



NORWICH
City Council

Norwich City Council **Environmental** **strategy**



2020-2025

Norwich City Council

Environmental strategy 2020 - 2025

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1. Foreword

Councils have an important leadership role in creating low-carbon and climate-resilient communities. The Paris Agreement will need local, national and international action to fully deliver its objectives. Councils are the local planning authority and represent local concerns and perspectives. The council also provides a number of services to residents and visitors. We will continue to work to minimise their environmental impact, as well as working across a number of other sectors within the city to facilitate and encourage coordinated action on sustainability.

Norwich City Council has a long history of innovation, and an excellent track record for leading change. Over many years, this has helped to improve and protect the environment of this extraordinary city, one in which so many people appreciate living, working and visiting.

We must be mindful however that local authorities have had their funding reduced by an average of 60 per cent in the last 10 years and operate within the constraints of continuing financial challenges. Austerity has affected the ability of local government to respond to additional responsibilities or unforeseen events, such as severe weather events due to climatic change, or the Covid-19 pandemic which has created much uncertainty for the future of our city.

However, the Covid-19 crisis has shown the resilience of our city, and that mass behaviour change is possible and can attract widespread support. Clearly, there are useful lessons to be learnt for climate change strategy and it's imperative to address the climate emergency within the council's Covid-19 recovery programme.

Councils will therefore need to work in partnership with our citizens, businesses and other forms of government to make the step change needed to address this global climate crisis. Only by working together will we achieve our sustainability objectives and play our part in delivering a better future.

However, we also must be mindful to balance the environmental needs of the city with the social and economic needs of our citizens. Only by addressing all these elements can true sustainability be achieved. Sustainable cities are resilient cities that are able to adapt to, mitigate, and promote economic, social, and environmental change. Rest assured that we will be lobbying national government at every opportunity to encourage them to provide councils across the country with the significant levels of extra funding required to effectively tackle climate change.

This document is the fourth environmental strategy that the city council has produced and details the council's environmental vision and priorities until 2025. In shaping these priorities, we have been extremely fortunate in being able to listen to evidence from world-renowned researchers at the Tyndall Centre for Climate Change Research at the University of East Anglia (UEA). Their research has helped us set the context for our future direction and we will continue to draw on their expertise over the life of this strategy and beyond.

Since the publication of our last strategy, we have delivered a wide-ranging action plan. We have improved cycling and walking infrastructure, which has resulted in a

40 per cent increase in cycling since 2013. We have protected our parks and open spaces and promoted biodiversity. In 2008, the council set itself a target of reducing operational CO₂ emissions by 40 per cent by 2018 and we have now achieved 59.6 per cent.

The importance that we give to energy efficiency, renewables and tackling fuel poverty has also been demonstrated through our Passivhaus building, our social housing retrofitting programme and, more recently, the creation of our own renewable energy provider, Roar Power. Since the production of our last environmental strategy, Norwich City Council has also received a number of regional and national awards in recognition of our environmental successes. The city council has also recently been recognised as one of the top performing councils in the country by Friends of the Earth, for our response to the climate change emergency.

It is predicted that more people will be living in urban areas in the future, so the population and scope of the city is likely to grow. Cities have a vital role to play in the fight against climate change. They have the ability to translate global climate commitments into tangible local actions – transitioning towards more efficient circular economies. We need to drive the change towards a sustainable Norwich and meet the goals of the Paris Agreement. In leading this work, we will achieve a better future for Norwich and the planet we all share.

This is only possible if timely, clear, funded and well-designed policies to reduce emissions and mitigate against climate change are introduced across the UK. Current UK policy is insufficient for delivering the existing target, let alone the new UK net zero target of 2050. Sustainable living, defined by the International Institute for Sustainable Development as a need to ensure that *'today's citizens meet the needs of the present without compromising future generations'*, is a common thread which runs throughout the work of the council and is not a new concept for this local authority.

This new strategy commits us more than ever to working in partnership to make a real difference to how Norwich responds to climate change. The level of change required is not something that any one organisation can do alone. The city's people, businesses and institutions will need to work together to make the Norwich of 2040 a truly liveable city and the best place to be.

Finally, I wish to thank all the individuals and organisations who took the time to contribute to preparation of the strategy.



A handwritten signature in black ink, which appears to read 'K. Maguire'. The signature is written in a cursive, flowing style.

Councillor Kevin Maguire
Cabinet member for safe city environment

2. Executive summary

The council as civic leader

Councils have an important leadership role in creating low-carbon and climate-resilient communities. This strategy focuses on what action the city council can take to reduce its own carbon emissions, as well as how we can work in partnership to lower the carbon emissions of the city as a whole.

It is clear that the level of change required is not something that any one organisation can do alone. The city's people, businesses and institutions will need to work together like never before to make the Norwich of the future a truly liveable city. Taking action on climate change is a fundamental part of achieving the city's 2040 vision.

Consultation

During December 2019 - January 2020 the council undertook an online public consultation. This took the form of a questionnaire. The consultation aimed to seek feedback on the draft environmental strategy, giving the citizens of Norwich the opportunity to have their say on the way that Norwich City Council proposes to manage environmental issues within their sphere of influence. The council also reached out to various stakeholders such as the Environment Agency, other planning authorities and numerous third sector groups.

Some responses ran to over a page of A4 in length. One engaged respondent provided 19 individual answers to one question. 1831 responses were collected in total, with the responses running to over 25,000 words.

The consultation results have been scrutinised by the environmental strategy team. Consideration has been given to how viable it might be to deliver various suggestions made by respondents.

The context – Covid-19

This document is the fourth environmental strategy that the city council has produced. In shaping these priorities, the council has listened to evidence from a variety of stakeholders and scientific experts. The council has reviewed its available resources to deliver the action programme contained within this document and will also review how responding to Covid-19 may affect its delivery as well as presenting a possible new focus on the low-carbon agenda moving forwards.

The Covid-19 epidemic has been a tragedy for many families and has had a profound effect on us all. The emergency measures put in place worldwide to contain

the spread of the virus has led to the most extensive restrictions on populations since the Second World War.

There have been huge economic losses, but also some noticeable environmental and social effects: Reduced road and air transport has significantly lowered emissions of carbon dioxide and other air pollutants that affect public health, such as Nitrogen Dioxide (NO₂). There has been a massive expansion of home working, with improvements in the supporting technological infrastructure and reductions in commuting journeys. More citizens are walking and cycling as part of their everyday routine.

The crisis has shown the resilience of the city and that mass behaviour change can attract widespread support. Clearly, there are useful lessons to be learnt. It is imperative to address the climate emergency within the COVID-19 recovery programme.

Achievements from the last strategy

Since the publication of the last environmental strategy, the council has delivered a wide-ranging set of actions to improve sustainability in the city and there have been some noticeable achievements. These include improved cycling and walking rates, decreased domestic waste, better recycling rates, increased domestic energy efficiency, a 59.6% fall in operational CO₂ emissions and a 48% fall in CO₂ emissions from the entire city.

Award-winning council

Our environmental success has been recognised at a local and national level via numerous awards for sustainability and environmental best practice. These include the RIBA Stirling Award and Edie Carbon Reduction Award in 2019 and Global Good Awards in 2020. The city council has also recently been recognised as one of the top performing councils in the country by Friends of the Earth, for our response to the climate change emergency.

Our priorities

Priority 1: work with partners, through the Norwich 2040 City Vision, to develop a citywide response to climate change to reduce the city's carbon dioxide emissions;

Priority 2: reduce the council's own carbon dioxide emissions;

Priority 3: increase reuse and recycling in the city and reduce the amount of residual waste;

Priority 4: increase the energy efficiency of all the housing stock in the city;

Priority 5: ensure that new development is carried out in a sustainable way;

Priority 6: support and encourage more sustainable transport solutions;

Priority 7: support a low carbon economy in Norwich;

Priority 8: prepare for the impacts of climate change;

Priority 9: work with local communities to ensure our local environment is protected and enhanced where possible;

Priority 10: work with partners to promote behavioural change to establish a more sustainable society.

Call to action

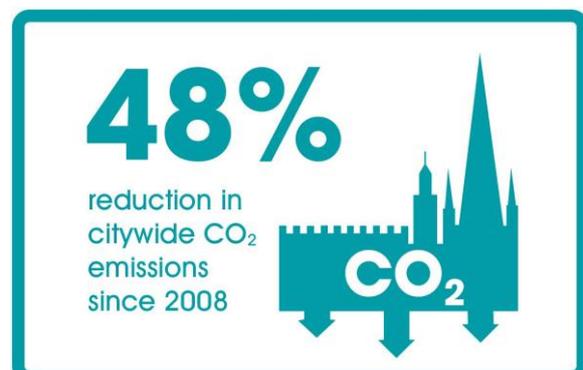
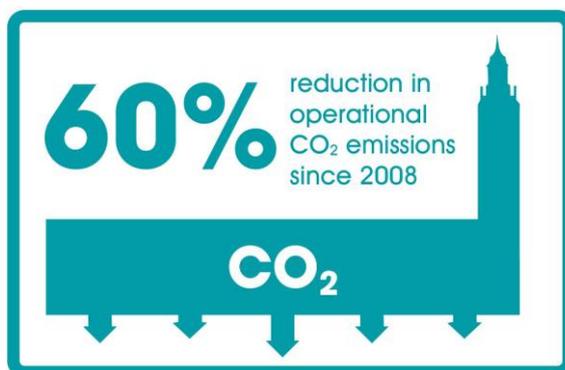
This new action programme and the council's new target to become net zero by 2030 provide a pathway to enable the city to continue this positive trend of environmental improvement. We hope that this inspires others to take action to ensure a more sustainable future for Norwich and the planet we all share.

3. Key achievements since the last strategy

In 2015, the council's third environmental strategy was published. The strategy ran until December 2019. The strategy offered key priorities to maintain a healthy and sustainable local environment.

The strategy delivered a detailed action plan containing over 120 actions.

Below is a snapshot of some of our recent environmental achievements, coming off the back of our previous priorities:



3.2%

decrease in household waste



2.6%

increase in recycling since 2013

40%

increase in people cycling since 2013



23.8%

of people in Norwich walk to work



100+

new Passivhaus homes built – and won the RIBA Stirling Prize

100%

fully renewable electricity provided by our white label energy provider, Roar Power



80%



– Friends of the Earth rated our overall approach to tackling climate change

4. Context: Global to Local

The Intergovernmental Panel on Climate Change (IPCC) report 'Global Warming of 1.5°C', released in October 2018, found that limiting global warming to 1.5°C would require reductions of global human-caused emissions (Carbon Dioxide) of 45 per cent by 2030, and for emissions to reach net zero by around 2050. If the average global warming was limited to 1.5°C, it still worsens the risks of drought, floods, extreme heat and poverty for hundreds of millions of people.

