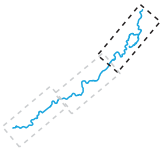


Sheet 3 of 3 Scale at A3 1:50,000

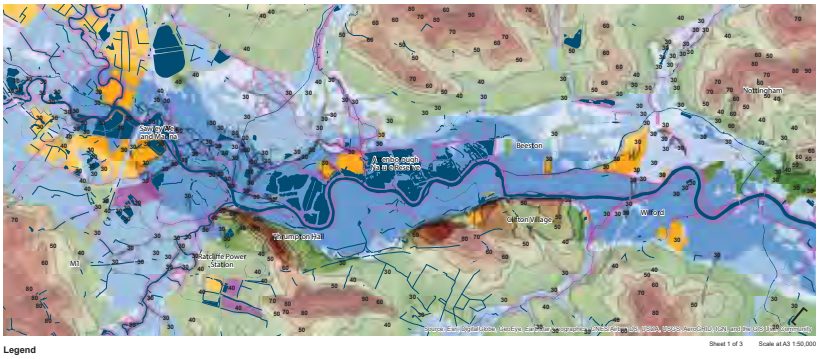
Legend

- County Boundary
- District / Borough Boundary
- River Trent and other waterbodies
- 1-10% (Most Deprived)
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 71-80%
- 81-90%
- 91-100% (Least Deprived)

Notes:
The Index of Multiple Deprivation ranks each small area in England from 1 (most deprived area) to 32,844 (least deprived area).
The numbers shown illustrate the rank of each area within England whilst the colour represents the rank of each area within the geographic extent of the map (dark red most deprived, dark green least deprived).
More information can be found in the guidance note: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015



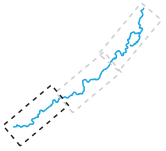
Topography and Drainage



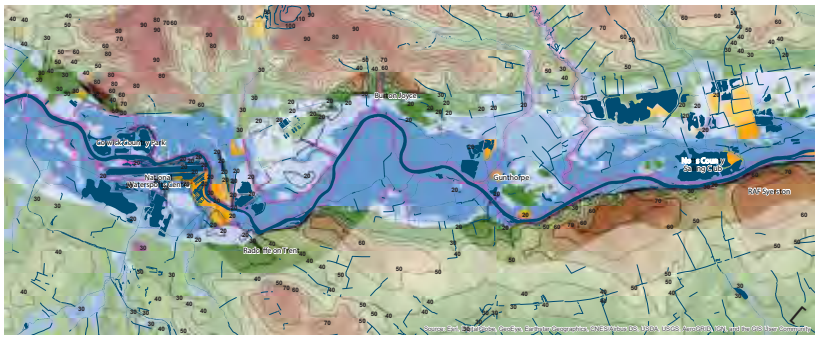
Sheet 1 of 3 Scale at A3 1:50,000

Legend

- River Trent and other waterbodies
- 10m Contours
- Flood Defences
- Authorised Landfill Site
- Historic Landfill Site
- Flood Zone 3
- Flood Zone 2

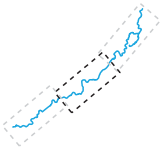


Topography and Drainage

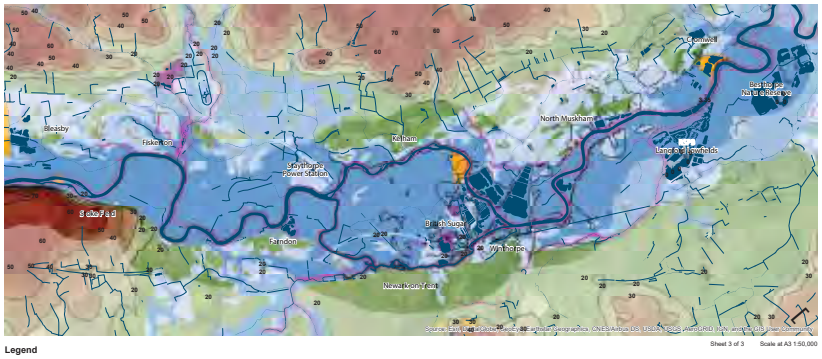


Legend

- River Trent and other waterbodies
- 10m Contours
- Flood Defences
- Authorised Landfill Site
- Historic Landfill Site
- Flood Zone 3
- Flood Zone 2

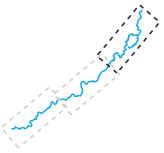


Topography and Drainage

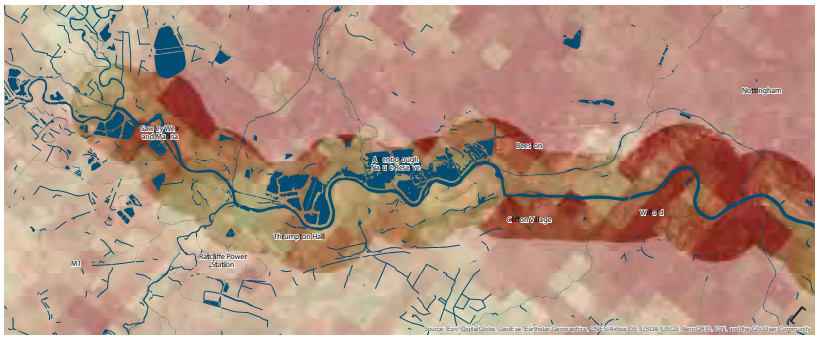


Legend

- River Trent and other waterbodies
- 10m Contours
- Flood Defences
- Authorised Landfill Site
- Historic Landfill Site
- Flood Zone 3
- Flood Zone 2



Tranquillity

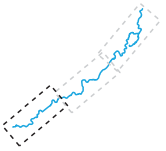


Sheet 1 of 3 Scale at A3 1:50,000

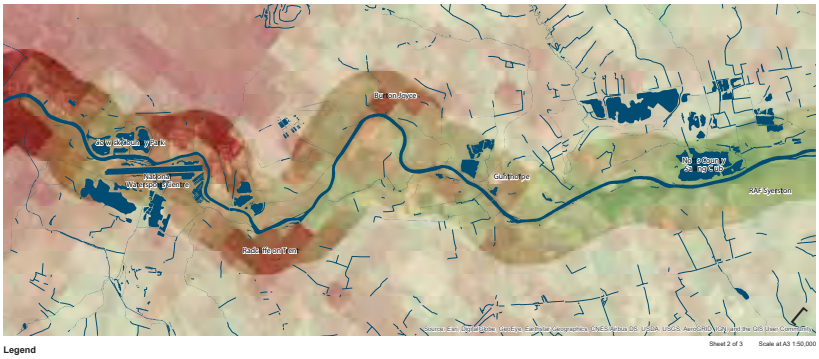
Legend

- River Trent and other waterbodies
- Higher Tranquillity
- Lower Tranquillity

Notes:
Contains public sector information licensed under the Open Government Licence v3.0
National Tranquillity Mapping Data 2007 developed for the Campaign to Protect Rural England and Natural England by Northumbria University.
OS Licence Number 100018881



Tranquillity

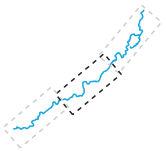


Sheet 2 of 3 Scale at A3 1:50,000

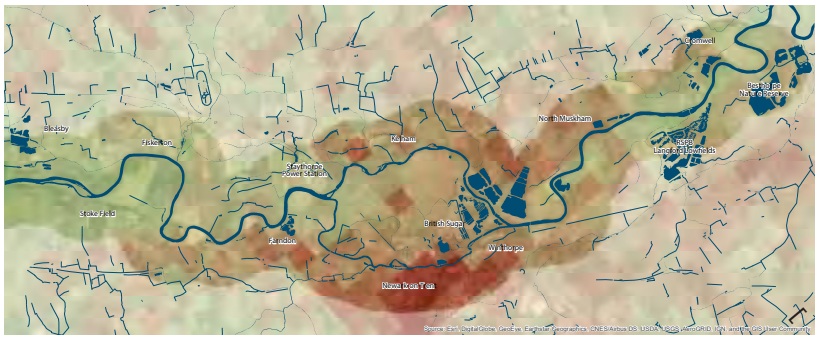
Legend

- River Trent and other waterbodies
- Higher Tranquillity
- Lower Tranquillity

Notes:
Contains public sector information licensed under the Open Government Licence v3.0
National Tranquillity Mapping Data 2007 developed for the Campaign to Protect Rural England and Natural England by Northumbria University.
OS Licence Number 100018881



Tranquillity

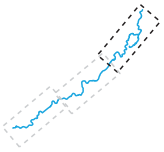


Sheet 3 of 3 Scale at A3 1:50,000

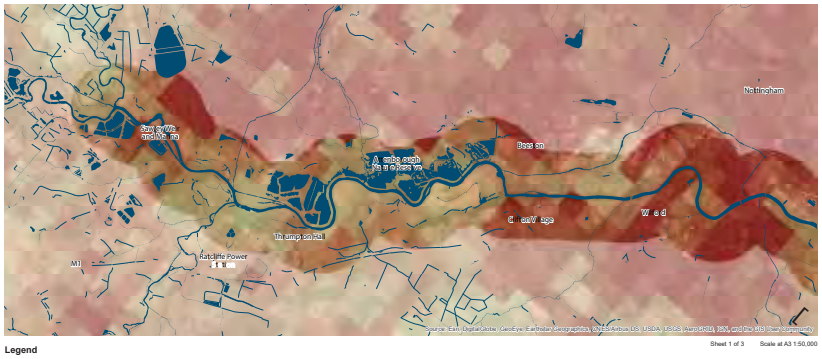
Legend

- River Trent and other waterbodies
- Higher Tranquillity
- Lower Tranquillity

Notes:
Contains public sector information licensed under the Open Government Licence v3.0
National Tranquillity Mapping Data 2007 developed for the Campaign to Protect Rural England and Natural England by Northumbria University.
OS Licence Number 100018881



Tranquillity

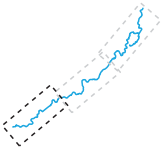


Sheet 1 of 3 Scale at A3 1:50,000

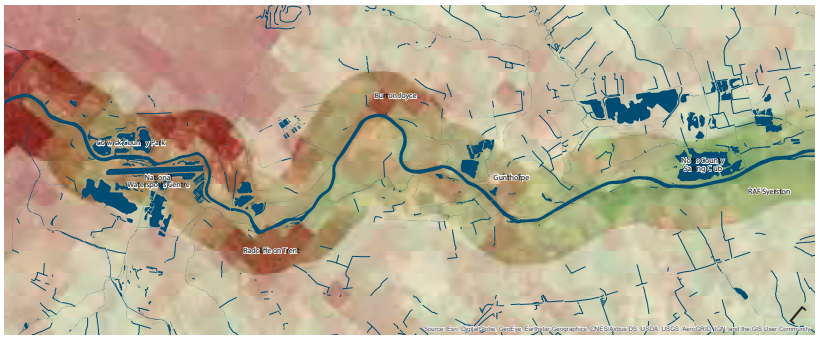
Legend

- River Trent and other waterbodies
- Higher Tranquillity
- Lower Tranquillity

Notes:
Contains public sector information licensed under the Open Government Licence v3.0
National Tranquillity Mapping Data 2007 developed for the Campaign to Protect Rural England and Natural England by Northumbria University.
OS Licence Number 100018881



