



Carbon Neutral Nottingham 2028

Action Plan Review – Year 1, 2020-2021

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1. Introduction

To say 2020 has been an exceptional and challenging year is clearly a huge understatement. The world not only was hit by the global pandemic of the Coronavirus, it also was the second warmest on record. We saw incredibly high temperatures in Canada, wildfires in Europe and Asia, flooding across the globe and devastating hurricanes and typhoons, let alone the continuing rapid reduction in ice at the poles and loss of habitats and threats to our wildlife.

Tackling climate change is without doubt the most pressing and vital thing humanity needs to do and the most challenging. At the best of times, it is huge and highly complex and to do so in such testing circumstances adds a layer of unprecedented difficulty. However, the significant impact climate change is having on our lives now and the dangers we face in the future if remain unchecked means it is absolutely imperative that we act now and do all we can despite the pressures we face.

In January 2019, Nottingham City Council ('the Council') declared one of its top priority policies to make Nottingham the first city in the UK to become carbon neutral by 2028 (CN28) led by the Council's Deputy Leader and Portfolio Holder for Environment, Energy and Waste, Councillor Sally Longford. In January 2020 with COVID-19 being something we knew of but could not imagine then the seismic influence it would have on our lives, Nottingham and the Council declared a Climate and Ecological Emergency in recognition of the challenge we face not only as a planet but close to home in our city.

In terms of scale of change required, it's fair to say it needs to be fundamental in all aspects of our day-to-day lives. As a city, we will need to reduce our emissions by just over one million tonnes of carbon dioxide (tCO₂) by 2028, greater than a 22% decrease each year between now and then. Currently we are decreasing at a rate of an average of nearly 4% per year.

A draft action plan was formulated with key City partners, such as both universities and the NHS, and this was put out to a citywide public consultation from January to March 2020. After over 1,000 responses, in June 2020, an initial plan to deliver Carbon Neutral Nottingham 2028 was published and work began on delivering over 250 actions in the plan.

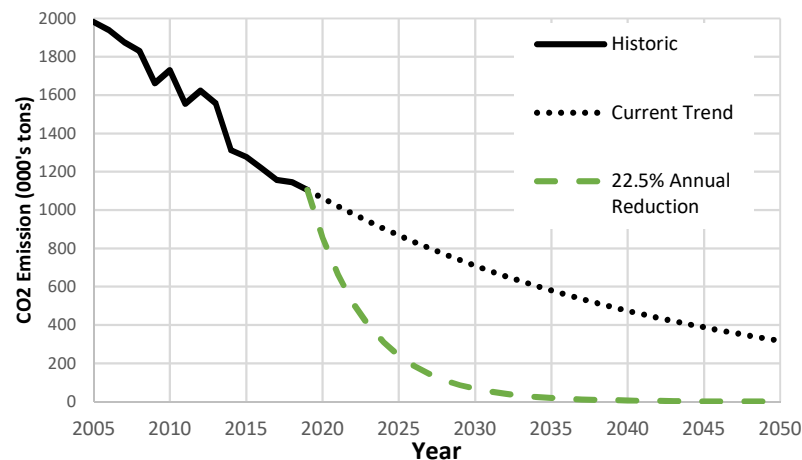
The plan focuses on:

- Reducing the amount of carbon dioxide (CO₂) produced as far as possible in the city in key themes such as transport and the built environment;
- Capturing carbon and offsetting residual greenhouse gas emissions that cannot be removed entirely through means such as more tree planting;
- Ensuring the city is resilient and adapted to the effects of climate change both physically and socially;
- Ensuring nature, biodiversity and our green spaces are protected, maintained and enhanced;
- Changing the way we behave and live our lives so all who live, work and visit the city are contributing to reducing their carbon footprints as much as possible; and
- Ensuring the city becomes a better place to live, with more opportunities to live a healthier life with improved economic, social and cultural benefits for all.

2. Summary

The latest government figures published in 2021, show that, in 2019, Nottingham produced **1.105m tonnes of CO₂**. The city has reduced its overall CO₂ emissions (since 2005) by **44.2%** and reduced its per capita emissions by **52.3%**, the highest reduction of any UK core city. On average, CO₂ emissions have reduced at **3.95%** per year between 2005 and 2019.