Average global warming is 1°C already when compared to pre-industrial averages. At 2°C, the upper limit of the UN Paris Agreement, the risk of negative impacts of climate change increase significantly. Global carbon dioxide emissions currently show no signs of peaking and are expected to hit a record high in 2020/21, despite urgent calls from climate scientists, the United Nations and others.

Energy pathways that could limit global warming to 1.5°C require rapid and far-reaching transitions in energy, land and infrastructure – including transport, buildings, farming, businesses and industry. This transition is unprecedented and requires deep emission reductions in all sectors of society.

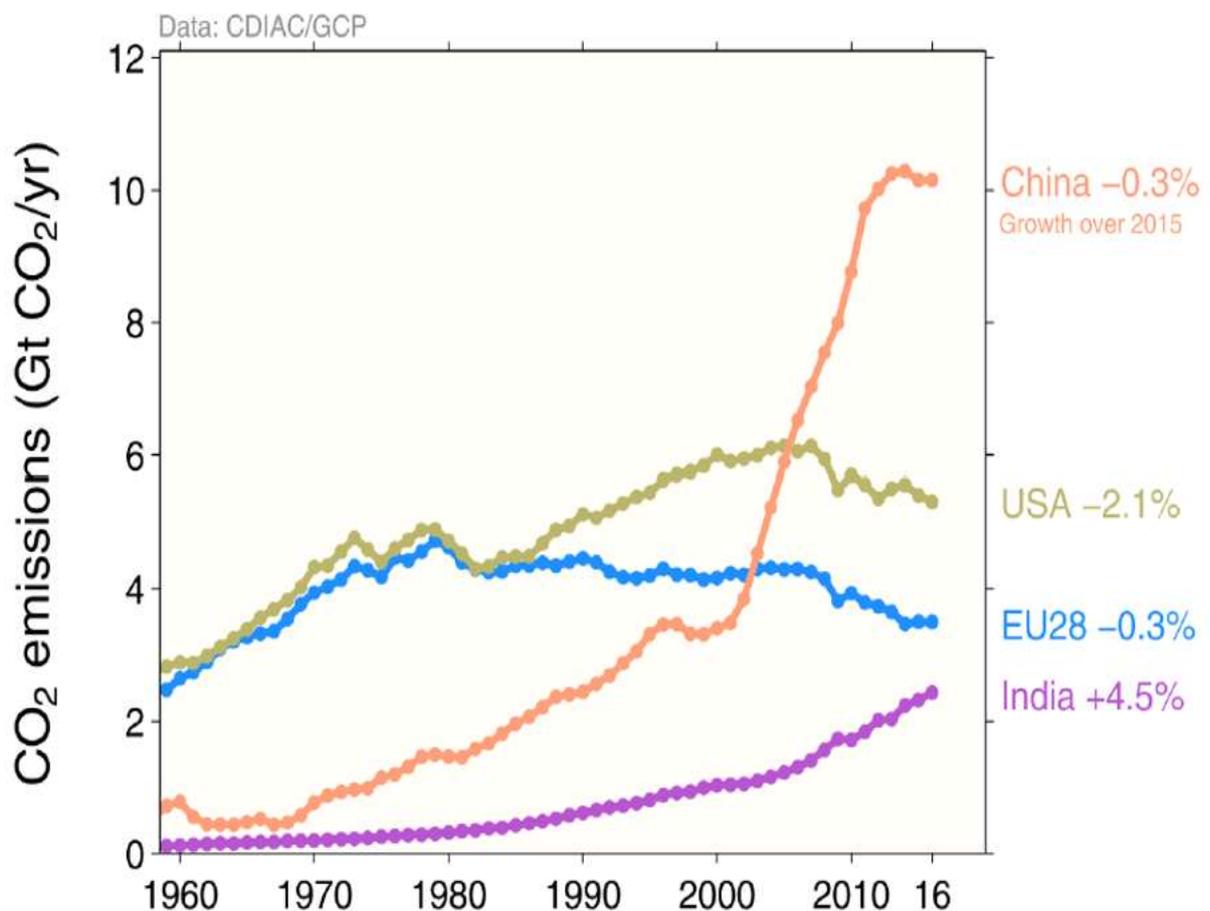


Fig: 1 Global CO₂ emissions Gt CO₂/yr

The UK was the first country to introduce long-term, legally-binding national legislation to tackle climate change. The 2008 Climate Change Act provides the UK with a legal framework, including a new net zero target for carbon emissions by 2050. It also includes five-yearly 'carbon budgets' (limits on emissions over a set time period, which act as stepping stones towards the 2050 target), and the development of a climate change adaptation plan.

The new net zero target fully meets the requirements of the Paris Agreement, including the stipulation of 'highest possible ambition', and sets the standard for other developed countries as they consider their own pledges towards this global effort in emissions reduction.

Current UK emissions constitute only a small percentage of the global total, but those who say the UK's actions no longer matter are wrong. Every ton of carbon counts in the atmosphere, wherever it is emitted. In setting a net zero target, the UK will be among a small group of countries viewing climate change with appropriate urgency and importance.

The city council's new operational net zero 2030 target, and our ongoing five-year rolling environmental programme, reflects the latest scientific advice and provides a clear plan to deliver the local sustainability objectives contained in our 2040 City Vision.

5. Developing the new strategy: The City – Norwich 2040

In the autumn of 2018, the Norwich 2040 City Vision was launched. It is a vision for the city to help make Norwich the best place to be by 2040. This was the result of a collaborative exercise and extensive consultation shaped by the council, voluntary organisations, community groups, businesses and residents.

The Norwich 2040 City Vision identifies five themes:

A Liveable City

The city takes pride in being the place with a great local environment that people value. We are committed to shifting to clean energy by 2040 (carbon neutral by 2050). We will support and promote sustainable living –where today's citizens meet the needs of the present without compromising future generations.

A Fair City

Norwich is a place where many already enjoy a great quality of life. By 2040, the health, wellbeing and life chances of all of our citizens will be improved. We will remove barriers to achievement and a high standard of living will be enjoyed by everyone.

A Connected City

At the heart of any good city is how well it connects with both its citizens, and the world at large. In 2040, Norwich will have a modern transport system, be at the forefront of digital connectivity and create opportunities for all residents to link with each other.

A Dynamic City

Today Norwich has two successful universities and thriving sciences, creative tech, leisure and retail sectors. In 2040, Norwich will be a place where entrepreneurs, social enterprises, national and global companies choose to provide good jobs, prosperity and success.

A Creative City

Norwich is a place where culture and creativity play an important part in how the city feels about itself and how others perceive it. In 2040, Norwich will be world-renowned for its creativity – a leader in innovation, culture, education and invention.

The city's 2040 City Vision, under its liveable city theme, reflects the more recent and ambitious goal set by the Committee on Climate Change of achieving "carbon neutrality" by 2050. The 2040 City Vision also commits Norwich to shifting to clean energy by 2040.

Developing the new strategy: Norwich City Council's Corporate plan

The council's new Corporate Plan has been shaped to respond to the most uncertain period in our city's history since the end of the Second World War, over 70 years ago.

There are a number of different factors at play. The first is the unresolved issue of how we exit the European Union, and on what terms. The second: the impact on the council's budget after a decade of continuous cuts in central government funding (over 60 per cent since 2010), in conjunction with a lack of clarity about whether this funding trajectory will change or continue. The third: longer-term changes that will confront us in the next two decades; among which are climate change, automation, demographic shifts and galloping inequality.

Covid-19 and the city's response through ongoing work, new programmes, policies and partnerships will also present new unexpected challenges and potentially some new opportunities to reinforce our sustainability objectives.

The council's Covid-19 recovery plan highlights actions which support progress on the green economy and climate change. As the council and the city look towards recovery, there is an opportunity to build on these existing approaches by incorporating opportunities to support and extend the behavioural change that the pandemic has initiated, such as decreased road traffic.

The council also has the opportunity to use its ongoing place-making activity and other investment to support recovery to drive growth in the local green economy. This could be taken forward by, for example, encouraging and supporting sustainable travel infrastructure and enhancing biodiversity of council estates, parks and open spaces. This could also include identifying further opportunities to reduce waste and enhance the circular economy locally.

Finally, this year's corporate plan has been developed in the context of the work around shaping the Norwich 2040 vision, and how the council has reshaped its key priorities around three themes:

- Great neighbourhoods, housing and local environment
- Inclusive (good) growth
- People living well

Norwich recognises that action on climate change is a fundamental part of achieving the city's 2040 vision and objectives. Taking urgent action to become a zero-carbon city, starting in 2020, will achieve benefits for residents and businesses in Norwich up to 2040 and beyond. To help us accomplish this, we propose to work with our partners to mobilise residents, businesses and all stakeholders to take action on climate change and resource use. We will invite all organisations that work in the city to be part of our collective ambition in supporting our 2040 vision.

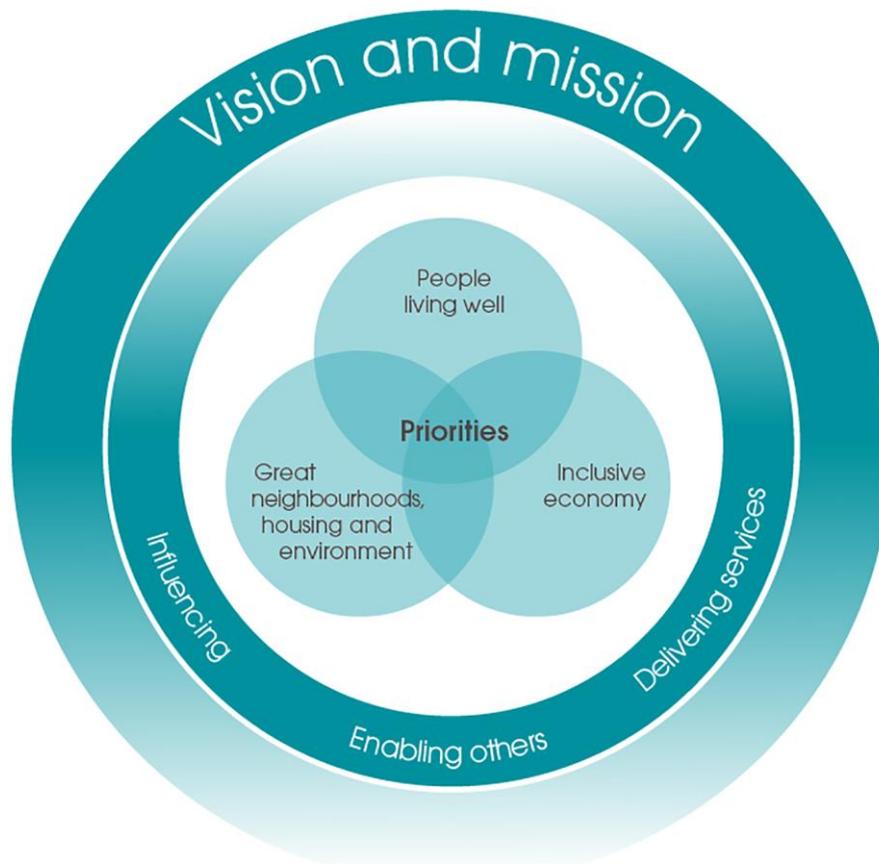


Fig 2: City Vision and mission

Within this framework, the purpose of this environmental strategy is to set out in more detail the council's environmental vision and priorities for the city for the next five years and how they will be achieved.