Tranquillity

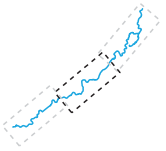


Sheet 2 of 3 Scale at A3 1:50,000

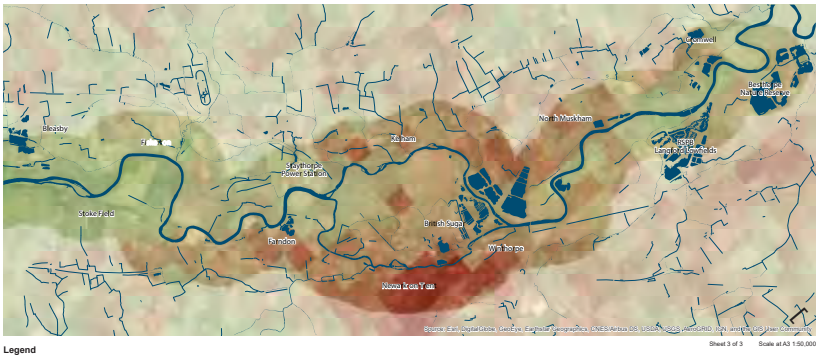
Legend

- River Trent and other waterbodies
- Higher Tranquillity
- Lower Tranquillity

Notes:
Contains public sector information licensed under the Open Government Licence v3.0
National Tranquillity Mapping Data 2007 developed for the Campaign to Protect Rural England and Natural England by Northumbria University.
OS Licence Number 100018881



Tranquillity

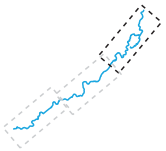


Sheet 3 of 3 Scale at A3 1:50,000

Legend

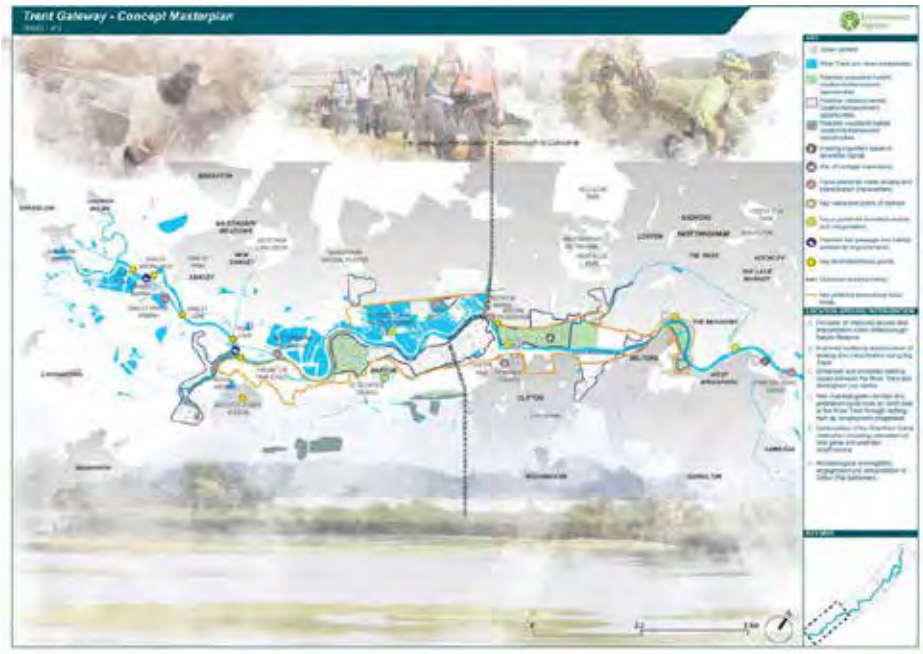
- River Trent and other waterbodies
- Higher Tranquillity
- Lower Tranquillity

Notes:
Contains public sector information licensed under the Open Government Licence v3.0
National Tranquillity Mapping Data 2007 developed for the Campaign to Protect Rural England and Natural England by Northumbria University.
OS Licence Number 100018881

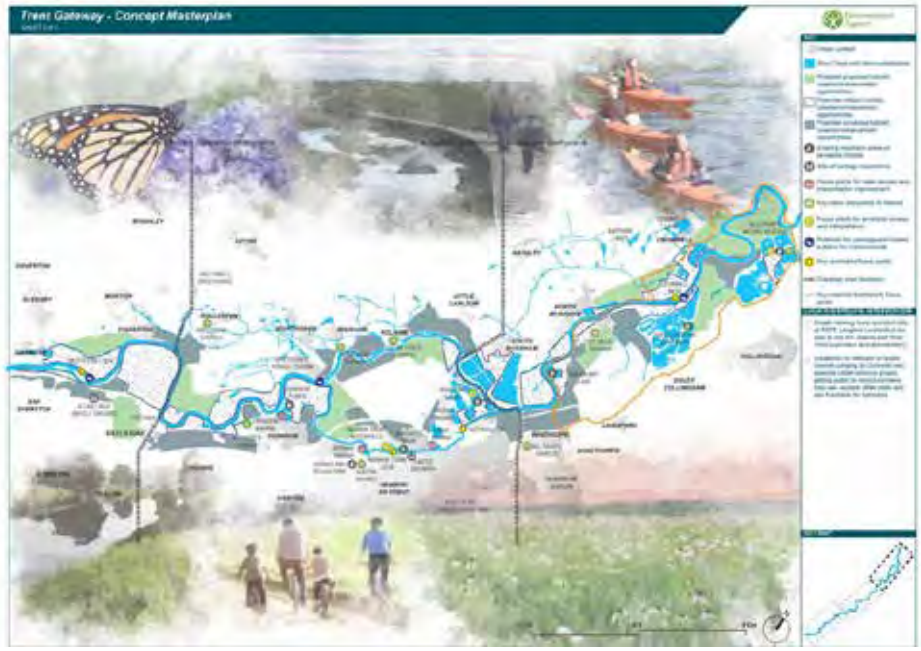


© Environment Agency 2020
All rights reserved. This document may be reproduced with prior permission of the Environment Agency.
All photographs taken by Atkins unless otherwise noted.

Appendix B
Masterplan


Trent Gateway - Concept Masterplan


Trent Gateway - Concept Masterplan



© Environment Agency 2020
All rights reserved. This document may be reproduced with prior permission of the Environment Agency.
All photographs taken by Atkins unless otherwise noted.

Appendix C
Case Study Site Proposals


RSPB Langford Lowfields

Case Study 1a
Improved Visitor Experience and Destination at RSPB Langford Lowfields

Langford Lowfields is a partnership project between Tarmac and the RSPB showcasing large wetland habitat creation as part of the restoration of a sand and gravel quarry on the banks of the River Trent. This is habitat creation on a huge scale. A significant feature of the reserve is its reed bed but it also has wild flower-rich meadows, areas of dense thorny scrub and a small mature woodland. This expansive reserve, is inhabited with various species of wildlife including bitterns, brown hares, bearded tits, marsh harriers, avocets, wintering wildfowl and has seasonal starling murmurations. Work carried out during 2017 and 2018 added a further 35ha of wetland habitat to the site. In time this will succeed to reed bed, but for the next few years will provide excellent habitat for wading birds. With the quarry set to expand over the next few decades, the reserve too will only get bigger.

The habitats at Langford Lowfields are constantly developing as the site continues to establish. Parts of the site have only just been restored and provide large areas of bare mud surrounded by deep water, in time these will develop into reed bed, but this process will take a number of years. The reserve is expected to expand in size over the next few decades following Tarmac's development of the area between the west of the existing works and the river. Following the principles of the RSPB Bigger and Better document there will be opportunities to create more reed bed, scrapes, wet woodland and potentially an area of floodplain wet grassland and a braided backwater channel connected to the River Trent, which will benefit and add to the existing mosaic of habitats.

To increase the opportunities for the visitors of Langford Lowfields to observe the vast area of reserve there is an aspiration to create a viewing tower and bird hide so that they would be able to see across the whole site much of which is not accessible by foot or visible from ground level. In addition the tower would provide long distance views up and down stream of the river.

The tower hide would stand at around 10m tall and could be constructed with a galvanised steel frame and clad with wooden battens.

When studying the surrounding context, the visitor will be able to observe the neighbouring villages and their towering church spires. These spires are visual markers within the immediate context, sitting tall within a fairly level and low lying landscape.


Concept design for observation tower and hide

Concept design for observation tower and hide

Current extents of the site. It is anticipated that the site will extend towards the river in coming years.

With the spires being so prominent within the landscape, the architectural vision looks to take inspiration from these landmarks and become a contemporary addition to the landscape.

By mapping out key views that surround the marshlands, opportunities from viewing decks were discovered deciphering the situation and directing the position of the look outs within the structure. A series of directional landings were developed with a mind to open up the structure to highlight and frame key views. The landings have been developed to look out primarily over the River Trent to the west of the site, the neighbouring villages and the immediate marshland reserve.

By opening up the structure within these specific areas, visitors will be encouraged to partake on a journey up through the structure, past each vantage point until making their way to the top where they will find a semi sheltered deck with a panoramic view. The top deck provides an area of shelter and an un-covered area to watch birds overhead.

By taking inspiration from key views, context and the local spires, the design sees a holistic approach to generate a key landmark with architectural merit to add to this landscape for the RSPB and its visitors to enjoy.

Views across the reserve

What might it cost?

Observation tower/bird hide Steel frame, timber cladding	£158,400
Preliminaries @20%	£31,680
Contingency @20%	£31,680
Total	£221,760

The cost above is an indicative price for budgetary purposes based on a concept design. It includes materials and construction. A final cost would be ratified following detail design and tender.

Case Study 1b

Improved Visitor Experience and Destination at Colwick Country Park

Colwick Country Park is a 250 acres woodland, grassland and lake located within the outskirts of Nottingham, it is owned and managed by Nottingham City Council and attracts visitors from the city and further afield. In addition to hosting events such as weekly Park runs (over 300 runners) and the annual 'Detonate festival' which attracts around 15,000 visitors, there is also an adventure centre, that works with schools in the city and across the county, offering high rope climbing, water-based activities and a summer camp programme. The Park holds outdoor film shows and hosts religious festivals. Both attracting hundreds of people. Other attractions include open water swimming, model boat club, angling and a wildlife group. River trips are run from the adjacent Marina.

The local catchment area for the park is made up of predominantly of Asian and Eastern European communities. Housing is mainly terraced properties with no gardens or green space making the park a vital community resource.

The park attracts high numbers of visitors and is the only Park in the Nottingham district where B.B.Q.s can be held in the summer.

It has been proposed that the Country Park looks to develop how it engages with its visitors and community through the design of a brand new, visitor/education centre and cafe and through the improvement of the existing facilities.

The centre would be multi-functional providing a centre for education, a space to tell the story of the River Trent in terms of its natural heritage and its historic features and architecture and could be available for hire as an events space.