The trajectory of CO₂ reduction in the city is demonstrated on the following graph along with the reduction needed to be carbon neutral by 2028:



3. 2020/21 Action Plan Review

The CN28 action plan is considered as a fluid and flexible document able to embrace and react to any changes or developments in technology, policy etc that and so it is reviewed

and amended on an annual basis to ensure it remains contemporary and able to deliver the ambition.

Delivery of the action plan began in July 2020. At the end of each year of delivery (in July), the action plan will be thoroughly reviewed to ensure it remains appropriate and able to deliver the ambition it set out to deliver.

This report is the first of these reviews and will be followed by subsequent annual reviews each year up to and including 2028. The 2020/21 review concluded that the vast majority of actions in the plan will continue to be delivered as originally envisaged at the start of last year. This reflects the robustness of the initial iteration of plan and its contents in delivering what is required to reduce the city's carbon emissions.

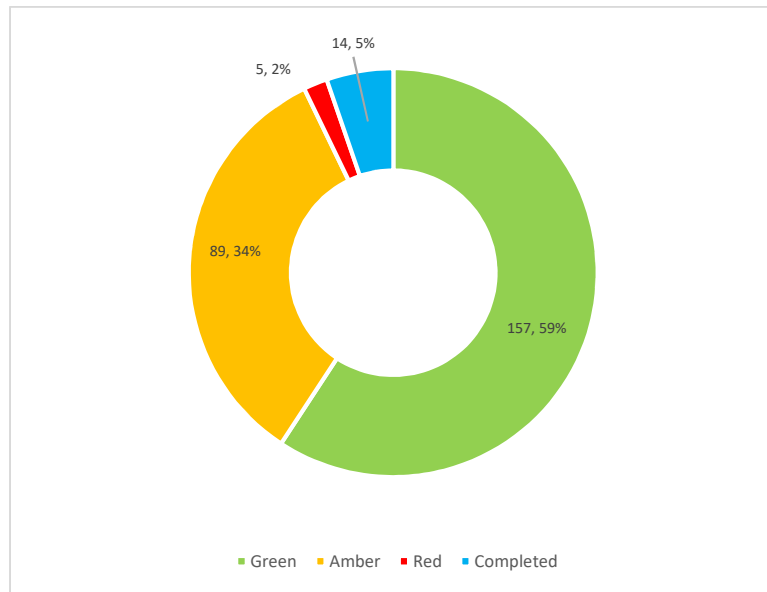
The plan is managed closely by an internal Council implementation Group which meet monthly. Each theme is led by a senior Council officer and they report on the actions in their theme on a quarterly basis. The reporting periods are not based on the financial year as the action plan commenced in July 2020. Therefore:

- 1st Quarter 1 = July to September
- 2nd Quarter = October to December
- 3rd Quarter 3 = January to March
- 4th Quarter 4 = April to June.

The quarterly reports are presented to the CN28 Board chaired by the Deputy Leader. This in turn, is presented to the external Nottingham Green Partnership for input and comment.

Delivering the Action Plan in 2020/21

The 2020/21 plan contained 251 actions. Of these, 157 (59%) are expected to achieve their planned outcomes and targets ('green'). There is some concern that 89 actions (34%) will not meet their expectations without further resources or intervention ('amber') and only 5 (2%) are predicted to miss their targets completely ('red'). 14 actions have already been completed.



Key Achievements in 2020/21

Despite the challenges of dealing with the pandemic in the city and, the overall pressure on the Council's finances, notable and significant achievements have been made to help continue the downward trend of CO₂ emissions in the city. These included:

- 30% of the Council's vehicle fleet are now Ultra Low Emission Vehicles (ULEV) and the Council became the first local authority in the world to put into use electric powered RCVs (Refuse Collection Vehicles)
- In 2020/21, 130 public electric vehicle charging points were installed across the city with 81 installed in one location, the new Broadmarsh Car Park, the most for a single site in the UK so far
- 39% of Nottingham City Transport (NCT) public bus fleet runs on low carbon bio-gas
- Nottinghamshire University Hospitals NHS Trust began work on a £25m scheme to replace its coal fired boilers at the City Hospital estimated to save 800 tCO₂ per year
- In 2020/21, the Council secured over £13m funding for domestic energy efficiency retrofits with over 1,200 homes set to benefit from the domestic retrofit programme. Since 2012, over 7,000 social and private hard-to-treat homes have been insulated, with over 4,000 social housing properties benefiting from solar panels
- A number of traffic calming and road closure schemes are now in place to encourage more walking and cycling, and reduce congestion and risk especially around schools
- 46% of hackney carriage ('black cab') taxis in the city are ULEV
- The Council planted over 14,500 new trees across the city
- The Accelerating Reduction in Carbon (ARC) project is underway to support our Small and Medium Enterprises (SMEs) to reduce their carbon footprints
- The city's schools have been doing their bit too. They are transforming school meals menus to include more

vegetable dishes. For instance, the ‘Swap It campaign’ encourages pupils to swap meat dishes for vegetarian.

4. Working in Partnership

Achieving carbon neutral by 2028 is something that cannot be achieved by one organisation alone. The Council is directly responsible for approximately 2% of the city’s CO₂ emissions so it is imperative that all business, organisations, workers, residents, and visitors to the city play their part. Key to this is collaboration and the Council is at the heart of this.

The Council works with key city partners through the well-established Nottingham Green Partnership which will be 30 years old next year having formed in 1992. The partnership, chaired by one of the partners at Browne Jacobsen Solicitors works across the city to develop, share and encourage businesses and organisations to work together to deliver carbon reduction strategies.

This year we started the ‘We Support CN28’ campaign for businesses. This allows any Nottingham based business or organisation to show its support for the CN28 ambition by signing up to the pledges outlines in the City’s Carbon Neutral Charter. They are provided with a series of especially designed logos to use on any promotional material, vehicle livery, email signature etc. The Council then work with them on an ongoing basis to help explore ways in which you could reduce their carbon footprint and visibly promote them as a supporter of CN28 in Council communications and marketing. As of October 2021, 45 organisations were signed up and are follows:

Arup
Blu72
Boots-Walgreen
Browne Jacobsen
Canal and River Trust
East Midlands Ambulance Service
East Midlands Chamber of Commerce
Environment Agency
Finastra
Green Meadows
Hockley/Green Hustle
Ignite!
Jigsaw24
Left Lion
Meadows Ozone Energy Services
Natural England
Nottingham BID
Nottingham City Homes
Nottingham City Transport
Nottingham College
Nottingham Creative Quarter
Nottingham Good Food Partnership
Nottingham Motorpoint/Ice Arena
Nottingham Partners
Nottingham Playhouse
Nottingham Trent University
Nottingham Universities Hospitals Trust
Notts Fire and Rescue
Notts Healthcare Trust
Notts Police
Renewal Trust
Ridewise

Roadgas
Romano's Caterers Ltd
Scape
Shop Zero
Sneinton Market
Soul and Flare
Source Bioscience
Stewarts of Trent Bridge
Sustrans
Signature Discovery
Tramlink
University of Nottingham
VASO Glass Straws Ltd.

Regular monthly newsletters for businesses and residents provide tips and advice on reducing carbon emissions in the workplace and at home. The Council regularly uses social media to get key messages and information across as well as setting challenges on the 28th of each month to encourage people to change their habits in fun and engaging ways.

However, as a city, we know we need to do more. We will intensify our efforts to work with many more organisations in 2021/22 and share their work and contributions as often as we can to show it's a combined efforts across the whole city.

5. Co-Benefits

Sustainability, economic growth, alleviating poverty and tackling climate change are all complementary and interlinked.

The CN28 Action plan deliberately sets out Nottingham's approach to sustainable carbon neutrality to help realise multiple other benefits to the city, termed 'co-benefits'. Co-benefits are deliberate or incidental positive outcomes across a range of other areas in addition to the central aim of reducing CO₂ emissions. The CN28 charter set out four key co-benefits which reducing the city's carbon emissions will help bring about:

- **Improving Air Quality**
- **Improving quality of Life and human wellbeing**
- **Enable a sustainable economy**
- **Improve the built environment and sustainable communities.**

Where possible existing performance metrics are used to report progress against the co-benefits alongside the action delivery reports and development of a more comprehensive suite will be undertaken going forward.