It guides all the environmental work programmed to be carried out by the council between 2020 and 2025. This work is conveyed in greater detail in service plans and other council plans, and those of partners and contractors. This is summarised in the diagram below:

Framework for Environmental Strategy

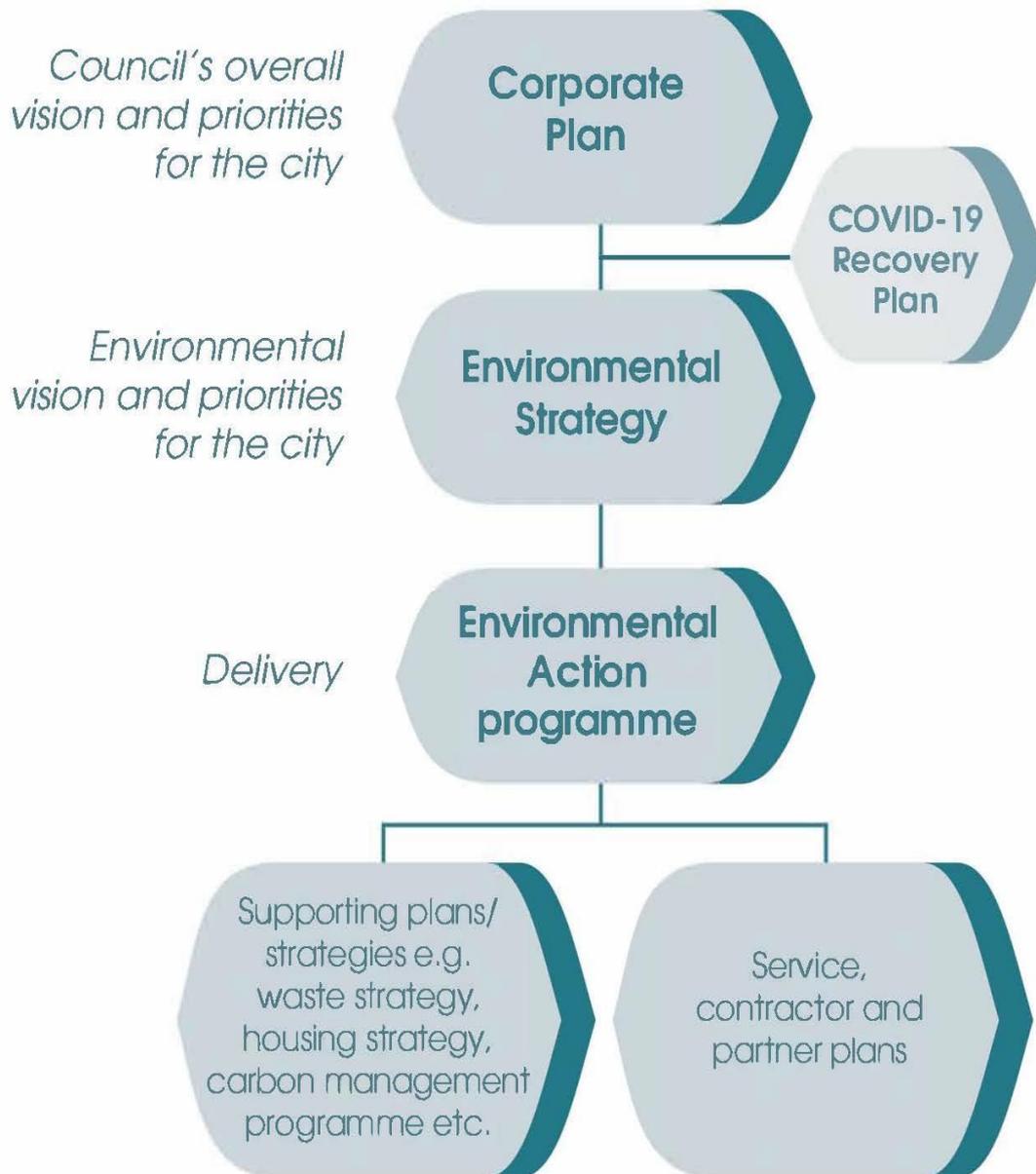


Fig 3: Framework for Environmental Strategy

Developing the new strategy: Data, discussion and consultations

The new environmental strategy has been developed through the following methods:

- Analysis and assessment of targets on the current environmental position in Norwich
- Review of the wider policy and legal context
- Review of the best available national datasets
- Review of the best available local datasets
- Review of external funding opportunities
- Workshops and input from expert stakeholders including the Tyndall Centre for Climate Change Research and the Carbon Disclosure Project
- Review of existing activities and future opportunities across services and contractors
- Discussions and input from elected members, including across services and contractors
- Discussions and input from elected members (including cabinet) and an all-member Tyndall/UEA workshop
- Assessment of the resources the council will have in the future to carry out environmental work
- Commentary from various external stakeholders, including any relevant government agencies
- Meetings with local action groups such as XR (Extinction Rebellion) and CHAIN (Climate Hope Action in Norfolk)
- An extensive public consultation

Developing the strategy: Responding to feedback

In addition to the feedback of partners, contractors and other local governmental bodies, the council undertook a public consultation exercise to elicit views on the council's fourth environmental strategy.

There was a high level of ambition for the city to continue to reduce emissions and become more sustainable. However, some of the ideas expressed via the consultation were outside the remit of the council, and would need others to investigate their possibility.

Norwich has a two-tier local government system, with the county council taking responsibility of services such as transport, social services and education. In addition to this, the Greater Norwich Area (which many regard as the city) includes suburbs beyond the city boundaries: these are covered by two other local authorities (Broadland and South Norfolk). Responsibilities here include planning and waste collection.

The action plan highlights how different tiers of government can work together to deliver change via partnership working. Where possible, councils can work together in collaboration to facilitate positive changes. This work is delivered via a number of different forums such as the Greater Norwich Development Partnership (GNDP), New Anglia Local Enterprise Partnership (LEP), emergency planning and various

other local officer groups such as the Climate Change Partnership and wider all-stakeholder partnerships such as the City Vision. Via these groups, Norwich City Council will try to influence improvements to environmental sustainability, as highlighted by the consultation.

We hope that we can work in partnership with our citizens and businesses to continue to reduce emissions; and that they can, in turn, encourage others to understand that these choices can have wider economic, environmental and social benefits.

A number of respondents referenced the climate emergency and the targets set out within the strategy. The council has formally recognised the climate emergency and will continue to build on the achievements already delivered. We will continue to drive down emissions within the services we operate, as well as developing programmes to reduce domestic and commercial emissions within the city.

Comments were also made on the city council hosting a citizen's assembly. In 2011 the council commissioned an independent climate change committee to shape and inform our environmental policies. This event, chaired by our Sheriff Professor Tim O'Riordan OBE, invited numerous stakeholders to attend, including environmental NGO's such as Transition Norwich. We will therefore add any outcomes from the current national debate, to outcomes already discussed from this valuable exercise in shaping our future policy directions.

The council does recognise that we can do more, and we will be calling on central government to provide the appropriate resources in order that we can better achieve our decarbonisation pathways.

6. Emissions – where have we come from and where do we want to be?

As of February 2020, 274 of 408 UK local authorities had declared a climate change emergency and committed to taking action to reduce the impact of global warming and slow the rate of climate change (source: Climate Change UK). Norwich City Council declared and passed a climate emergency motion in January 2019. The original motion was strengthened to acknowledge that the climate emergency we face is inextricably linked with social and economic emergencies.

The council has been working on the sustainability agenda since before Local Agenda 21 and has delivered much progress over the last few decades. As a city, Norwich is on track to achieve 2 tonnes of CO₂ per person by 2023/24 and based on trajectory data the city will achieve carbon neutrality before 2050, assuming adequate local and national resources are provided.

Fig 4: (See section 14) UK local authority carbon dioxide emissions since 2005 (Source: DBEIS) shows the city's progress to date and projects them to 2023.

Fig 5: (See section 14) Tyndall Centre pathway projections for Norwich is an alternative dataset calculated for the city council by the Tyndall Centre for Climate Change Research. This shows a steep reduction in emissions from 2010. However, the city's emissions will need to continue to reduce significantly over the next two decades, in order that the city contributes to global emissions reduction targets and national policy to be net zero by 2050. This will only be achieved if central government policy provides the necessary resources and incentives nationally and locally for every sector.

Fig 6: (See section 14) The SCATTER tool developed by DBEIS, Anthesis, Nottingham City Council and the Tyndall Centre identifies residential buildings and on-road transport as being significant CO₂ emitters within the City. Both these sectors will need significant investment to decarbonise and will be a considerable challenge moving forwards to a zero carbon Norwich.

Central government will need to provide the levels of funding needed to deliver the clean growth agenda outlined in the UK Industrial Strategy. While the current Covid-19 pandemic will lower UK economic growth: as the economy recovers, the low carbon economy could provide a solid foundation for better economy and give rise to a better global future by accelerating and prioritising investment in the UK's low-carbon sector.

Retrofitting energy-inefficient homes, helping citizens and businesses to take advantage of new technology and electrifying travel will clearly need sufficient central government funding if we are to succeed. It will require close to 28 million homes and the premises of 6 million businesses to change the way they use energy via the installation of energy efficient measures, microgeneration, and new low carbon heating systems. It will require retrofitting programmes at a scale never seen before as well as a revolution in transport and energy. The pace of change in the UK economy will need to quicken if net zero is to be achieved by 2050.

The council: Our carbon reduction journey

To date we have reduced the operational carbon emissions of Norwich City Council by 59.6 per cent since 2008, a notable achievement given the diverse range of services we deliver to the city. In recognition of the council's substantial carbon emissions reductions, we have been awarded several national accolades, firmly establishing the council as a high achiever, and delivering a real step change in the sustainability of its public services.