Holme Sluices adjacent to Colwick Country Park, is an Environment Agency asset which controls water levels on the River Trent. The asset forms the largest single restriction to fish passage on the River Trent. The EA is currently designing one of the largest fish passes to bypass the sluices. The fish pass will provide added interest for visitors to the park, providing them with the ability to observe fish passing at close quarters and focus in on the environment and wildlife in the area. It is hoped that the fish pass will be an added attraction to bring people to the Country Park visitor centre where they can be educated about and be brought directly in touch with the ecology and wildlife of the river.
The visitor centre could be sited at several locations throughout the site, but initial

Colwick Country Park

studies suggest a favourable location would be either near the existing entrance and car park to exploit existing services and parking or adjacent to the new fish pass location to provide a focal point across the lake when entering the site from the road access.
The architectural essence to the scheme sees a jetting shed like structure slipping out towards the lake. The exo-skeleton structure holds host to decked areas for the opportunity of a wide range of use like pond dipping platforms to the external café patio. With the structure 'floating out from the shore', solid spatial masses remain present on land to host a wide range of functions like gallery spaces and educational rooms. The visitor centre hub has been designed in mind of being a place of learning and recreation, and collectively, for the community. With café facilities alongside the educational rooms and small gallery spaces, the hub will allow visitors and the community to learn about the history of the River Trent with the opportunity to relax and take the scenery in over the park's lake.

Concept design for Visitor Centre

Existing entrance and potential site for visitor centre

Alternative site for visitor centre

Site for new fish pass

It's potential position towards the south easterly corner of the lake links the visitor centre with the proposed fish pass. This gives opportunity for visitors to explore and learn about the fish pass gaining a further insight into not only the River Trent's past, but its future too. The visitor centre could be a catalyst for encouragement of engagement with communities and the river through interpretative and engagement programmes during the proposed design process.

What might it cost?

Visitor Centre 972m2 timbre frame, insulated metal cladding panels or glazing	£2,850,000
Preliminaries @20%	£570,000
Contingency @20%	£570,000
Total	£3,990,000

The cost above is an indicative price for budgetary purposes based on a concept design. It includes materials and construction. A final cost would be ratified following detail design and tender.

Case Study 2

Provision of Improved Access and Interpretation Within Attenborough Nature Reserve

Attenborough Nature Reserve is one of the most important sites for wildlife in the East Midlands. The Nottinghamshire Wildlife Trust (NWT) have managed the site under licence from and in partnership with the owners, Cemex UK, since 1966. It was the first wildlife Trust reserve in Nottinghamshire.

The site extends to over 200 hectares of habitat and acts as a catalyst to connect people and wildlife. The Trust and its volunteers work to restore and create natural habitats and maintain access and facilities for the benefit of wildlife and visitors alike. Due to the Trust's intervention, with the support of the public, the site was saved from being developed as a land fill for 'dump ash' from the local coal fired power station. This would have resulted in the loss of a significant resource to both nature and the community.
From its early days the site, closely situated to the city, has been popular for bird watching, fishing and walking with routes established around the lagoons and maintenance carried out by volunteer groups.

In 2005 the Attenborough Nature Centre was opened on the site. This houses facilities including meeting rooms, education facilities, interactive displays, a nature shop and a café.
Whilst recognised as an important resource for nature and the community it has been difficult to raise funds for improvements and extension because the trust did not own the site and could not guarantee its future. The visitor centre was designed to cope with 80,000 visitors a year, but this now exceeds 200,000.

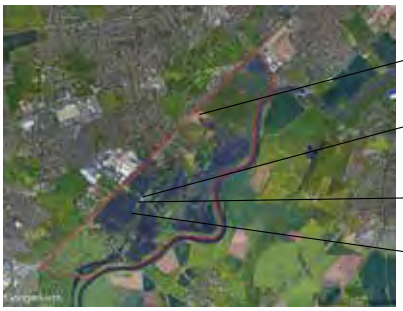
Recently the NWT successfully ran a fund-raising campaign to buy the site from Cemex UK. Before vacating the site Cemex will be removing the remnants of its infrastructure and working with the Environment Agency will be creating an area of reed bed towards the northern end of the site where it previously dispatched aggregates via rail.

Now that the future of the site has been secured NWT can plan for the future and the improvements required to accommodate the increasing level of visitors as well as providing a better visitor experience.

Improvements initially required are:

- Extend the visitor centre in its current location and develop the area around the visitor Centre access bridge to create an improved facility for visitors to sit, picnic, observe wildlife and for education/interpretation/information
- Extend the network of foot paths to the soon to be created reed bed area and improve surfacing of existing routes to provide more access to a wider visitor base.
- Provide signage and interpretation around the site to improve the legibility and information about the wildlife routes and trails.
- Creation of reed bed near the visitor centre

Concept design for picnic/education area



What might it cost?

Picnic/outdoor education area

Site clearance (2000m2)	£4,000
Self-binding gravel arae (1200m2)	£38,400
Resin bound gravel area(600m2)	£51,000
Paved path to Visitor centre (200m2), Tegula style blocks, random size	£23,000
Kerbs/edging (180m)	£6,300

Furniture

Serpentine style benches (6m long) x 3	£9,000
Timbre/steel benches (2m long) x 5	£7,500
Picnic benches x 6	£18,000
Interpretation/information display	£2,000
Preliminaries @20%	£31,840
Contingency @20%	£31,840
Total	£221,760

Rates for footpath and interpretation improvements

Footpath - Self-binding gravel 2m wide timbre edge. (per 100m)	£9,400
Footpath - tarmac 2m wide narrow concrete kerb. (per 100m)	£13,600
Interpretation board (each)	£800
Basic wooden bench (each)	£450

The cost above is an indicative price for budgetary purposes based on a concept design. It includes materials and construction. A final cost would be ratified following detail design and tender.

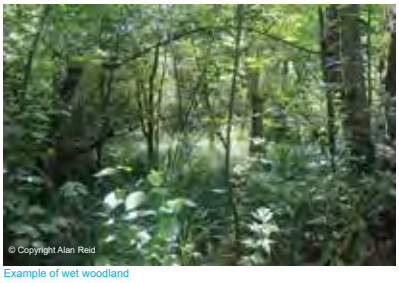
Case Study 3

Habitat Creation in the Flood Plain

The landscape structure within the flood plain affects:

- The visual appearance and how it is perceived by the local community and visitors
- The character of the area
- How the river is access and used
- The natural processes and ecology of the river
- The ability of the area to cope with flooding and drought
- The ability of the area to accommodate climate change
- The ability to provide sustainable drainage systems that can affect land downstream

The River Trent as it flows through the Trent Gateway has changed course and character over time due to natural processes but also due to human activity. The river and land has been adapted for transport, as a source of power, for farming, as a source of minerals and for recreation. Consequently much of the natural habitat has been lost due to engineered river banks, river course diversions, land clearance for farming, building development and construction of river defences to protect property.



Example of wet woodland

New Woodland Creation planted approximately 25 years ago on agricultural land

Across the Trent Gateway there are many opportunities to reinstate the habitats that have been lost and to enlarge and join up those areas that still exist.

The three principle habitat types that have been identified for attention are:

- Wetland comprising of open wetland features, grassland and/or woodland
- Woodland and hedgerows
- Grassland

The Trent Gateway masterplan identifies the key areas where habitat creation would be beneficial. Further opportunities and granularity can be found in the Nottinghamshire Biodiversity Action Plan.

Example of wet grassland

Much of the land identified is owned by private land owners. Their buy-in and co-operation will be key to the success of realising the vision and objectives of the Trent Gateway. Many landowners will already be carrying out environmental enhancement through stewardship schemes or similar initiatives. Through the Trent Gateway objectives the partnership will look to help join up existing initiatives and encourage more challenging targets so that the sum of the parts is greater than the whole. Additionally there may be opportunities for land to be purchased to create larger areas of habitat and carry out more dramatic interventions such as creation of wildlife sites which will provide resilience to ecological communities and increase biodiversity.

Opportunities will include:

- Large scale tree planting
- Reinstatement of hedgerows and use of hedgerows to connect areas of scrub and woodland
- Natural habitat features between flood protection structures and the river bank
- Reinstatement of vegetation along the river bank edge
- Creation of grass/vegetated margins on pastoral fields to reduce bank erosion and improve habitat connectivity
- Creation of grass/vegetated margins along hedgerows and boundaries on arable fields

Large Scale tree planting

Once large scale tree planting starts to mature it provides multiple benefits including:

- Natural habitat for wildlife
- Natural flood management (NFM) through storage of water on the flood plain which will benefit land and people further down stream.
- Carbon sequestration - The amount of carbon sequestered varies on the tree species, age and condition but one tree could sequester around just under 100lb (45Kg) over 50 years
- Production of sustainable building materials

The type of woodland created should be tailored to the specific site conditions. Where conditions permit the creation of wet woodland would be desirable as this type of woodland has greatly decreased in recent times and is considered a threatened habitat.

Reinstatement of hedgerows and use of hedgerows to connect areas of scrub and woodland

Where hedgerows have been removed or have become gapped over time, reinstatement can provide linear green infrastructure which will benefit insects, birds, and mammals providing them with nesting, feeding, resting, protection and commuting routes. Where hedgerows can link existing areas of vegetation such as scrub and woodland, the value becomes even greater. Generally completing/reinstating hedgerows will make little difference to the productivity of the land but will do much to increase the biodiversity and habitat value of the land.

Example of native hedgerow

Natural habitat creation between flood protection structures and the river bank

Construction of flood protection features along the River Trent have done much to protect property and people. However in some cases the structures have left areas of field isolated and largely unusable or inefficient for farming. Many of these areas would be suitable for creation of wetland features such as scrapes, backwater and woodland.

Backwaters provide a valuable habitat for fish during their development by creating low flow areas required by small fish and fry for resting away from the main flow of the river.

Backwater of the River Great Ouse

Wet by-pass channels can be created which can be permanently connected to the river channel or restricted to when water is at higher levels. These channels can enable a diversity of habitat to develop.

Reinstatement of vegetation along the river bank

Long stretches of the river have little or no vegetation associated with the river bank. Areas of the bank need to be kept clear for maintenance purposes however the lack of vegetation can result in gradual erosion of the bank. Planting along the bank can provide stabilisation in addition to enhancing the ecological habitat. Overhanging vegetation provides protection and shade for fish. Additionally in areas of intense farming a vegetated strip along the river can reduce nitrate runoff from the fields.

Creation of grass/vegetated margins on pastoral fields to reduce bank erosion and improve habitat connectivity

In addition to vegetating the river bank the vegetation of a 30m strip of land can greatly increase habitat provision and connectivity, particularly when it connects hedgerows or areas of woodland. Vegetation can be wild flowers, scrub planting, tree planting or a combination. The root systems will act to retain the river bank and reduce nitrate run off.