In 2020/21, the levels of nitrogen dioxide and particulates in the atmosphere were used to demonstrate how air quality in the city had changed. These measures all showed improvement (reduction) compared to 2019/20:

(Measured in $\mu\text{g}/\text{m}^3$)	2019/20	2020/21	Trend
Levels of atmospheric Nitrogen Dioxide (NO_x)	28	19	↓
Levels of atmospheric particulates less than $10\mu\text{m}$ in diameter (PM_{10})	18	13	↓
Levels of atmospheric particulates less than $2.5\mu\text{m}$ in diameter ($\text{PM}_{2.5}$)	11	8	↓

UN Sustainable Development Goals

The UN Sustainable Development Goals (SDGs) offer a common language and overarching framework to enable increased responsibility, connection and delivery of sustainability. Many of the goals may overlap with the action plan themes as demonstrated in the following table, demonstrating that sustainable development is wide reaching, affecting every area of business, environment and society. Work to encourage wider cross cutting collaboration with partner organisations using this internationally recognised approach and focusing on those SDGs that overlap with any action plan themes will be undertaken.

		UN Sustainable Development Goals								
		2 Zero Hunger	6 Clean Water and Sanitation	7 Affordable and Clean Energy	9 Industry, Innovation and Infrastructure	11 Sustainable Cities and communities	12 Responsible consumption and production	13 Climate Action	14 Life Below Water	15 Life on Land
CN28 Action Plan Themes	Transport				✓			✓		
	The Built Environment				✓			✓		✓
	Energy Generation			✓				✓		
	Water		✓					✓	✓	
	Waste		✓			✓		✓		
	Consumption	✓				✓	✓	✓		
	Ecology and Biodiversity							✓	✓	✓
	Resilience and Adaptation				✓			✓		

6. Carbon Reduction

CO₂ is produced naturally by plants and animals as well as through natural earth processes such as volcanic eruptions.

However, the burning of fossil fuels by humans has created an imbalance in the atmosphere resulting in an increase in CO₂ along with other greenhouse gases such as methane. This is causing global warming by having an insulating effect on the Earth and resulting in dangerously rising temperatures. Global warming is expected to have far-reaching, long-lasting and, in many cases, devastating consequences for planet Earth.

Already, global warming is having a measurable effect on the planet. We can observe this happening in real time in many places. Ice is melting in both polar ice caps and mountain glaciers. Lakes around the world, are warming rapidly in some cases faster than the surrounding environment. Animals are changing migration patterns and plants are changing the dates of activity such as trees budding their leaves earlier in the spring and dropping them later in the autumn.

Key to Nottingham contributing to reducing global warming and achieving carbon neutrality is our ability to reduce the amount of CO₂ we put into the atmosphere as much as possible. The action plan seeks to deliver this across six key themes.

a. Transport Theme

31% (346,000 tonnes) of the city's CO₂ emissions in 2019 came from transport in the city as it is currently

dominated by vehicles that run on fossil fuels i.e. petrol and/or diesel).

i. Summary

Nottingham has one of the best and well used public transport networks outside of London with the tram system and its fleet of modern, low carbon buses. However, this was put under pressure in 2020/21 by the coronavirus pandemic which saw a 60% drop in the use of public transport and a rise of 5% in car traffic volumes compared to the start of the pandemic in March 2020.

The Transport theme contains 41 actions of which seven were completed during 2020/21 and 71% are on track to be delivered.

ii. Achievements

- 'Transforming Cities' programme delivering upgraded bus real time information, contactless ticketing on buses, bus priority through junctions, new cycle infrastructure, City Centre public realm and electric vehicle charge points
- Active Travel Fund delivered many temporary cycle lanes, traffic free Embankment and school streets
- Delivering the E-scooter trial
- Delivery of the Transport behaviour change programme including TransportNottingham

communications, bike recycling for key workers and school travel initiatives

- Implementing the Workplace Travel Service: Electric van and e-cargo bike schemes
- Cleaning up and support for greener taxi fleet.

iii. Case Study

Supporting businesses to go green

In November 2020 the Council launched a new initiative offering businesses the chance to trial a range of electric vans.