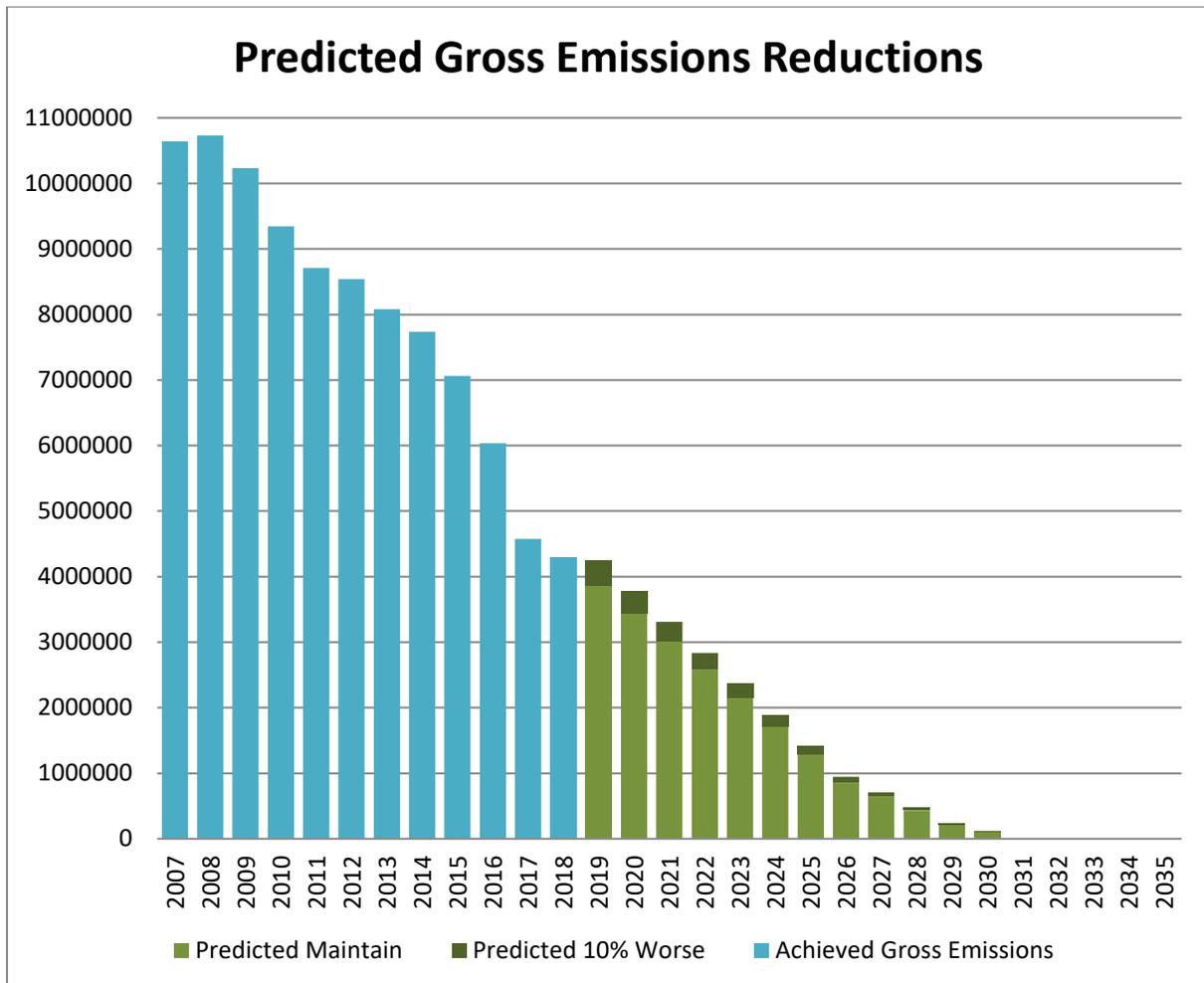


Fig 7: Reductions in CO₂e from baseline year Norwich City Council

Emissions have fallen year on year since 2008. Norwich City Council plans to be net zero by 2030. The graph shows a potential pathway to this objective from 2019 onwards.

7. Vision, themes, priorities

Vision:

To be recognised as one of the best councils in the country for addressing the issue of climate change.

Themes:

Community leadership: through providing leadership to the city including championing and advocating, listening, engaging and communicating, and building and maintaining strong partnerships.

Service provision: through providing a range of services including planning, housing, transport, waste collection and recycling, environmental management and protection.

Buyers of goods and services: through purchasing a range of goods and services including ensuring procurement processes support sustainability.

Estate management: through better management of our own transport and buildings the council can cut emissions and save money and manage the estate so it can be better adapted to the changing climate.

Our priorities will be:

Priority 1: work with partners, through the Norwich 2040 City Vision, to develop a citywide response to climate change to reduce the city's carbon dioxide emissions;

Priority 2: reduce the council's own carbon dioxide emissions;

Priority 3: increase reuse and recycling in the city and reduce the amount of residual waste;

Priority 4: increase the energy efficiency of all the housing stock in the city;

Priority 5: ensure that new development is carried out in a sustainable way;

Priority 6: support and encourage more sustainable transport solutions;

Priority 7: support a low carbon economy in Norwich;

Priority 8: prepare for the impacts of climate change;

Priority 9: work with local communities to ensure our local environment is protected and enhanced where possible;

Priority 10: work with partners to promote behavioural change to establish a more sustainable society

8. How will we get there?

The council will achieve its environmental priorities through delivery of a comprehensive environmental action plan. This sets out the key projects, actions and activities the council will progress within the areas of its responsibility.

Responsibility for the overall delivery of the environmental action programme rests with the corporate leadership team, and is co-ordinated and managed by the environmental strategy team.

Specific projects, actions and activities within the programme will be the responsibility of services, contractors and partner organisations.

9. How will we know and review?

Delivery of the environmental strategy and action programme will be closely monitored through the council's performance management framework. This includes regular performance review and challenge by officers, and formal-performance reporting and review by councillors through:

- Cabinet (quarterly through the council's performance report).
- Sustainable development panel (regularly on specific projects, services and activities).
- A new members group called CEEEP (Climate and Environment Emergency Executive Panel).

We will also publish a biennial environmental statement that sets out overall performance against the priorities within the strategy.

The environmental strategy will be subject to a review at the end of each year looking at:

- Overall performance and progress.
- Changes in the national or local landscape.
- Success of engagement and communication activities.
- New opportunities identified e.g. through partnership work or engagement work.
- Learning from pilot projects and approaches that have been tested.
- Resourcing levels.

This process will determine any changes to be made to the strategy.

10. How will we engage and communicate?

The council will carry out a range of work to engage and communicate with residents, voluntary and community organisations, businesses, academic institutions and other statutory bodies on the progression of this environmental strategy.

Engagement and communication activities will draw on the latest research and approaches in community engagement and environmental psychology (a discipline concerned with effective communication and behaviour change with regards to environmental issues), and utilise concepts and principles such as:

Making sustainability meaningful for citizens (focusing on factors such as the wider environment and community and communicating with people based on their environmental values).

Habit discontinuity (taking advantage of existing lifestyle opportunities to encourage behaviour change e.g. promoting energy efficiency when people move homes).

Using social networks and norms (utilising what other people do and/or is the expected behaviour e.g. most people in this area now recycle food waste).

Two-way participatory engagement/communications (engaging others in discussions and work on the issues and the solutions to deliver the environmental priorities for the city e.g. the development of community energy projects through the use of grants).

Using existing engagement and communication activities wherever possible (to ensure a holistic approach, maximise the use of resources and prevent engagement/communication overload).

Pre-testing and evaluating different engagement and communications (to ensure that they are as well designed as possible and that lessons are learned for future activities).

11. Action Plan

Theme 1: the council as community leaders

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
1.1 To work with the LEP, County Council and other districts on the low carbon agenda.	All	Environmental Strategy	Ongoing
1.2 Support Earth Hour, Car Free Day and other environmental campaigns locally	1,3,4,6,7,8,9,10	Communications/ Transport	Ongoing
1.3 Update risk register using UKCIP18 and LCLIP study	8	CLT/ Neighbourhoods	2020
1.4 To provide grants and advice for local communities to develop community energy projects	1, 4,7	Environmental Strategy	2021
1.5 Promotion of ECO Energy Company Obligation	1,4,5,7	Environmental Strategy	Ongoing
1.6 To promote an online reuse portal to facilitate and increase reuse www.lumi.org.uk	1,7	Neighbourhoods	Ongoing
1.7 To develop local sustainable living and 'love where you live' type campaigns to promote simple measures to residents and organisations to lower carbon emissions and adapt to climate change	All	Environmental Strategy/Neighbourhoods/Communications	Ongoing
1.8 Promote Norwich as a sharing city	1,3,6,7,9,10	Communications	Ongoing
1.9 To promote local food production through the council's allotments service and communication activities	1,7,8	Citywide Services	Ongoing
1.10 To continue to promote waste prevention and recycling through public engagement	1,3,9,10	Citywide Services	Ongoing
1.11 New SUP free bins and more recycling in the city centre	3	Citywide Services	2019
1.12 Support the Anglia Water CATCH project	1,8,9	Environmental Strategy	2020
1.13 Work with Anglia Water to promote water efficiency	1,8,9	Environmental Strategy	Ongoing
1.14 Continue to run an annual eco living event for residents and organisations	1,3,5,6,7,8,9,10	Environmental Strategy	Ongoing
1.15 Continue to run an annual eco awards scheme in the city to promote environmental excellence to residents and organisations including encouraging carbon reduction and use of renewable energy by businesses	1,3,6,7,8,9,10	Environmental Strategy	Ongoing
1.16 To develop and publish a biennial environmental statement to show our progress	All	Environmental Strategy	Biennial
1.17 Continue to do thematic networking around open spaces and food and deliver growing communities	2,9,3	Strategy and Neighbourhoods	2019 then ongoing
1.18 To work with expert partner organisations in the city eg University of East Anglia/ Environment Agency/ Tyndall Centre to provide external advice and challenge and to utilise, share and promote environmental research and learning and develop joint bids and solutions to environmental issues	All	Environmental Strategy	Ongoing
1.19 Introduce a new cycle sharing scheme for Norwich	1,6,7	Transport Team	2020
1.20 Introduce a new cycle map for Norwich	1,6,7	Transport Team	2021
1.21 Encourage more walking and cycling via the transforming cities bid	1,6,7	Transport Team	2020 then ongoing
1.22 Establish a new rapid transport route into the city (Potential EV travel hubs)	1,6,7	Transport Team	2020 then ongoing