Creation of grass/vegetated margins along hedgerows and boundaries in arable fields

A 6m wide margin along hedgerows and field boundaries can greatly increase the biodiversity of the hedgerow by allowing a rich under storey to develop which in turn will encourage a wider range of insects and birds to colonise the hedge. The margin provides a buffer to protect the hedge from the application of herbicides and pesticides.

Wild flowers in the field margin of an arable field

Grassland creation

Much of the rural land within the Trent Gateway is species poor pasture or agricultural field. Opportunities throughout the area are present to create new species rich grasslands and meadows which are nationally considered to be habitats under threat and therefore a priority.

In addition to the ecological and general environmental benefits, the enhancement and creation of Blue-Green infrastructure on the flood plains will also create new vistas in the landscape, potentially enhancing the value of the area, drawing in visitors from the wider area and contributing to the area's economy.

Example of lack of vegetation along river bank leading to gradual erosion of the bank

Example of pasture extending to waters edge - potential nitrates run-off into watercourse with limited biodiversity and habitat

Example of historic hedgerow gapped over time that would benefit from gapping up to increase connectivity and biodiversity

Long extents of engineerd river bank - low biodiversity and diminished habitat

Remnant field isolated by flood defence

Long extents of engineerd river bank - low biodiversity and diminished habitat

What might it cost?

Indicative rates for large scale environmental enhancement

Mixed native hedgerow planting (Double row, guards, planted) per 100m	£580
Native woodland planting 2m centres, guards, planted) per Ha	£12,810
Wild flower meadow seeding (Cultivation and seeding) per Ha	£50

Standard Native tree planting 10-12cm girth, 300-350cm, single stake) each	
Quercus robur (Oak)	£105
Betula pendula (Birch)	£100
Prunus avium (Cherry)	£100
River backwater creation assumes 50m channel, 5m wide, 1.5m deep arisings retained on site)	£18,375

These costs are provided as an indicative price for budgetary purposes and would vary according to quantity, ground conditions, planting specification and access.

The costs do not include:

- Design
- Survey and archaeological investigations
- Planning concent
- Professional fees
- Maintenance

© Environment Agency 2020
All rights reserved. This document may be reproduced with prior permission of the Environment Agency.
All photographs taken by Atkins unless otherwise noted.

Appendix D

Long and Short Term Actions

Long and Short Term Actions

The following actions have been compiled based on the outputs of workshops and meetings of the Trent Gateway Working Group and contributions from the Working Group Partners. It is not intended that this should be a definitive list but is a snap shot in time of a range of actions that would contribute to delivery of the Trent Gateway Vision and Strategic Objectives.

Each action is shown with an indicative cost range as follows:

£££££ >£1million
£££ >£500k
££ >£100k
£ <£100k

Key to Lead Partners:

AT – Angling Trust
CRT – Canal & River Trust
EA – Environment Agency
LA – Local Authority
LEP – Local Enterprise Partnership
Notts BAG – Biodiversity Action Group
NTU – Nottingham Trent University
NWT – Nottinghamshire Wildlife Trust
RSPB – Royal Society for the Protection of Birds
TRT – Trent Rivers Trust

Short Term Projects (1-5 years)

Ref	Project	Description	Lead Partner	Theme Group	Cost range
TG01	Colwick Country Park Visitor Hub	Establish a new high quality visitor's centre. Promote natural heritage, the River Trent and historic features. Create education centre and visitor hub for Nottingham and incorporate interpretation and education about the EA Holme Sluices fish pass and the River Trent.	LA	Community / Education	£££
TG02	Holme Sluices (Colwick) Fish Pass	Installation of all species fish pass at Holme Sluices, Colwick. Including viewing platform and associated interpretation about how the fish pass works and the species of fish that will use it.	EA	Environment / Wildlife / Ecology	££££
TG05	Averham Weir - fish pass	Installation of all species fish pass at Averham Weir to improve access upstream for migrating fish species.	EA	Environment / Wildlife / Ecology	££££
TG13	Fry refuges and connections to existing wetland sites.	Desilt the fish fry refuge and reset the inlet level of existing fry refuges at Kneeton & Thrumpton. Also seek opportunities for improving connections for fish fry and eels to wetland sites along the River Trent.	EA	Environment / Wildlife / Ecology	££
TG15	INNS Control & Management	Seek opportunities to fund invasive species (floating pennywort, Himalayan balsam, Japanese knotweed, Mink) control. Also consider from a biosecurity point of view when working up any existing/future projects. We don't want to see any river enhancements to create greater problems on the Trent for INNS.	Notts BAG	Environment / Wildlife / Ecology	£
TG16	Citizen Science Webcam Project	Installation of webcams to record Salmon jumping at weirs. Possible citizen science project to record numbers. TRT to host on their website and cameras linked to visitor hubs to show activity and 'Live feed' using fish monitoring technology to show progress upstream.	TRT	Environment / Wildlife / Ecology	££
TG17	Interpretation at Trent valley wildlife attractions	Create over-arching programme designed to interpret the story of the valley through variety of interpretation. Smaller site-based interpretation projects to improve visitor experience at key attractions and across the Trent Gateway area. Explore options to have mobile display that can tour the key attractions in the area showing how the area has changed.	NWT	Community / Education	£
TG19	Langford Western Extension	Restore mineral workings along the Trent corridor via the 'restoration after minerals' and 'Bigger & Bigger' concept. Initial focus on options at Langford to create connection to the "western extension" in collaboration with RSPB / Tarmac.	RSPB	Environment / Wildlife / Ecology	££

Short Term Projects (1-5 years)

Ref	Project	Description	Lead Partner	Theme Group	Cost range
TG22	Langford tower viewing platform & bird hide	Create viewing tower bird hide at Langford to be able to see the reserve and River Trent (upstream & downstream). Incorporate interpretation about the reserve and the River Trent.	RSPB	Community / Education	££
TG23	Promote / enhance economic opportunities	Promotion of points of historic / cultural interest and viewing points, particularly at Ladybay Bridge and in city centre, Colwick Industrial Estate, Boots Regeneration Site, Waterside Regeneration Area, and The Meadows.	LEP	Connections / Recreation	£
TG26	Trent Connections - Connect communities with riverside routes	Linked to the Local Access Forum we will seek to improve access, looking at gaps in existing networks including canoeing, walking and cycling. Explore new routes that will link communities with the river to improve connections for daily use such as commuting and ensuring links with national trails. Support initiatives to improve access and ensure long-term management through volunteers.	LA	Connections / Recreation	££
TG26.3	Trent Connections - The Bigger Track & Trent Valley Way	Extend the Big Track to include Holme Pierrepont, Grantham Canal, Barton and Clifton Wood & Colwick. Review the signage and interpretation along Trent Valley Way across the project area and look for opportunities to create biodiversity and improve access links between existing sites.	LA	Connections / Recreation	££
TG26.4	Trent Connections - Erewash Multi User Trail	Extending the Trent Valley Way and multi user trail from Attenborough to Trent Lock.	LA	Connections / Recreation	££
TG26.5	Trent Connections - Sawley towpath improvements	Improve the section of towpath from Sawley to Long Horse Bridge.	LA	Connections / Recreation	££
TG27	Develop and deliver riparian tree planting along the Trent corridor. "Trees on the Trent".	Promote and plant distinctive species (willow, alder and poplars inc. black poplar) immediately adjacent to the River to strengthen the landscape profile of the river corridor and provide additional habitats.	TRT	Environment / Wildlife / Ecology	£
TG28	Erewash fish pass & Attenborough SSSI Restoration	Installation of fish pass and separation of river from the Attenborough lakes at confluence of River Erewash & Trent.	NWT	Environment / Wildlife / Ecology	££
TG29	River Trent Education Programme at key sites	Interpretation and education programme about the River Trent - develop education activities. Provide further opportunities to schools and visitors. Sites include Attenborough, Colwick, Langford, Besthorpe, Holme Pierrepont, Skylarks and Trent Lock.	NWT	Community / Education	££

Short Term Projects (1-5 years)

Ref	Project	Description	Lead Partner	Theme Group	Cost range
TG30	Trent Canoe Trail - The Big Paddle	Create a circular recreational route for canoes and other small craft, connecting to the Big Track cycle route. Include installation of Floating bins which clear debris and plastic from the water (SeaBins). Litter and clean ups carried out by kayakers and boaters to collect plastics and other litter.	CRT	Connections / Recreation	£
TG34	Trent Valley Biodiversity Opportunity Mapping (BOM)	Use the BOM to prioritise opportunities and seek funding to deliver. Action would be to create more focussed mapping and costings associated with the most realistic projects and those that would link to the TG vision and catchment partnership.	TRT	Environment / Wildlife / Ecology	£
TG35	Enhance riverside visitor facilities	Develop and promote of new pubs, tea rooms and ancillary facilities along the riverside.	LA	Community / Education	£
TG37	Marketing strategy	Develop strategy to promote the area as a destination. Implement consistent signage, way marking, street furniture etc.	NTU	Connections / Recreation	£
TG38	Trent Gateway promotional film	Using either new footage or that already collected create a short and slick promotional film about the project. Highlighting the journey of the Salmon / Eels / Lamprey. Professional looking. Seek presenter to give a more personal touch. Interview river users, anglers, conservationists, volunteers.	EA	Environment / Wildlife / Ecology	£
TG40	Pontoon fish refuges	Using boat moorings to provide overhead cover shelter for fish and refuge from cormorant predation. Explore options to roll out the installation of refuge frames to all suitable CRT owned moorings on the Lower Trent.	CRT	Environment / Wildlife / Ecology	££
TG41	Trail of the Civil War - Nottingham Castle to Newark Castle	Interpretation and signage to link the role the River Trent played in the English Civil War. Use of the Civil War museum in Newark and the restored Nottingham Castle.	LA	Heritage / History	££
TG42	Restoration of clapper gates along the Trent	Distinct and unique feature of our River Trent, dating from 1783. Potential volunteer engagement project and extending work done in Trent Vale. Volunteers to record and reclaim parts which are in danger of being lost, and for skilled carpenters or joiners to repair and in some cases create new gates to help maintain this key heritage feature.	CRT	Heritage / History	££

Short Term Projects (1-5 years)

Ref	Project	Description	Lead Partner	Theme Group	Cost range
TG45	Satellite visitor hubs – Sawley / Trent Lock / Beeston	These sites offer potential as visitor hubs with improved interpretation and potential for education programmes events and activities. Development of an events programme / citizen science projects / lets fish / volunteer programme / education activities and curriculum relevant teacher packs / Riverside festival	CRT	Community / Education	£
TG46	Trent water taxi feasibility	Investigate feasibility of water taxi service to link key destinations along the Trent.	CRT	Connections / Recreation	£
TG47	Fish Monitoring Project	Gather baseline data through fish monitoring and consider which of the weir upgrades could have a fish counter built in to the design.	EA	Environment / Wildlife / Ecology	££
TG48	River Trent Schools / Community Art Trail	Public art and an informative walking trail. Getting local schools to work with a artist to create species mosaics or sculptures along the river for people to find.	LA	Community / Education	£
TG51	BAME Environmental Engagement	Targeted education / engagement programme to 'harder to reach' minority groups in the area using River Trent destinations and experiences.	NWT	Community / Education	£
TG52	University project opportunities	Working with Nottingham Trent University and University of Nottingham provide opportunities for students to carry out research or analysis projects that benefit Trent Gateway as part of their courses. Engagement with communities, marketing, media, ecology monitoring, engineering, etc.	EA	Community / Education	£
TG53	Angling participation	Seek opportunities to increase participation in angling on the River Trent through working with partners such as the Angling Trust and local angling clubs.	AT	Connections / Recreation	£
TG55	Angling improvements	Explore options for improved angling access / better facilities. Working with clubs to make improvements and allow greater access for 'have a go' sessions?	AT	Connections / Recreation	£