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
1.23 Introduce more 20 MPH zones and traffic management systems which lower CO ₂ emissions	1,6	Transport Team	2020 then ongoing
1.24 Refresh the council's Local Climate Impacts Profile (LCLIP) using the latest data from the UKCIP18	8	Environmental Strategy	2020
1.25 Explore the CPD Scatter Tool developed by the Tyndall Centre for use in Norwich	1,2,7	Environmental Strategy	2019
1.26 To review the electric charging provision in Norwich and surrounding area to ensure Norwich is "zero emission ready" and to install further rapid chargers (if required) on council land.	1,6,7	Environmental Strategy/ Transport	2021
1.27 Update the council's district heating map to account for the developments in low temperature systems and localised "energy centres"	1,2,4,5,7	Environmental Strategy	2023
1.28 To run a third collective auction for solar panels so that private households and landlords can purchase and install them at a lower cost	1,4,7	Environmental Strategy	2020
1.29 Review the investment potential for solar private wire for local businesses to use	1,5,7	Environmental Strategy/IT	2021
1.30 To implement initiatives to raise awareness and create action at a local neighbourhood level about energy efficiency, managing energy use and the benefits of installing renewable energy by providing information, advice and education	1,4	Environmental Strategy	Ongoing
1.31 To set up a series of environmental discussions and information sessions physically and virtually to inform citizens.	1,3,4,6,7,8,9	Environmental Strategy	2021 then ongoing
1.32 Reduce retail food waste via a food poverty strategy	1,3,7,9	Strategy	2020 then ongoing
1.33 Continue reduce the use of SUP at events on council land	1,3,5,7	Strategy	2020 then ongoing
1.34 Refresh the council's Travel Plan	1	Environmental Strategy	2021
1.35 To set up a Climate Leaders' Group via the City Vision 2040 partnership to help to deliver the environmental aspirations of the City Vision	1,5,7	Strategy	2019 then ongoing
1.36 Encourage more electric taxis by the provision of discounted rapid charge refills and potential increase of vehicle age licencing rules if fully electric	1,6,7	Licensing/ Transport/Environmental Strategy	2023
1.37 To set up a energy company to help citizens take advantage of renewable energy as well as exploring with partner organisations the potential for a district heating scheme for the city	1,2,4,5 7	Environmental Strategy/ Communications	2019 then ongoing
1.38 To monitor, review and potentially take forward opportunities in the local energy supply markets including exploring community energy companies/ ESCo's, use of block chain and smart meters to incentivise reduced energy consumption	1,7	Environmental Strategy/ IT/ Octopus/ Others	Ongoing
1.39 To have an environmental themed Lord Mayor's and to use more sustainable transport	1,5,6,7	Events	2019 then ongoing
1.40 Develop a sustainable food group and apply for a sustainable food city status	All	Strategy/ Environmental Health	2023 then ongoing
1.41 Sell local honey at the TIC to support local honey producers	9	Tourist Information Centre	2019 then ongoing
1.42 Only allow companies which offer 100% renewable electricity as standard into the Big Switch and Save auction	1,7,10	Environmental Strategy/ Communications	2020 then ongoing

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
1.43 Continue to develop ROAR Power to enable the deployment of ECO and Smart energy	1,2,4,10	Environmental Strategy/ Communications	2021
1.44 To review the outcomes of citizen assemblies to help inform our ongoing local debate around the low carbon agenda	1,2,3,4,5,6,7,8,9,10	Environmental Strategy/ Strategy/ City Vision	Ongoing

Theme 2: the council as service providers

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
2.1 To ensure that new developments include sustainable travel options from the start	1,6	Planning	Ongoing
2.2 To support parties wishing to undertake voluntary remediation of land	9	Citywide Services	Ongoing
2.3 To ensure the infrastructure at Threescore will provide attractive landscaped areas around the drainage lagoons for local people to use and to provide important habitats for wildlife	9	Planning	Ongoing
2.4 To ensure all emergency plans for major weather events are kept up to date	8	Citywide Services	Ongoing
2.5 To keep accurate records of the effects of weather events on council services	8	Citywide Services	Ongoing
2.6 Include climate change on the council's risk register	8	CLT/Planning	Ongoing
2.7 Revise the TOR (Terms of Reference) of the council's Sustainable Development Panel	All	Democratic Services	2019
2.8 Biodegradable cups in meeting rooms & improved recycling at city hall including crisp packet recycling	3	Office Facilities	2019
2.9 Refresh the council's fleet with greater use of EV/ Hybrid	2	Office Facilities	2024
2.10 Run a training event on climate change adaptation for planners and members of the planning committee	1,4	Planning	Ongoing
2.11 Remediate the old depot site to enable new use for housing	1,4	NRL	Ongoing
2.12 To continue to lobby OFGEM for a standard for renewable energy tariffs so that this can be included within the council's switch and save scheme	1,7	Environmental Strategy	Ongoing
2.13 Investigate the use of Green Gas for City Hall	2	Environmental Strategy	2024
2.14 To continue to run a staff awareness campaign to reduce the amount of carbon emissions from business operations at Norwich City Council	2	Environmental Strategy	Ongoing
2.15 Continue to measure social environmental and economic factors as part of our contract management	All	Procurement	Ongoing
2.16 Continue to replace trees and deliver sponsorship opportunities through Blooms for Norwich	1,9	Neighbourhoods	Ongoing
2.17 To increase landfill diversion rates and reduce landfill tonnage	1,3	Citywide Services	Ongoing
2.18 To identify ways to reduce and treat food waste	1,3	Citywide Services	Ongoing
2.19 To identify ways to reduce and treat garden waste	1,3	Citywide Services	Ongoing
2.20 To develop and improve the quality and range of recycling services available to Norwich residents	1,3	Citywide Services	Ongoing

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
2.21 To continue to work with the other local authorities in Norfolk to achieve the objectives set-out in the joint waste strategy	1,3	Citywide Services	Ongoing
2.22 To deliver programmes and projects to improve energy efficiency measures in privately owned housing e.g. Cosy City	1,4,7,8	Environmental Strategy	Ongoing
2.23 To implement the Greater Norwich Joint Core strategy by 2026	5,6,7,8	Planning	Ongoing
2.24 Review the Norfolk Strategic Planning Framework for green infrastructure opportunity	5,6,7,8	Planning	2019 then ongoing
2.25 Work with other districts to improve the GNDP Energy Policy	5,6,7,8	Planning	2019 then ongoing
2.26 Implement the River Wensum Strategy	8,9	Planning	Ongoing
2.27 To explore the energy aspects of new developments and possible new policy from central government	1,4,5,7	Planning	Ongoing
2.28 To develop new homes for the city council that conform to the "Norwich Standard"	1,4,5,7	Housing	Ongoing
2.29 To continue to monitor air quality and meet EU standards and to take action where necessary to address nuisance issues where they occur e.g. from bonfires etc.	9	Citywide Services	Ongoing
2.30 To work with local businesses to drive down emissions to atmosphere under the Pollution Prevention & Control (PPC) regime	9	Citywide Services	Ongoing
2.31 To review the objectives of the tree strategy for Norwich which will consider carbon storage, biodiversity, air quality and climate change adaptation	8,9	Citywide Services	2022
2.32 To deliver a new open spaces strategy in Norwich including ensuring all Norwich City Council Wildlife Sites (SWS) are in positive management	9	Citywide Services	2022
2.33 To utilise external funding sources to undertake a programme of improvements at key city council owned natural areas to improve the biodiversity, increase their resilience to extreme weather and enhance access for visitors on foot. To initially include Marston Marshes, Earham Millennium Green, the Heronry and Danby Wood	8,9	Citywide Services	Ongoing
2.34 To investigate the potential for managing some intensively-managed grass areas under 'conservation cuts', involving fewer cuts per year	9	Citywide Services	Ongoing
2.35 To replace water-intensive planting with wildflowers and herbaceous shrubs, to encourage wildlife and become more resistant to drought in parks and green spaces in the city	8,9	Citywide Services	Ongoing
2.36 To continue to involve local communities in the management of their local parks, natural areas and open spaces	9	Citywide Services	Ongoing
2.37 To carry out the climate adaptation tool review of services	8	Environmental Strategy	2020
2.38 Make the cemetery more sustainable by the introduction of "ECO" incentives and "for nature" planting	8,9	Citywide Services	2020
2.39 Investigate the use of electric gardening equipment to replace those driven by fossil fuels	1,2	Citywide Services	2020
2.40 To explore other mitigation and adaptation measures that could be included in the planning framework in the future	8	Planning	Ongoing
2.41 To ensure gullies are emptied effectively across the city	8,9	Citywide Services	Ongoing

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
2.42 To continue to deliver an affordable warmth strategy and programme to reduce fuel poverty and increase wellbeing	4	Environmental Strategy	Ongoing
2.43 Explore other monitoring options for air quality including real-time monitoring	5,6	Citywide Services	2020
2.44 Develop a new "Norwich Standard" for homes built by the council's housing company.	1,4,7,9	Norwich Regeneration Ltd	2021
2.45 Undertake a feasibility study to develop a range of low carbon modular homes for future developments and self build and/or sale	1,4,9	Norwich Regeneration Ltd	2024
2.46 Work with other districts to improve the energy policy SDP for new developments via the GNDP	1,4,5	Planning	Ongoing
2.47 Investigate decentralised energy – locally generated heat and electricity – rather than depending on the less efficient national energy infrastructure	1,2,4	Environmental Strategy	Ongoing
2.48 To produce and publish the Home Energy Conservation Act report	1,4	Environmental Strategy	Ongoing
2.49 Install more ground source and air source solutions where possible for district heating	1,4	NPS	Ongoing
2.50 To continue to work with PIXIE and others in the energy markets to find new ways to reduce carbon for the domestic and industrial energy markets: including the use of block chain, behind the meter services, private wire, ECO aggregation.	1,4,9	Environmental Strategy	Ongoing
2.51 To carry out a CDP annual review of our climate actions	All	Environmental Strategy	Annual
2.52 Upgrade commercial buildings to the latest EPC standards	1,5	NPS	Ongoing
2.53 Balancing cost effectiveness alongside social, environmental and economic factors	All	Procurement	Ongoing
2.54 Continue to maximise the use of friends groups and volunteers to make Norwich a biodiverse and eco city	1,9	Citywide Services	Ongoing
2.55 Develop a new Open Spaces strategy	1,9	Citywide Services	2022
2.56 Develop a tree strategy	1,9	Citywide Services	2022
2.57 Encourage people to plant trees at home	1,9	Citywide Services	2020
2.58 To improve participation, set-out rates and collected tonnages for recycling services, particularly the weekly food waste service	1,3	Citywide Services	Ongoing
2.59 Deliver the Transforming Cities Bid	1,6,7,9	Transport Team	Ongoing
2.60 To increase the number of 20 mph zones in the city to make cycling and walking safer	1,6	Transport Team	Ongoing
2.61 To continue the implementation of bus rapid transit, city centre improvements and walking and cycling investment	1,6	City Development	Ongoing
2.62 To explore with partner organisations the potential for establishing electric charging points in the city	1,6,7,10	Environmental Strategy	Ongoing
2.63 To investigate the potential for improving other natural areas using external funding	9	Citywide Services	Ongoing
2.64 To plant trees and vegetation that prevent rapid run-off and protect areas from flooding	8,9	Citywide Services	Ongoing
2.65 Continue to minimise the use of Glyphosate	9	Citywide Services	Ongoing

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
2.66 To carry out flood mitigation modelling and develop a future investment plan	8	Planning Service	Ongoing
2.67 To ensure effective maintenance of highway drainage systems and partnership working with Norfolk County Council and Anglian Water	8,9	City Development	Ongoing
2.68 To deliver a preventable seasonal excess deaths action plan with key partner organisations eg health	8	Environmental Strategy	Annual
2.69 Refresh the Council's Carbon Management Plan	2	Environmental Strategy	2020
2.70 Continue to keep our natural areas to the Higher Level of Stewardship (HLS)	1,9	Citywide Services	Ongoing
2.71 Trial biodegradable wrap straps to reduce SUP in council activity	All	TBC	2021
2.72 Trail the use of energy Arbitrage with battery storage	8	TBC	2023
2.73 Explore the feasibility of a virtual power plant via ERDF funding	8	TBC	2022
2.74 To enable more students to undertake research at NCC	All	TBC	2021
2.75 Support the Pedestrianisation St Benedict's	6,7,8,9,10	Planning	2021

Theme 3: the council as purchaser of goods and services

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
3.1 To implement a sustainable procurement strategy and contract management framework	1,2,7	Procurement	Ongoing
3.2 To continue to ensure 100% of the council's energy is sourced from a "green" tariff	1,2	Procurement	Ongoing
3.3 To work with our contractors to reduce waste and ensure the delivery of high environmental standards	1,2,3	Procurement	Ongoing
3.4 To adopt an ethical investment policy, with commitment to divestment from fossil fuels	1	Finance	Ongoing
3.5 To ask all new contractors (Gold/ Silver) to use green energy	1	Procurement	2020 then ongoing
1.6 To promote an online reuse portal to facilitate and increase reuse www.lumi.org.uk	1,7	Neighbourhoods	Ongoing
1.7 To develop local sustainable living and 'love where you live' type campaigns to promote simple measures to residents and organisations to lower carbon emissions and adapt to climate change	All	Environmental Strategy/Neighbourhoods/Communications	Ongoing
1.8 Promote Norwich as a sharing city	1,3,6,7,9,10	Communications	Ongoing
1.9 To promote local food production through the council's allotments service and communication activities	1,7,8	Citywide Services	Ongoing
1.10 To continue to promote waste prevention and recycling through public engagement	1,3,9,10	Citywide Services	Ongoing
1.11 New SUP free bins and more recycling in the city centre	3	Citywide Services	2019
1.12 Support the Anglia Water CATCH project	1,8,9	Environmental Strategy	2020
1.13 Work with Anglia Water to promote water efficiency	1,8,9	Environmental Strategy	Ongoing

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
1.14 Continue to run an annual eco living event for residents and organisations	1,3,5,6,7,8,9,10	Environmental Strategy	Ongoing
1.15 Continue to run an annual eco awards scheme in the city to promote environmental excellence to residents and organisations including encouraging carbon reduction and use of renewable energy by businesses	1,3,6,7,8,9,10	Environmental Strategy	Ongoing
1.16 To develop and publish an biennial environmental statement to show our progress	All	Environmental Strategy	Biennial
1.17 Continue to do thematic networking around open spaces and food and deliver growing communities	2,9,3	Strategy and Neighbourhoods	2019 then ongoing
1.18 To work with expert partner organisations in the city e.g. University of East Anglia/ Environment Agency/ Tyndall Centre to provide external advice and challenge and to utilise, share and promote environmental research and learning and develop joint bids and solutions to environmental issues	All	Environmental Strategy	Ongoing
1.19 Introduce a new cycle sharing scheme for Norwich	1,6,7	Transport Team	2020
1.20 Introduce a new cycle map for Norwich	1,6,7	Transport Team	2021
1.21 Encourage more walking and cycling via the transforming cities bid	1,6,7	Transport Team	2020 then ongoing
1.22 Establish a new rapid transport route into the city (Potential EV travel hubs)	1,6,7	Transport Team	2020 then ongoing
1.23 Introduce more 20 MPH zones and traffic management systems which lower CO ₂ emissions	1,6	Transport Team	2020 then ongoing
1.24 Refresh the council's Local Climate Impacts Profile (LCLIP) using the latest data from the UKCIP18	8	Environmental Strategy	2020
1.25 Explore the CPD Scatter Tool developed by the Tyndall Centre for use in Norwich	1,2,7	Environmental Strategy	2019
1.26 To review the electric charging provision in Norwich and surrounding area to ensure Norwich is "zero emission ready" and to install further rapid chargers (if required) on council land.	1,6,7	Environmental Strategy/ Transport	2021
1.27 Update the council's district heating map to account for the developments in low temperature systems and localised "energy centers"	1,2,4,5,7	Environmental Strategy	2023
1.28 To run a third collective auction for solar panels so that private households and landlords can purchase and install them at a lower cost	1,4,7	Environmental Strategy	2020
1.29 Review the investment potential for solar private wire for local businesses to use	1,5,7	Environmental Strategy/IT	2021
1.30 To implement initiatives to raise awareness and create action at a local neighbourhood level about energy efficiency, managing energy use and the benefits of installing renewable energy by providing information, advice and education	1,4	Environmental Strategy	Ongoing
1.31 To set up a series of environmental discussions and information sessions physically and virtually to inform citizens.	1,3,4,6,7,8,9	Environmental Strategy	2021 then ongoing
1.32 Reduce retail food waste via a food poverty strategy	1,3,7,9	Strategy	2020 then ongoing
1.33 Continue reduce the use of SUP at events on council land	1,3,5,7	Strategy	2020 then ongoing

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
1.34 Refresh the council's Travel Plan	1	Environmental Strategy	2021
1.35 To set up a Climate Leaders' Group via the City Vision 2040 partnership to help to deliver environmental aspirations of the City Vision	1,5,7	Strategy	2019 then ongoing
1.36 Encourage more electric taxis by the provision of discounted rapid charge refills and potential increase of vehicle age licencing rules if fully electric	1,6,7	Licensing/ Transport/Environmental Strategy	2023
1.37 To set up a energy company to help citizens take advantage of renewable energy as well as exploring with partner organisations the potential for a district heating scheme for the city	1,2,4,5 7	Environmental Strategy/ Communications	2019 then ongoing
1.38 To monitor, review and potentially take forward opportunities in the local energy supply markets including exploring community energy companies/ ESCo's, use of block chain and smart meters to incentivise reduced energy consumption	1,7	Environmental Strategy/ IT/ Octopus/ Others	Ongoing
1.39 To have an environmental themed Lord Mayor's and to use more sustainable transport	1,5,6,7	Events	2019 then ongoing
1.40 Develop a sustainable food group and apply for a sustainable food city status	All	Strategy/ Environmental Health	2023 then ongoing
1.41 Sell local honey at the TIC to support local honey producers	9	Tourist Information Centre	2019 then ongoing
1.42 Only allow companies which offer 100% renewable electricity as standard into the Big Switch and Save auction	1,7,10	Environmental Strategy/ Communications	2020 then ongoing
1.43 Continue to develop ROAR Power to enable the deployment of ECO and Smart energy	1,2,4,10	Environmental Strategy/ Communications	2021
1.44 To review the outcomes of citizen assemblies to help inform our ongoing local debate around the low carbon agenda	1,2,3,4,5,6,7,8,9,10	Environmental Strategy/ Strategy/ City Vision	Ongoing

Theme 4: the council as an estate manager

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
4.1 To deliver an ongoing investment programme of energy efficiency improvements in council housing across the city	1,4,7	Housing	Ongoing
4.2 To carry out a review of the council's asset portfolio informed by energy performance surveys to guide opportunities for energy efficiency improvement and rationalisation	1,2,7	City Development	Ongoing
4.3 To explore the development of a programme of LED lighting and more efficient landlord lighting working closely with residents	1,2,7,10	Housing	2021
4.4 To refresh and re-launch the council's employee travel plan including looking to reduce single occupancy car journeys by 20% by 2024 and the continuation of the cycle to work scheme, pool bike scheme and encouragement of walking	1,2,6,7	Human Resources	2020
4.5 To rationalise and reduce the number of fleet vehicles run by the council by 2.5%	1,2,7	City Development	2023

Key action (RAG)	Environment priorities they contribute to delivering	Lead service	Delivery timescale
4.6 To produce and deliver a council water reduction action plan	1,2	Environmental Strategy	2024
4.7 To reduce SUPs where possible	All	All	Ongoing
4.8 To explore the development and delivery of a large scale PV scheme on council housing across the city in consultation with tenants and review other opportunities for micro- generation and storage	1,2,4,7	Housing	Ongoing
4.9 To deliver the council's carbon management programme for the next 5 years to realise a 70% reduction (from a 2007 baseline) from local authority operations	1,2,7	Environmental Strategy	Ongoing
4.10 To deliver large scale solar PV schemes on a minimum of 2 commercial or operational sites in the city	1,2,7	City Development	2022

12. Annex A: Norwich City Council's published environmental policy

The council's environmental policy will play a key role in working towards sustainable development because the health and well-being of our environment is crucial for providing us all with a good quality of life, both today and for years to come.

The policy:

It is our policy to meet our national and international legislative obligations, to develop local sustainable communities, enhance the local environment, deliver environmentally-friendly services and enforce environmental legislation to help stem the depletion of finite natural resources.

We are committed to preventing pollution of the environment through compliance with legislation and the continual improvement of environmental performance. We will also monitor our resource use, by:

- increasing energy efficiency in council-owned property
- promotion of domestic energy efficiency
- reducing the amount of waste sent to landfill
- increasing recycling opportunities
- reducing consumption of paper in council activities
- reducing consumption in fuel in council operations
- reducing CO₂ emissions from council operations to achieve net zero by 2030
- reducing per capita carbon emissions, until becoming carbon-neutral by 2050
- preventing groundwater pollution and contamination of land
- protecting and enhancing of habitat and biodiversity
- enhancing of the quality of the built environment
- environmental considerations laid out within the procurement strategy.

13. Glossary of terms:

Austerity: The United Kingdom government austerity programme is a fiscal policy adopted in the early 21st century following the Great Recession. It is a deficit reduction programme consisting of sustained reductions in public spending and tax rises, intended to reduce the government budget deficit and the role of the welfare state in the United Kingdom.