Medium Term Projects (5-10 years)

Ref	Project	Description	Lead Partner	Theme Group	Cost range
TG03	Cromwell Weir - fish pass	CRT owned weir. Proposed Hydro Electric Power scheme with associated fish pass. Explore options and other added value benefits in surrounding area. develop interpretation around these and education activities	CRT	Environment / Wildlife / Ecology	££££
TG06	Gunthorpe Weir - fish pass	CRT owned weir. Proposed Hydro Electric Power scheme with associated fish pass. Explore options and other added value benefits in surrounding area. Some options for footpath improvements along right bank between weir and Kneeton. CRT to develop interpretation around these and education activities	CRT	Environment / Wildlife / Ecology	££££
TG07	Hazelford North Weir - fish pass	CRT owned weir. Proposed Hydro Electric Power scheme with associated fish pass. Explore options and other added value benefits in surrounding area. develop interpretation around these and education activities	CRT	Environment / Wildlife / Ecology	££££
TG08	Sawley Weir - fish pass	CRT owned weir. Explore fish pass options and other added value benefits in surrounding area. develop interpretation around these and education activities	CRT	Environment / Wildlife / Ecology	££££
TG09	Stoke Bardolph Weir - fish pass	CRT owned weir. Proposed Hydro Electric Power scheme with associated fish pass. Explore options and other added value benefits in surrounding area. develop interpretation around these and education activities	CRT	Environment / Wildlife / Ecology	££££
TG10	Thrumpton Weir - fish pass	Installation of all species fish pass at Thrumpton.	EA	Environment / Wildlife / Ecology	££££
TG25	Water Vole / Otter populations along the River Trent and its tributaries.	Undertake study of areas suitable for the re-introduction and enhancement of existing Water Vole / Otter populations along the River Trent and its tributaries. Implement works for the promotion and enhancement of habitats. But need to include mink control within this project brief as this will be essential before any water vole reintroductions could be considered.	NWT	Environment / Wildlife / Ecology	££
TG26.1	Trent Connections - Colwick to Stoke Bardolph Cycle Track	Extending the riverside path on the top of the flood embankment east of Colwick Park towards Stoke Bardolph.	LA	Connections / Recreation	££

Medium Term Projects (5-10 years)

Ref	Project	Description	Lead Partner	Theme Group	Cost range
TG26.2	Trent Connections - restore historic ferries for pedestrians / cyclists	Explore options for improved access across the River Trent by restoring historic ferry crossings on weekends / bank holidays.	LA	Heritage / History	££
TG26.6	Trent Connections - new footbridge	Ambition to create new bridge across the river. It would span between the south end of Poulton Drive (west of Trent Basin) on the left bank and, on the right bank, from scrubland just north of the Rugby Ground.	LA	Connections / Recreation	£££££
TG44	Besthorpe Nature Reserve habitat improvements	Using Trent dredge deposits to provide shallow depth areas within nature reserve - reduced cost of dredging project & more sustainable use of resources.	CRT	Environment / Wildlife / Ecology	££
TG57	Better portage access around weirs	Assess opportunities for portage around weirs on the Lower Trent. Specifically Shardlow weir, Thrumpton weir, Stoke bardolph weir, Gunthorpe weir, Hazelford weirs - both weirs, Averham weir, Nether weir, and Cromwell weir.	CRT	Connections / Recreation	£

Long Term Projects (10-20+ years)

Ref	Project	Description	Lead Partner	Theme Group	Cost range
TG12	Reconnected Floodplains	Enhance the ecological functionality of the river corridor to north and south of the Trent. Investigate opportunities to restore natural floodplains in lowland areas. Assess minor flood defences along the Lower Trent with the view to potential realignment or floodplain reconnection.	EA	Environment / Wildlife / Ecology	£££
TG26.7	Trent Connections - Grantham Canal Trent Link	Aspirational project to restore a link between the Trent and the Grantham Canal.	CRT	Connections / Recreation	££££
TG43	Grantham Canal Lock No.1 - Marina	Restoration of lock gates and potential wharf/marina at the end of the Grantham Canal. Potential links to City Ground redevelopment.	CRT	Heritage / History	£££

© Environment Agency 2020
All rights reserved. This document may be reproduced with prior permission of the Environment Agency.

Appendix E
References

References

Environment Agency eMission2030
https://www.gov.uk/government/news/environment-agency-sets-net-zero-emissions-aim

Environment Agency 5 Year Action Plan EA2025

D2N2 Strategic Economic Plan-Vision 2030
http://www.d2n2lep.org/SEP

'A Green Future' DEFRA 25 Year Environment Plan
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

Nottinghamshire Local Biodiversity Action Plan (2nd Edition July 2018)

National Character Area 48: Trent and Belvoir Vales to the north
National Character Area NCA 69 Trent Valley Washlands to the south
https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles

Nottinghamshire Rights of Way Management Plan (ROWMP) 2018-2026
https://www.nottinghamshire.gov.uk/media/129245/rightsofwaymanagementplan20182026.pdf

The 'Bigger and Better' vision - published by the RSPB
http://ww2.rspb.org.uk/Images/biggerandbetter_tcm9-401346.pdf

Nottinghamshire Landscape Guidelines 1997 - Nottingham County Council / Countryside Commission

Trent Valley Landscapes: the archaeology of 500,000 years of change
https://g.co/kgs/kJBQyN

Trent Valley Palaeolithic Project
https://www.dur.ac.uk/research/directory/view/?mode=project&id=286

Trent Valley Geoarchaeology
https://web.archive.org/web/20061014194100/http://www.tvg.bham.ac.uk/

Historic aggregate extraction
https://archaeologydataservice.ac.uk/archives/view/aitv_eh_2007/

Nottinghamshire LWS Handbook
https://www.nottinghamcity.gov.uk/media/2322555/notts-lws-handbook-part-1-draft-july-2018.pdf

Additional photographs curtesy of:

© Copyright Simon Mortimer and licensed for reuse under this Creative Commons Licence.
https://www.geograph.org.uk/photo/2390354

© Copyright Jonathan Wilkins and licensed for reuse under this Creative Commons Licence.
https://www.geograph.org.uk/photo/2977442

© Copyright Alan Reid and licensed for reuse under this Creative Commons Licence.
https://www.geograph.org.uk/photo/5850709

© Copyright Evelyn Simak and licensed for reuse under this Creative Commons Licence.
https://www.geograph.org.uk/photo/4512456

© Copyright Shaun Ferguson and licensed for reuse under this Creative Commons Licence.
https://www.geograph.org.uk/photo/2176241

© Copyright Trevor Harris and licensed for reuse under this Creative Commons Licence.
https://www.geograph.org.uk/photo/5469820

© Environment Agency 2020
All rights reserved. This document may be reproduced with prior permission of the Environment Agency.
All photographs taken by Atkins unless otherwise noted.

Appendix 4

Environment and Climate Change Committee

November 2019

Broxtowe Borough COUNCIL

Environment and Climate Change Committee **25 November 2019**

Report of the Strategic Director

CLIMATE CHANGE AND GREEN FUTURES PROGRAMME APPROACH

1. Purpose of report

To provide an update for Councillors on the approach to Green Futures and Climate Change Programme in Broxtowe.

2. Background

Broxtowe Borough Council has undertaken a number of initiatives to support its approach to carbon management and the environment. In 2009 the Council worked with the Carbon Trust to create a Carbon Management Plan that looked to reduce the organisation's CO_2 emissions by 25% by 2015 and a minimum of 34% by 2020. The baseline CO_2 emissions for the Council in 2009/10 was 4242 tonnes (see appendix 1). To determine the current baseline, the Council is working with the Carbon Trust to utilise its Footprint service. A further report will be presented to the next Environment and Climate Change Committee with details of the current position.

The Council has continued to work with its communities in relation to the environment and played its part in the implementation of the Tram extension. Government statistics demonstrate that between 2005 and 2017 the Borough has reduced its CO_2 emission from 5.9 to 4.4 kilo tonnes per capita, a 25.4% reduction. This includes such as industry, agriculture, transport and domestic energy use. It is anticipated that the impact of the tram will be more clearly seen in the 2018 and 2019 statistics once available (see appendix 2).

The Council has declared a Climate Change emergency setting a target of Net Zero by 2027. The intention moving forward is to deliver the emerging strategic actions, a number of which are identified within this report, as part of the Climate Change and Green Futures Programme, details of which are provided in appendix 3.

3. Financial implications

There are no current financial implications. However, as the Climate Change and Green Futures Programme matures any emerging financial implications will be reported to the committee.

Recommendation

The Committee is asked to NOTE the report.

Background papers
Nil

Environment and Climate Change Committee **25 November 2019**

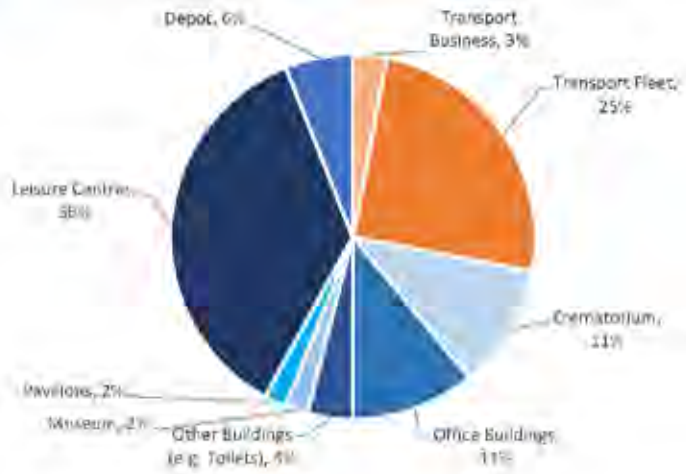
APPENDIX 1

Broxtowe Borough Council – Carbon Footprint

The Carbon Management plan was developed in 2009 as a result of the Council working with the Carbon Trust. The plan provided a baseline and a list of projects to be delivered between 2009/10 and 2014/15. Extracts of the plan are provided below for information.

Baseline Summary CO_2 emissions (tonnes) and costs for 2009/10

Category		tCO_2e 2009/10	%	£
Buildings	Depot, Kimberley including offices	246	6	50,942
	Pavilions	97	2	20,669
	Museums	73	2	15,543
	Leisure Centres	1524	36	298,727
	Other buildings include toilets and cemetery chapels	170	4	37,309
	Office Buildings including the Town Hall, Council Offices, Cash Offices, Cavendish Lodge, 14 Devonshire	482	11	104,187
	Crematorium	474	11	92,594
Total		**3,066**	**72%**	**619,971**
Transport	Fleet	1049	**25%**	**349,698**
	Business	127	**3%**	**44,947**
Grand Total		**4,242**	**100%**	**1,014,616**



A total of 37 quantified projects and a further 23 unquantified projects were identified as part of the Carbon Management Plan. Many of these projects and more were successfully delivered including for example: -

- Rationalisation of buildings
- Introduction of photo voltaic cells on the Council Offices
- Replacement of bulbs with LED lighting
- More accurate metering
- Virtualisation of much of the core ICT estate
- Reduction in printing devices
- Redesign of the fleet replacement programme resulting in extending the life of vehicles
- Redesign of refuse rounds resulting in reduction of fuel usage
- Installation of combined heat and power units

The Council has engaged the Carbon Trust to perform a new baseline exercise utilising their Footprint service. The results will demonstrate the progress the Council has made and in addition the exercise will provide the necessary tools to enable the Council to generate its own annual baseline moving forward, allowing progress to be measured more accurately.

APPENDIX 2

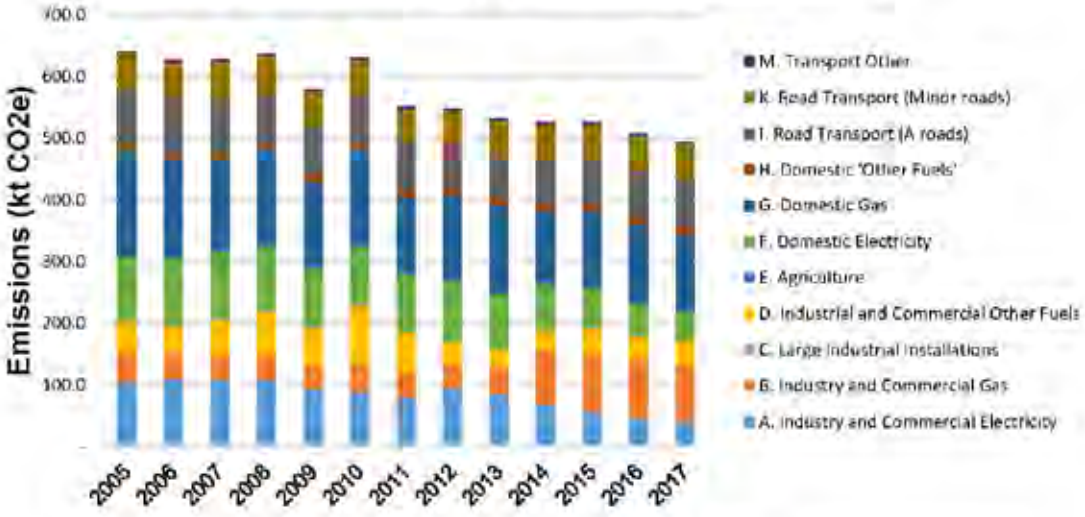
Broxtowe Borough – Carbon Footprint

The Broxtowe Borough is calculated to have emitted 493.6 kt CO_2e in 2017 (source: UK local authority carbon dioxide emissions national statistics). The breakdown of CO_2 from the key sectors is shown in the table below.

Sector	2017	Sector Description
Domestic	185.2 kt CO_2e	This is the heat and electricity usage from domestic dwellings in Broxtowe Borough including social housing
Non-domestic	174.5 kt CO_2e	The usage from commercial, industrial, retail and public sector properties
Transport	133.9 kt CO_2e	Carbon from all vehicles including cars, LGVs, motorcycles, buses and HGVs

The graph below provides a summary of the Borough of Broxtowe's carbon emissions from 2005 to 2017. The trends show that emission have fallen 25.4% from nearly 640.5 kt CO_2e in 2005 (5.9 tCO_2e per capita) to 493.6 kt CO_2e in 2017 (4.4 tCO_2e per capita).

Broxtowe Borough Council CO2 Emissions by Sector and Fuel



The Council has continued to work with its communities in relation to the environment and played its part in the implementation of the Tram extension. It is anticipated that the impact of the tram will be more clearly seen in the 2018 and 2019 statistics once available.

Note: A Committee on Climate Change progress report to parliament notes that the national reductions have mostly been a result of the reduction in carbon from electricity generation for domestic and commercial sectors, due to the increasing level of renewable generation and reduction in the use of coal. Energy efficiency has also

reduced overall demand for electricity and gas over the period by 20% and 30% respectively. However, efficiency in gas use has stalled in the last 5 years. Reductions in other sectors such as transport and heat have been much smaller.

https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2017

APPENDIX 3

Climate Change and Green Futures Programme

The Council has declared a Climate Change emergency setting a target of Net Zero by 2027. The intention moving forward is to deliver the emerging strategic actions, a number of which are identified within this report, as part of the Climate Change and Green Futures Programme.

The Steering Group for the programme is taken from across the Council to demonstrate a truly authority wide approach to delivery of the programme objectives: -

- Strategic Director
- Head of Environment
- Head of Housing
- Head of Public Protection
- Head of Property
- Head of Neighbourhood and Prosperity

Highlight reports will be produced quarterly and be used to report overall programme progress. Reports will be generated for the General Management Team as required.

The programme currently contains a number of project strands. These include: -

- Climate Change Strategy
- Fuel
- Transport and Fleet Strategy
- Energy and Building Infrastructure
- Employee and Business Mileage
- Water Courses
- Meadow Planting / Wildlife Corridors
- Tree Planting
- Recycling
- Housing Delivery
- Housing Improvements
- Core Strategy / Planning
- Technology
- Air Quality
- Hospitality / Support

A short update is provided below under each of the named project strands.

1. Climate Change Strategy

   The strategy and the programme are emerging so it is expected that new actions and new project strands will be added to the programme as time progresses and our understanding matures.

The importance of establishing a sound foundation based on accurate data cannot be under estimated. By working with the Carbon Trust the Council is looking to achieve a solid foundation on which to measure future progress.

In the Corporate Plan 2019- 2023 Broxtowe Borough Council's vision is "A greener, safer, healthier Broxtowe where everyone prospers". The key Environmental objective in achieving this vision is to "protect the environment for the future" with the three priorities being to: -

- Develop plans to reduce our carbon emissions to zero and start implementing them.
- Invest in our parks and open spaces.
- Increase recycling and composting.

The strategic vision for the Climate Change Strategy is to:

Act now! to reduce the Council's carbon footprint to net zero by 2027 and influence, encourage and assist households, businesses and schools within the Borough to strive towards the same goal

No.	Strategic actions	Owner
1	Establish a baseline for CO_2 emissions for 2018/19 focusing on level 1 and level 2 emission sources. Compare with previous baseline and report position	Strategic Director / Head of Environment
2	Ensure methodology followed in strategic action 1 is repeatable for subsequent years moving forward, allowing progress to be measured more accurately.	Strategic Director / Head of Environment
3	Establish a baseline for CO_2 emissions based on level 3 emission sources (e.g. impact of supply chain, housing stock, employee travel to and from work)	Strategic Director / Head of Environment
4	Deliver the Climate Change and Green Futures Programme including the creation of a full Climate Change Strategy and Carbon Management Plan (CMP)	Strategic Director
5	Develop further strategic actions following the carbon footprint analysis and partnership engagement.	Strategic Director / Head of Environment

Further actions will be added as the strategy emerges.

2. Fuel

The Council has redesigned its residual waste (black bin) rounds resulting in a reduction of fuel used by 32,000 litres. In addition, two electric vehicles have been purchased as part of the vehicle replacement programme in 2019/20, as well as carbon reduction a further advantage will be the reduction in fuel consumed.

No.	Strategic actions	Owner
1	Reschedule the recycling and green waste rounds in order to deliver economies in regards to fuel usage and better utilisation of vehicles in the fleet.	Operations Manager
2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Transport and Fleet Manager
3	Develop further strategic actions as part of the Fuel project strand delivery including the potential for smarter driving courses and educational material for employees, members, businesses and the wider community on how fuel economies can be achieved.	Transport and Fleet Manager

3. Transport and Fleet Strategy

The current Transport and Fleet Strategy is to be refreshed in 2019/20. During the current strategy improvements have been made in reducing the cost of managing the fleet by refurbishing rather than replacing vehicles and rationalising the fleet in order to achieve the delivery of the Council's business requirements with fewer vehicles.

No.	Strategic actions	Owner
1	Create a new Transport and Fleet Strategy with a focus where economically appropriate on electric vehicles.	Transport and Fleet Manager
2	Develop a plan for the further introduction of appropriate infrastructure to support potential growth in the electric fleet and growth in domestic use of electric vehicles.	Transport and Fleet Manager
3	Using available the data, produce a report on vehicle types registered in the Borough along with scenarios indicating the behavioural change necessary to help achieve net zero by 2027.	Transport and Fleet Manager
4	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Transport and Fleet Manager
5	Develop further strategic actions as part of the Transport and Fleet Strategy project strand delivery.	Transport and Fleet Manager

4. Energy and Building Infrastructure

The energy consumed by the Council is purchased from green energy sources. As a result of, for example the rationalisation of building assets and the greater energy efficiency of electrical devices the energy consumption of the Council has reduced. The carbon footprint exercise currently being undertaken will help to inform exactly how much improvement has been made over time.

Building assets have been rationalised, photo voltaic cells have been installed on the main Council Offices and at some of the Housing Schemes. Work must now be undertaken as part of the Climate Change and Green futures programme to determine the extent of the positive impact of this activity.

No.	Strategic actions	Owner
1	Capture and analyse the achievements to date in regards to energy consumption / creation to inform the approach moving forward and to inform the overarching communications programme.	Head of Property
2	Determine and report on approaches that will assist in reducing the organisations energy consumption further.	Head of Property
3	Capture and analyse the achievements to date in regards to building infrastructure to inform the approach moving forward and the overarching communications programme.	Capital Works Manager
4	Determine and report on approaches that will further assist the Council's building infrastructure reduce its carbon emission	Head of Property / Capital Works Manager
5	Develop further strategic actions as part of the Energy and Building Infrastructure project strand delivery.	Head of Property / Capital Works Manager

5. Employee and Business Mileage

Business mileage has reduced by in excess of 40% over the last 10 years. Employee home to work mileage is not fully understood particularly as new initiatives such as New Ways of Working have introduced more agile working arrangements for some employees where service levels can be maintained or enhanced. A questionnaire is therefore being developed to help capture the current baseline so that future activity can be measured accurately.