Anthesis: An environmental consultancy working with Nottingham Council, BEIS, Greater Manchester Combined Authority and the Tyndall Centre for Climate Research at the University of Manchester to develop the SCATTER tool.

Biodiversity: The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable. A good level of biodiversity is indicative of a healthy ecosystem or habitat that can support a range of species.

CATCH: Working with Anglian Water, Broadland District Council and Norwich City Council to find long-term solutions to the problem of surface water flooding in Norwich. Offering homes, businesses and schools the chance to have a slow-release water butt or rain water planter installed.

Cabinet committee: Norwich City Council's main decision-making body. It is made up of a small number of councillors, called cabinet members. They each have responsibility for particular service areas of the council (e.g. housing, sustainable city development, waste and recycling, planning, finance).

Climate Change Act (2008): The Climate Change Act 2008 is the basis for the UK's approach to tackling and responding to climate change. It requires that emissions of carbon dioxide and other greenhouse gases are reduced and that climate change risks are prepared for. The Act also establishes the framework to deliver on these requirements.

The Climate Change Act commits the UK government by law to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050. The 100% target was based on advice from the CCC's 2019 report, 'Net Zero – The UK's contribution to stopping global warming'.

Climate Change Adaptation Plan: Government strategy to address the main risks and opportunities identified in the risk assessment for England. Produced every five years. The first National Adaptation Programme was published in July 2013 and the second in 2018. The latest programme sets out what government and others will be doing over the next 5 years to be ready for the challenges of climate change.

Climate Change Emergency & Environment Executive Panel (CEEEP): Norwich City Council committee created in October 2019 to consider climate change and sustainability including social and economic issues in both the short and the long term in order to gather information and generate reports to advise Cabinet.

Climate Change Emergency: A declaration by local authorities and countries, which states that urgent action needs to be taken to slow the progress of climate change. An affirmation that the struggle against climate change is an emergency and needs to be treated as such.

Climate resilient communities: Communities which are able to absorb and withstand the stresses placed upon them by climate change, and continue to function, adapt and evolve into communities which are increasingly sustainable and better able to deal with future climate change impacts.

CO₂ emissions: Carbon dioxide (CO₂) is a colourless, odourless and non-poisonous gas formed by combustion of carbon and in the respiration of living organisms and is considered a greenhouse gas. Emissions means the release of greenhouse gases and/or their precursors into the atmosphere over a specified area and period of time.

Council: A branch of local government in the United Kingdom: Supervising one of the Districts of England: A Metropolitan borough. A Non-metropolitan district.

DBEIS: Department for Business Energy and Industrial Strategy.

Energy efficiency: Using less energy to provide the same service. For example, a compact fluorescent bulb is more efficient than a traditional incandescent bulb as it uses much less electrical energy to produce the same amount of light. Whilst an LED bulb is more energy efficient still.

Five year carbon budget: In order to meet the government's Climate Change Act (2008) targets, five-yearly carbon budgets were set. These budgets currently run until 2032. They restrict the amount of greenhouse gas the UK can legally emit in a five year period. The UK is currently in the third carbon budget period (2018 to 2022).

Fuel Poverty: Not having sufficient income to be able to heat one's home sufficiently, including hot water to keep clean, or a source of heat to cook with. Where a resident is fuel poor, they may have to make the decision to "heat or eat".

Global Warming of 1.5°C: In October 2018, the IPCC published the Special Report on 1.5°C (SR15). Drawn together by 91 authors, and with 6,000 scientific references, the report shows that "limiting global warming to 1.5 °C compared with 2 °C would reduce challenging impacts on ecosystems, human health and well-being". Also that a 2 °C temperature increase would exacerbate extreme weather, rising sea levels and diminishing Arctic sea ice, coral bleaching, and loss of ecosystems, among other impacts.

The report also presents modelling that shows that to ensure that global warming is limited to 1.5 °C, "Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050."

Intergovernmental Panel on Climate Change (IPCC): The IPCC is an organisation of governments that are members of the United Nations or WMO. IPCC scientists volunteer their time to assess the thousands of scientific papers published each year to provide a comprehensive summary of what is known about the drivers of climate change, its impacts and future risks, and how adaptation and mitigation can reduce those risks.

The objective of the IPCC is to provide governments at all levels with scientific information that they can use to develop climate policies.

LCLIP: LCLIP is a simple tool designed to help organisations to assess their exposure to the weather. It can be used as a standalone tool, or as a step in a risk-based framework. The LCLIP process shows how prepared an organisation is to deal with severe weather events.

Local Agenda 21: Local Agenda 21 is conceptualised in chapter 28 of Agenda 21, which was adopted by 178 governments at the 1992 Rio Conference. Agenda 21 recognised that many environmental problems can be traced back to local communities and that local governments have an important role to play in implementing environmental programs and gathering community support. Adoption

of Local Agenda 21 is voluntary. The most appropriate implementation method is not prescribed. Rather local government and the local community agree upon a suitable implementation method for their region.

Local Authorities: A local authority is officially responsible for all the public services and facilities in a particular area. Depending on where you live, local government consists of at least one or two tiers of authorities. Two tiers, with responsibilities of local services divided between them: County council/ borough, district, city councils. Or one (unitary) tier, providing all the services: unitary, London boroughs, metropolitan boroughs. In Norwich we are part of a two-tier system with Norfolk County Council.

Local Government: The administration of a particular county or district, with representatives elected by those who live there.

Local Planning Authority: The local planning authority is usually the planning department of the district or borough council. The National Planning Policy Framework (NPPF) defines a local planning authority as, 'the public authority whose duty it is to carry out specific planning functions for a particular area.'

Low carbon: causing or resulting in only a relatively small net release of carbon dioxide into the atmosphere.

Mitigate: To make the impact of something less serious or severe. To soften or reduce.

Norwich 2040 City Vision: Launched in Autumn 2018, the Norwich 2040 City Vision is a document which brings together the results of a large consultation exercise with a wide range of stakeholders, to consider what residents, businesses and visitors might like Norwich to be like as a place to live, work and play in the year 2040.

Norwich City Council's corporate plan: A plan that details how the council intends to deliver the services it provides for the people who live, work and play in Norwich. The most recent corporate plan has been written in response to the Norwich 2040 City Vision document, in order to facilitate in delivering the aspirations laid out in this document.

Paris Agreement: An agreement within the United Nations Framework Convention on Climate Change (UNFCCC), dealing with greenhouse-gas-emissions mitigation, adaptation, and finance, signed in 2016. The Paris Agreement's long-term temperature goal is to keep the increase in global average temperature to well below 2 °C above pre-industrial levels; and to pursue efforts to limit the increase to 1.5 °C, recognizing that this would substantially reduce the risks and impacts of climate change.

Passivhaus: A voluntary standard for energy efficiency in a building, which reduces the building's ecological footprint. It results in ultra-low energy buildings that require little energy for space heating or cooling. Can be applied to domestic or commercial properties.

Place making: An overarching approach to shaping the city paying particular attention to the physical, cultural and social identities that define a place. Placemaking strengthens the connection between people and the places they share.

RAG: In project management, RAG (RAG report, RAG status or Delivery Confidence Assessment) is an acronym that stands for Red Amber Green and relates to project status reporting which is utilized by project managers to indicate how well a certain project is performing.

Renewable energy: Energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat.

Renewables: Refers to types of technology, including solar, wind, hydro, that harness energy from infinite (or renewable) sources such as the sun, wind, water, as opposed to energy created by burning gas or coal (fossil fuels) which are finite sources of energy, and therefore not renewable. They will run out eventually.

Retro-fitting: Modifications to existing (commercial or domestic) buildings that may improve energy efficiency or decrease energy demand.

SCATTER Tool: SCATTER is a local authority focussed emissions tool, built to help create low-carbon local authorities. SCATTER provides local authorities and city regions with the opportunity to standardise their greenhouse gas reporting and align to international frameworks, including the setting of targets in line with the Paris Climate Agreement. Its use is free of charge to all local authorities in the UK.

SUP: Single Use Plastics are goods that are made primarily from fossil fuel-based chemicals (petrochemicals) and are meant to be disposed of right after **use**. **Single-use plastics** are most commonly used for packaging and serviceware, such as bottles, wrappers, straws, and bags.

Sustainability: Avoidance of the depletion of natural resources in order to maintain an ecological balance.

Sustainable Development: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Tyndall Centre for Climate Change Research: The Tyndall Centre is a partnership of universities bringing together researchers from the social and natural sciences and engineering to develop sustainable responses to climate change. We work with leaders from the public and private sectors to promote informed decisions on mitigating and adapting to climate change.

UKCIP18: The UK Climate Projections (UKCP) is a climate analysis tool that forms part of the Met Office Hadley Centre Climate Programme which is supported by the Department of Business, Energy and Industrial Strategy (BEIS) and the Department for Environment, Food and Rural Affairs (Defra). It was last updated in 2018.

UK net zero target of 2050: Carbon neutrality means having a balance between emitting carbon and absorbing carbon from the atmosphere in carbon sinks. Carbon sink is any system that absorbs more carbon than it emits. The main natural carbon sinks are soil, forests and oceans. According to estimates, natural sinks remove between 9.5 and 11 Gt of CO₂ per year. Annual global CO₂ emissions reached 37.1 Gt in 2017. To date, no artificial carbon sinks are able to remove carbon from the atmosphere on the necessary scale to fight global warming.

WRAP: WRAP works with governments, businesses and communities to deliver practical solutions to improve resource efficiency.