No.	Strategic actions	Owner
1	Capture and analyse the achievements to date in regards to the reduction in business mileage to inform the approach moving forward and to inform the overarching communications programme.	Payroll and Job Evaluations Manager
2	Determine and report on approaches that may assist in reducing the Council's carbon emission impact of business mileage.	Payroll and Job Evaluations Manager
3	Create a baseline in regards to employee home to work mileage to inform the approach moving forward and to inform the overarching communications programme..	HR Manager
4	Determine and report on approaches that will further assist the reduction in the carbon emission impact of employee home to work travel (e.g. effect of new ways of working)	HR Manager

No.	Strategic actions	Owner
5	Develop further strategic actions as part of the Employee and Business Mileage project strand delivery including for example material that promotes the benefits of public transport and electric vehicles.	Payroll and Job Evaluations Manager / HR Manager

6. Water Courses

A report on the management of water course appears on the Environment and Climate Change Committee agenda for 25 November 2019. Details of the agencies involved in managing water courses within the Borough and particularly the flood risk is explained in the report. Acknowledgement of the importance of maintaining both the blue and the green infrastructure in order to protect the environment for the future and enhance the wildlife corridors, will be the subject of a future report to the Committee.

No.	Strategic actions	Owner
1	Continue to work in partnership with all relevant organisation to maintain the blue infrastructure in Broxtowe.	Business and Projects Manager
2	Determine and report how the Blue and Green Infrastructure can be enhanced to help protect the environment for our native wildlife corridors.	Business and Projects Manager
3	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Business and Projects Manager
4	Develop further strategic actions as part of the Water Courses project strand delivery.	Business and Projects Manager

7. Meadow Planting / Wildlife Corridors

In 2015 the Council created its Green Infrastructure Strategy 2015 to 2030. The strategy identified the two primary wildlife corridors and the 23 secondary wildlife corridors that exist within the Borough.

A budget bid had been prepared for the 2020/21 budget, for the creation of new meadow planting and enhancement of existing meadow planting. This will further enhance the wildlife corridors within the Borough.

No.	Strategic actions	Owner
1	Continue to deliver the action within the Green Infrastructure Strategy 2015 - 2030.	Business and Projects Manager
2	Determine and report how the green and blue infrastructure can be enhanced to help protect the environment for our native wildlife corridors.	Business and Projects Manager
3	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Business and Projects Manager

No.	Strategic actions	Owner
4	Develop further strategic actions as part of the Meadow Planting / Wildlife Corridors project strand delivery.	Business and Projects Manager

8. Tree Planting

In 2018 the Council adopted the Tree Planting Strategy this was following an already successful initiative to plant over 100,000 trees within the borough. The Tree Planting Strategy was enhanced in 2019 to allow for 2000 trees to be planted annually. An initiative to provide free fruit trees to residents of the borough to plant in the borough has also recently been delivered. A report detailing this initiative appears on the Environment and Climate Change Committee agenda for 25 November 2019.

No.	Strategic actions	Owner
1	Continue to deliver the actions within the Tree Planting Strategy 2018.	Business and Projects Manager
2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Business and Projects Manager
3	Determine and report on how the Tree Planting Strategy can be enhanced to help provide greater opportunities to encourage residents, schools and businesses to plant more trees and look at innovative ways to achieve the Council's tree planting goals including for example pocket orchards, community orchards and further free tree initiatives.	Business and Projects Manager
4	Develop further strategic actions as part of the Tree Planting project strand delivery.	Business and Projects Manager

9. Recycling

In 2018 the Council adopted a Single Use Plastics Policy.

As part of the Clean and Green initiative free bulky household waste collection events have been successfully run throughout the borough. This programme is to be enhanced during December, January and February this financial year to include one free weekly collection per month, three free weeks in total. This activity will help to achieved greater utilisation of refuse vehicles during months where the green waste collection service is reduced to once per month.

Broxtowe has worked in partnership with Nottinghamshire County Council to engage with schools to help educate our younger residents on the topic of recycling.

A budget bid has been made for the 2020/21 budget for additional resources in order to focus on educational activity within the Borough focusing on households. Analysis commissioned by Veolia indicates that if all of the recyclable material was

placed in the recycle bin then Broxtowe's annual recycling rate, currently at 39%, would exceed 50%.

No.	Strategic actions	Owner
1	Continue to embed the intent within the Single Use Plastics Policy 2018	Environment and Business Development Manager
2	Develop a programme of activity to ensure that additional resources are immediately effective from appointment	Environment and Business Development Manager
3	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Environment and Business Development Manager
4	Work with the Nottinghamshire Joint Waste Management Group to lobby for additional materials to be recycled.	Environment and Business Development Manager
5	Develop further video and educational material for schools, businesses, households, and employees in order to encourage behavioural change in regards to recycling.	Environment and Business Development Manager
6	Develop further strategic actions as part of the Recycling project strand delivery.	Environment and Business Development Manager

10. Housing Delivery

In 2019 the Council adopted the Housing Delivery Plan 2019 - 2029. An Interim Housing Delivery Manager was appointed to ensure that the appropriate dedicated resource was focus on this important area of work.

No.	Strategic actions	Owner
1	Continue to deliver the actions within the Housing Delivery Plan 2019 – 2029 .	Head of Housing
2	Research eco-friendly methods of construction.	Head of Housing
3	Identification of potential solutions to reduce on-going energy use, including: ▪ Air Source Heat Pumps ▪ Ground Source Heat Pumps ▪ PV Panels ▪ Water Conservation ▪ Energy efficient lighting ▪ Small wind turbines.	Head of Housing
4	Review of existing environmental solutions included in new build developments at Broxtowe	Head of Housing

No.	Strategic actions	Owner
	Borough Council in last ten years, including survey of tenant experience.	
5	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Housing
6	Determine and report on how the Housing Delivery Plan can reduce carbon impact for all new developments.	Head of Housing
7	Develop further strategic actions as part of the Housing Delivery project strand delivery.	Head of Housing

11. Housing Improvements

A stock condition survey has recently been commissioned which will identify opportunities to improve the energy efficiency of the Council's Housing and inform the creation of a new Asset Management Plan for the Housing Stock. Central Governments Decent Homes Standard and the Council's own Broxtowe Standard have been used to inform the quality of the Council's Housing Stock.

No.	Strategic actions	Owner
1	Formulate the appropriate response to the outcome of the stock condition survey.	Capital Works Manager
2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Capital Works Manager
3	Research alternatives to conventional heating systems and report finding.	Capital Works Manager
4	Develop further strategic actions as part of the Housing Improvements project strand delivery.	Capital Works Manager

12. Core Strategy / Planning

The review of the Aligned Core Strategy (ACS) for Greater Nottingham is underway and will include consideration of issues relating to climate change and flood risk. The first consultation document will be published in early 2020 and adoption is expected in December 2021. The review of the ACS will be in the context of the National Planning Policy Framework (NPPF), which includes an important section on 'Meeting the challenge of climate change, flooding and coastal change'.

No.	Strategic actions	Owner
1	Include proposals relating to energy efficiency and climate change as part of ongoing work on implementing Policy 17 of the Part 2 Local Plan, 'Place-making, design and amenity'	Head of Planning and Economic Development
2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Planning and Economic Development

No.	Strategic actions	Owner
3	Gather evidence, including viability evidence, to inform ACS policies that will enforce / expand on NPPF requirements regarding energy efficiency and climate change	Head of Planning and Economic Development
4	Develop further strategic actions as part of the Core Strategy / Planning project strand delivery.	Head of Planning and Economic Development

13. Technology

The latest ICT Strategy 2017-2021 includes the requirement to procure energy efficient hardware and to dispose of equipment that has reached the end of its life in an environmentally friendly way. Previously the strategy has delivered virtualisation of the core server infrastructure (e.g. reduction in the number of devices required from over 100 servers to 8), energy efficient hardware, rationalisation of the printer estate, and soft phones that exist on the laptop / PC rather than being a physical device.

No.	Strategic actions	Owner
1	Continue to deliver the actions contained within the ICT Strategy 2017-2021	ICT Manager
2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	ICT Manager
3	Monitor technology development to ensure the Council is above to take advantage of developments that are economically and environmentally advantageous.	Strategic Director / ICT Manager
4	Develop further strategic actions as part of the Technology project strand delivery.	ICT Manager

14. Air Quality

The Council has introduced changes in Taxi Licensing Conditions at Broxtowe Borough Council: from the 13 June 2018, all new petrol vehicles are required to meet Euro 5 standards, all new diesel vehicles are required to meet Euro 6 emissions. Hybrid and Electric Vehicles will be licensed as "Taxis" by quoting minimum 70kW and reducing boot space requirement to allow for battery storage.

Low Emission Fleet Vehicles – Broxtowe Borough Council have purchased three new Euro 6 vehicles to replace three older more polluting vehicles.

Broxtowe Borough Council participates in the United Kingdom Nitrogen Dioxide diffusion tube network and has 43 diffusion tubes sites throughout the Borough. The sites are primarily monitoring the M1 corridor and the A52. Some of the diffusion tubes are sited within and near to the existing Air Quality Management Area (AQMA), which is situated in Trowell. Monitoring is still being undertaken in the three revoked AQMAs to ensure that the concentrations remain below the air quality objective. The Air Quality Annual Status report approved by DEFRA.

No.	Strategic actions	Owner
1	Continue to provide an annual Air Quality Status Report for the Borough which is fit for purpose	Head of Public Protection and HR
2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Public Protection and HR
3	Continue to work with relevant partners in order to bring about improvements in local air quality	Head of Public Protection and HR
4	Review the NO_2 diffusion tubes network; take proactive action to discontinue sites where the annual air quality levels are comfortably below the objective, and relocate them to new sites within the Borough allowing the identification of "problem" areas to be focussed on.	Head of Public Protection and HR
5	Develop further strategic actions as part of the Air Quality project strand delivery.	Head of Public Protection and HR

15. Hospitality / Support

The implementation of the New Ways of Working environment has enabled a review and refresh of the way in which hospitality is provided for employees, visitors and members. Other than using up remaining stock the Council has removed the single use plastic and paper cups within the main Council Offices.

No.	Strategic actions	Owner
1	Determine and report on approaches that can further reduce the use of single use resources in both the areas of hospitality and support services.	Head of Administration
2	Capture and analyse the achievements to date to inform the approach moving forward and the overarching communications programme.	Head of Administration
3	Develop further strategic actions as part of the Hospitality / Support project strand delivery.	Head of Administration

Appendix 5

Green Futures Resource Pack

Broxtowe Borough COUNCIL

Broxtowe Borough COUNCIL

Green Futures

A climate change resource pack for Community Groups

Green Futures
Broxtowe Borough Council

www.broxtowe.gov.uk

Overview

Climate Change is one of the most important issues we face, not just locally but nationally and worldwide. Thank you for wanting to help with the campaign.

In July 2019, the Council declared a 'Climate Change Emergency' and committed to becoming carbon neutral by 2027.

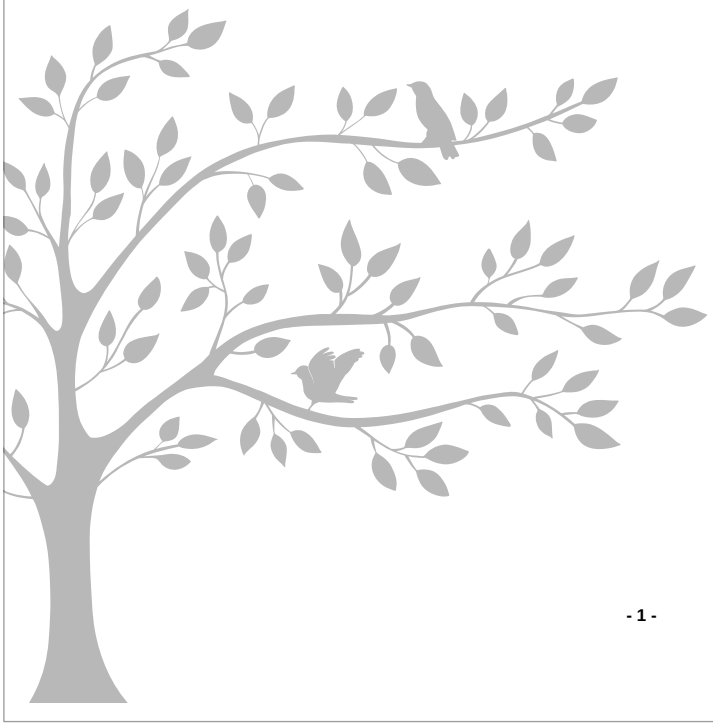
Our Green Futures campaign launched in February 2020 as part of our efforts to reach this target as an organisation and as a Borough.

There will lots of projects and initiatives taking place as part of the campaign to help us move towards this target, as well as raise awareness.

We are also asking individuals, community groups, schools and businesses to take collective responsibility for raising awareness and making changes to how they do things that will reduce their carbon footprint.

This pack has been designed to help you understand why climate change is important, what the Council is doing to tackle it and how you as groups, businesses or individuals can do your bit.

It includes promotional material that you can use through your own channels, as well as practical steps which you can take or encourage others to take.



What is climate change?

Climate Change isn't new. It's been happening for years but scientists are increasingly concerned about the rate at which climate change is occurring.

In the last 100 years we have seen 1°C of warming, which is already causing serious impacts. Climate scientists predict that past 2°C of warming the consequences of climate change will drastically affect our current way of life.

These impacts will be felt not only by us but our children, grandchildren and future generations.

It's vital that we act now before it's too late.

What is the Council doing?

Since 2009, we've been working with the Carbon Trust to reduce CO2 emissions.

Between 2005 and 2017, there was a 25.4% reduction in CO2 emissions within the Borough. That's a reduction 5.9 to 4.4 tonnes per capita.

Other Projects

We've also undertaken 60 projects as part of our Carbon Management Plan including:

- Rationalisation of buildings
- Introduction of solar panels on Council buildings
- LED lighting
- More accurate metering
- Reduction in printing devices and encouraging online channels
- Installation of combined heat and power units
- Reduction in business mileage by over 40% over the last 10 years.

At our parks and open spaces:

- Seats and picnic tables made from recycled plastic.
- Rubber safety surfacing made from shredded recycled car tyres.
- Old bark is re-used at allotment sites and used as a soil conditioner.
- Shred tree prunings and use these as walkways within woodland areas.
- Larger logs as used to create habitat piles for insects in woodland areas.
- Planted more wildflower meadows to encourage local wildlife.

In our Council homes:

- Solar power systems fitted at three of our Independent Living Schemes.
- 420 Council homes have been improved with external wall insulation.
- Over 1,300 Council homes have been improved with new SEDBUKA rated efficient boilers.
- The Council supports the award winning, Warmer Homes on prescription scheme helps low income residents with cold-sensitive long-term health conditions to achieve affordable warmth.

Transport:

- 28 electric vehicle charging points have been installed in car parks in Beeston, Eastwood, Kimberley and Stapleford.
- 32,000 litres less fuel was used by our refuse fleet in 2017/18New electric vans were introduced in 2019.

What you can do

Whether its cutting down on how much plastic you use or taking the bus rather than driving to work, there are lots of small changes we can all make to make a difference and the more of us make small changes, the bigger impact it will have!

Not only are these changes better for the environment, they can also help you to save money and improve your physical and mental health.

Getting Started

A good place to start is by completing the WWF Carbon Footprint Tool to assess what your current footprint is so you can measure how much you've reduced it by.

The tool also gives tips to help you reduce your carbon footprint in specific areas.

Try it out at www.footprint.wwf.org.uk

Travel

- Broxtowe has great public transport links so wherever you can, take the bus, tram, train or cycle.
- Why not try the Last Mile Challenge? Park further away from your destination or get off a stop early and walk the last mile.
- Try a staycation or to take one less air trip this year.
- There are a range of local journey planning services to help you plan your journey using public transport instead of your car such as Sustans www.sustrans.org.uk or www.ridewise.org.uk
- Broxtowe also has 28 electric vehicle charging points so if you're thinking about a new car, why not make the switch to electric?

At Home

- Help us reach a 50% recycling rate in Broxtowe by making sure you put the right things in the right bin! Around 15% of waste put in the general waste bin could be recycled.
- Switching your energy supplier could help save you money and make you home more energy efficient.
- Switching off lights and devices when they're not in use
- Switch to energy efficient light bulbs
- Planting trees or wildflowers in your garden can help support wildlife.

Food and drink

- Try to reduce how much meat you eat – its better for the environment and can help your waistline and bank balance! Meat-Free Monday's are a great way to introduce more vegetarian or vegan meals – recipes ideas can be found at https://www.meatfreemondays.com/
- Making a meal plan and shopping list means your less likely to overbuy and waste food. It can also help you to make the most of your leftovers for another day or tasty lunch for work.
- Eating locally and seasonally means less transportation costs and energy use to get your food to your plate. You could also try growing your own fruit and vegetables.
- Switch to re-usable containers, bottles and coffee cups. You can also buy re-usable food bags rather than plastic ones or clingfilm.
- Home composting saves money, energy, water and provides free garden compost year after year. Visit **www.broxtowe.gov.uk/composting** for more information.

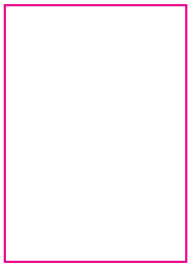
Lifestyle

- Swap make up remover wipes and cotton wool for flannels or reusable bamboo cotton pads
- Make sure you take a re-usable shopping bag out with you
- Buy less or focus on quality items, second hand or recycled items.
- Support and buy from companies who are more environmentally friendly and sustainable

Getting involved

Printable posters

It's quick and easy to put up a poster in your workplace, shop window or noticeboard with tips on reducing your carbon footprint.



Click to download the A4 poster (pdf)

Social Media

These graphics can be used on your social media accounts to help spread the message and share your commitment to tackling climate change, along with the suggested messages.

- *Help give Broxtowe a #greenfuture by doing your bit to reduce your carbon footprint www.broxtowe.gov.uk/greenfutures*
- *We've joined Broxtowe Borough Council's #GreenFutures campaign to become carbon neutral by 2027 www.broxtowe.gov.uk/greenfutures*
- *We're doing our bit for @broxtowebc's #GreenFutures campaign to make Broxtowe carbon neutral by 2027 – see how you can help at www.broxtowe.gov.uk/greenfutures*

Click to download the Facebook graphic (jpeg)

Presentation

You can use and adapt our presentation in meetings, lessons, workshops and events

Click to download the Twitter/newsletter graphic(jpeg)

Useful resources

If you're look for other ideas try:

- Energy Saving Trust - Independent advice and information on energy efficiency and renewable energy generation. Visit the Energy Saving Trust website (opens in a new window)
- Everybody's Talking about climate change - Get advice and practical information about taking action on climate change in your community. Visit the Everybody's Talking about climate change website (opens in a new window)
- Carbon Trustor Business Link - environment and efficiency - Find out how your workplace can reduce carbon emissions. Visit the Carbon Trustor Business Link - environment and efficiency website (opens in a new window)
- Eco Schools- Find out how your school can reduce carbon emissions. Visit the Eco Schools website (opens in a new window)
- 2050 Tool - Try the The Department for Energy and Climate Change's (DECC) tool to help bring down carbon emissions to 20% by 2050. Visit the 2050 tool (opens in a new window)
- Recycle your waste – find out more on our recycling pages
- WWF has a range of classroom resources for children to teach them

Broxtowe Borough Council
Foster Avenue, Beeston,
Nottingham, NG9 1AB
Tel: 0115 917 7777
www.broxtowe.gov.uk

Broxtowe Borough COUNCIL

Follow Broxtowe with social media
www.broxtowe.gov.uk/socialmedia

Sign up to EMAIL ME

Sign up for the latest news, events, updates and more, all direct to your inbox by subscribing to our Email Me Service at **www.broxtowe.gov.uk/emailme**

www.broxtowe.gov.uk

Appendix 6

Carbon Neutral Infographic

Broxtowe Borough COUNCIL

Broxtowe Borough COUNCIL

Green Futures
Broxtowe Borough Council

How we are working to be carbon neutral by 2027

In July 2019, the Council declared a 'Climate Change Emergency' and committed to becoming carbon neutral by 2027.

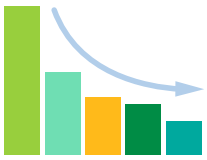
What have we done so far?

since 2009 we have . . .

25.4% reduction in CO_2 emissions between 2005 and 2017

CARBON TRUST

Been working with the Carbon Trust to reduce CO_2 emissions.

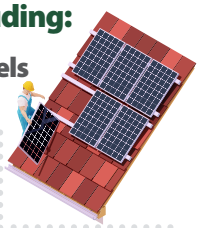


Reduction of 5.9 to 4.4 tonnes per capita within the Borough

Undertaken 60 projects as part of our Carbon Management Plan including:

Redesign of refuse rounds to **reduce fuel usage**

Introduction of **solar panels** on Council buildings



Rationalisation of buildings

More accurate metering

LED lighting

Improvements to our fleet including electric vehicles and finding ways to extend the life of vehicles

Reduction in printing devices and encouraging online channels

Installation of combined heat and power units

Why is it important?

Climate Change is one of the most important issues we face, not just locally but nationally and worldwide.

There is clear evidence to show that climate change is happening and impacting on the planet. If we don't act now, these impacts will become more severe and widespread.

You can read more about what the causes of climate change are and its impacts at **www.gov.uk/guidance/climate-change-explained**

What else have we done?

Creation of a new Committee focused on taking action on the Environment and Climate Change.

Declared a **Climate Change Emergency.**

Developed a Climate Change **Strategy and Action Plan**

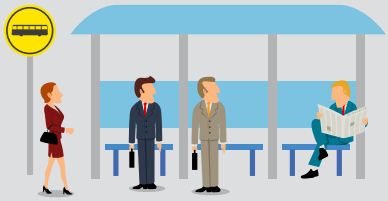
Established a **Climate Change Steering Group** to lead on 15 key areas.

CARBON TRUST

Currently working with the Carbon Trust to determine the current baseline

What can YOU do?

Whether it's cutting down on how much plastic you use or taking the bus rather than driving to work, there are lots of small changes we can all make to make a difference and the more of us make small changes, the bigger impact it will have!



Read more about some of the things you can do to help us ensure we protect the environment and have a Green Future at **www.broxtowe.gov.uk/greenfutures**