14. Emissions data

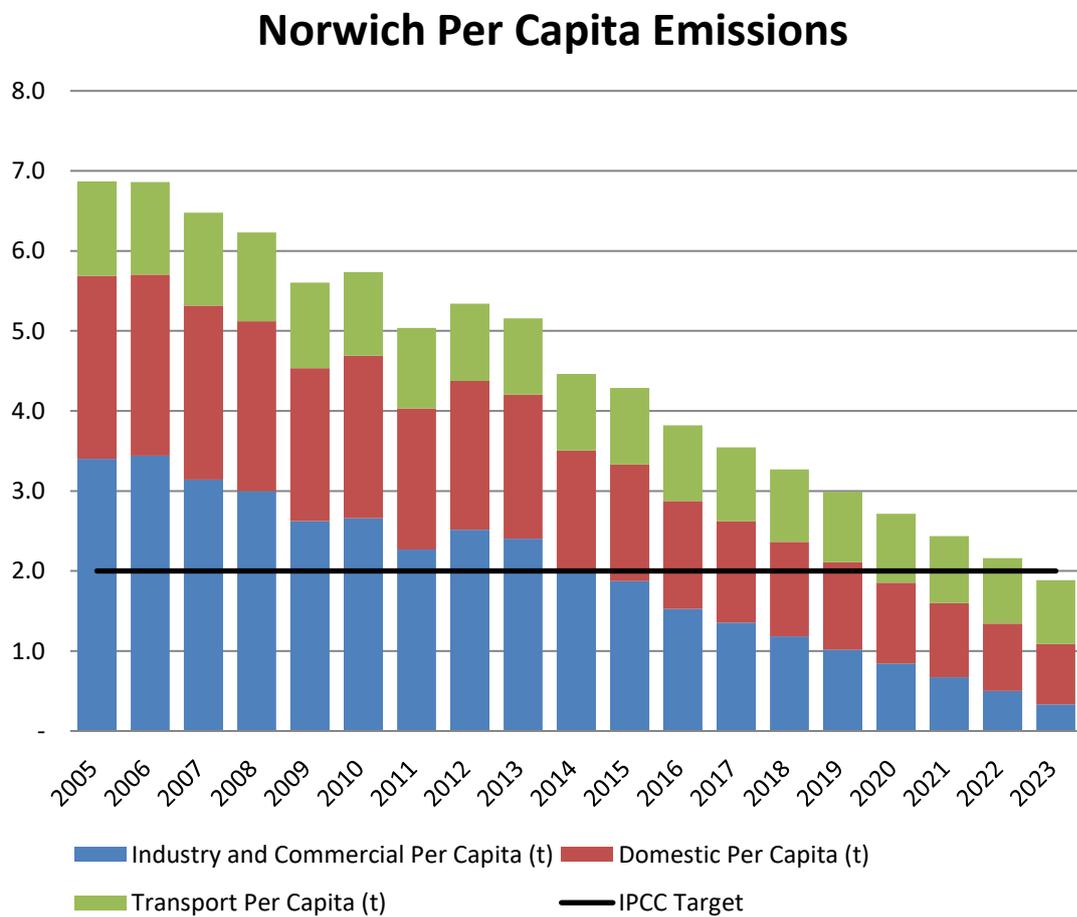


Fig 4: UK local authority carbon dioxide emissions since 2005 (Source: DBEIS)

Produced by Department for Business, Energy & Industrial Strategy (DBEIS), the National Indicator (NI) comprises annual reduction in CO₂ emissions across an agreed set of sectors (housing, road transport and business). This is measured as a percentage reduction of the per capita CO₂ emissions from the 2005 baseline year. NI 186 excludes aviation, shipping and consumed emissions, as a reliable dataset has not been created at a national and regional level. As a city, Norwich is on track

to achieve 2 tonnes of CO₂ per person by 2023/24 and based on trajectory data the city will achieve carbon neutrality before 2050.

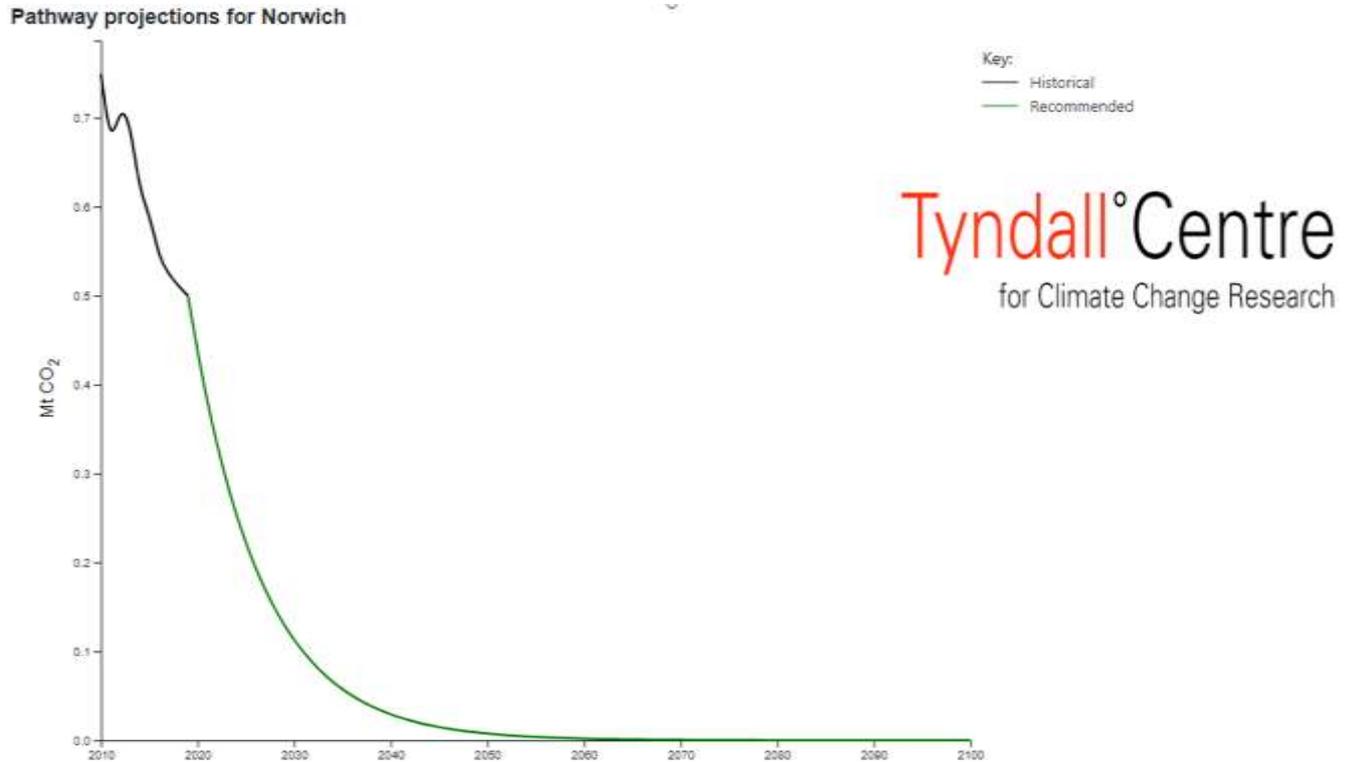


Fig 5: Tyndall Centre pathway projections for Norwich

Tyndall Centre pathway projections for Norwich is an alternative dataset calculated for the city council by the Tyndall Centre for Climate Change Research. This shows a steep reduction in emissions from 2010. However, the city's emissions will need to continue to reduce significantly over the next two decades, in order that the city contributes to global emissions reduction targets and national policy to be net zero by 2050. This will only be achieved if central government policy provides the necessary resources and incentives nationally and locally for every sector.

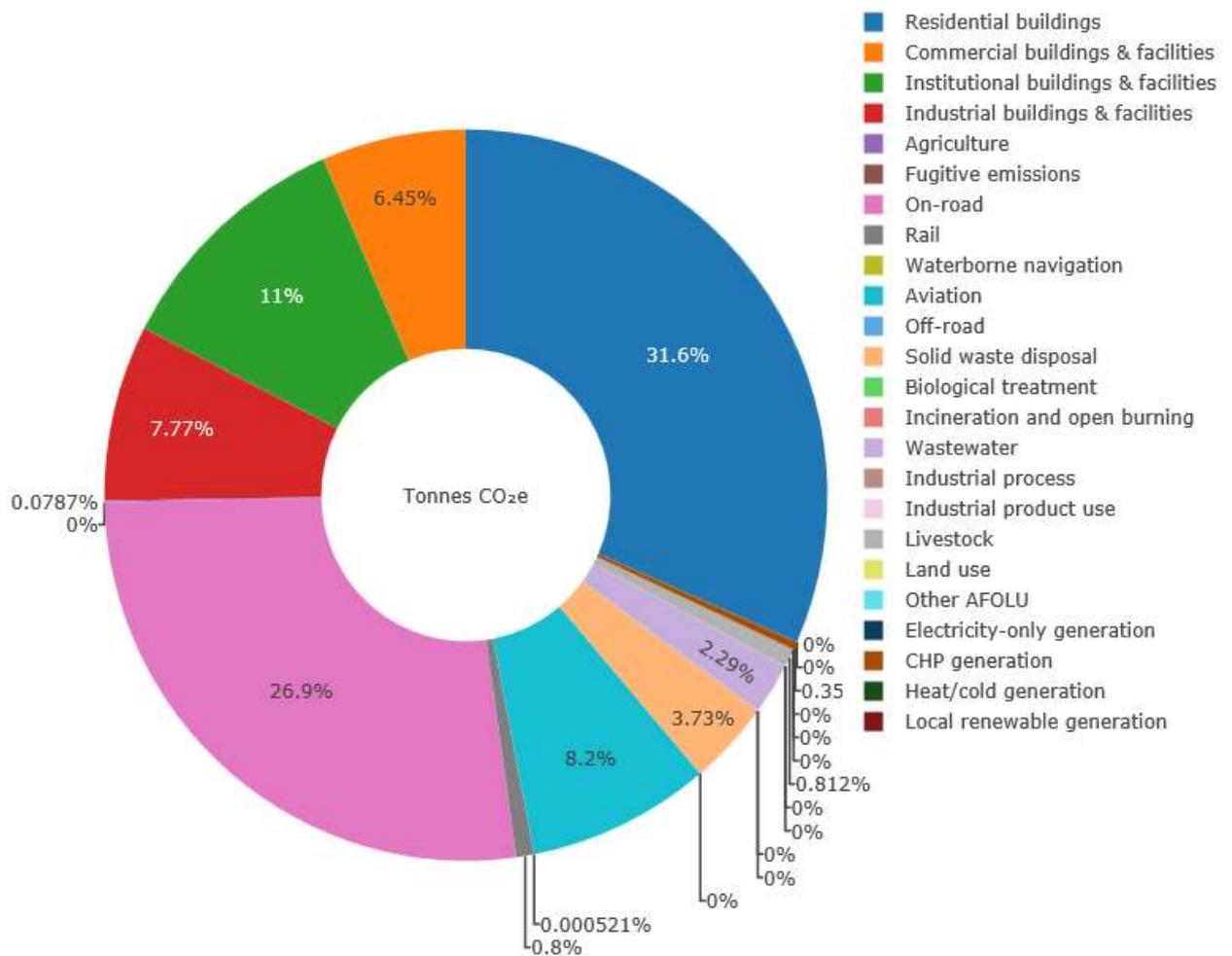


Fig 6: SCATTER (Setting City Area Targets and Trajectories for Emissions Reduction)

The SCATTER tool developed by DBEIS, Anthesis, Nottingham City Council and the Tyndall Centre identifies residential buildings and on-road transport as being significant CO₂ emitters within the City. Both these sectors will need significant investment to decarbonise and will be a considerable challenge moving forwards to a zero carbon Norwich.



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