Funded by National Highways and delivered by the Council's Workplace Travel Service and Nottingham Electric Vehicle Services, the Electric Van Experience (EVE) enables businesses to see how making the switch to electric vans could be the right move financially and environmentally.

With the ban on the sale of new petrol and electric vehicles brought forward to 2030, electric vehicles are the future, but making the switch is still a big decision.

The EVE gives businesses the opportunity to get in the driving seat and see the benefits of an electric van for themselves, before making any commitment, giving them confidence to go ahead and make their fleets cleaner.

More than 40 businesses have taken part to date, with the scheme receiving positive feedback from organisations including Shop Zero, ASAP Water Crafts, Page One Media and A W Lymn.

iv. Plan Review

The review of the theme concluded that no additional or amended actions were necessary to continue the work but it's clear that 2021/22 will again be a challenging year for the theme as the impact of the pandemic on the city's transport system looks set to continue.

The availability of external government funding will also be key to the continuation the city's decarbonisation of transport programmes. Looking forward, other key issues will be the Integrated Rail Plan which affects the Midland Mainline electrification and HS2 Eastern leg proposals.

b. The Built Environment Theme

The City's homes and buildings are the largest source of CO₂ emissions in the city. Nottingham's housing and non-domestic building stock poses a key challenge in the approach to sustainable carbon neutrality, with many homes built pre-1980 and with poor insulation, and fossil fuel heating being widespread.

i. Summary

Nottingham has over 135,000 domestic properties of which around 26,000 are social housing. Work has taken place over recent years to increase the efficiency of the social housing stock owned by the Council but there is a large challenge to retrofit all properties considering the scale of the costs involved, let alone the task of physically undertaking this.

42 actions comprise this theme of which three were completed in 2020/21 and 55% are considered as on track to be delivered by their target date.

ii. Achievements

Since 2012, over 7,000 social and private hard-to-treat homes have been insulated with over 4,000 social housing properties benefiting from solar panels. In 2020/21, the Council secured over £13m funding for domestic energy efficiency retrofits with over 1,200 homes set to benefit from the domestic retrofit programme.

Key actions in the theme are centred on how we can ensure new developments and buildings are built to much more sustainable standards and contain carbon reducing features and designs. A Carbon Reduction/Energy Checklist for new developments has been developed and is expected to be approved for use shortly. A key

aspect of this will be the requirement to submit a 'Carbon Reduction/Energy Statement' to accompany all major planning applications. This will produce a key focus on operational energy use, and encourage minimisation of this by enhanced building fabric and then supply of the residual energy by low carbon sources. It will also include a range of other factors, such as sustainable construction, bio-diversity and water usage. This is seen as a precursor to a much more comprehensive Supplementary Planning Document which will be introduced in 2023 and be a material consideration in the determination of planning applications.

iii. Case Study

Energy Efficient Homes in Nottingham

As part of ReMoUrban, we installed the UK's first "Energiesprong" pilot. Energiesprong achieves net zero carbon standards and guarantees tenant comfort for a fixed monthly cost.

Measures included:

- *Energy efficiency – prefab panels, windows and doors, roof insulation*
- *Low temperature communal heating from Ground Source Heat Pumps (GSHPs)*
- *Private wire electricity*
- *Solar Photo Voltaic (PV) installations*
- *Storage (thermal and electrical)*

- *Reduced energy costs from c. £1800 per year to £500 for all energy needs and a guaranteed comfort plan.*

The next steps to the Energiesprong pilot are 'Energy=0' (17 homes completed in West Walk, Sneinton) and the Deep Retrofit Energy Model (138 homes, 35 completed in Sneinton, 103 to be delivered in Radford in 2022). These schemes are refining and scaling the solution to increase commercial viability. They include new housing archetypes, technologies and tests the model on a school building.

An advanced off site manufacturing factory has also been set up at Nottingham City Homes' (NCH) Harvey Road depot.

iv. Plan Review

The actions of the theme have been reviewed and no additional actions are required currently to deliver the ambitions in 2021/22. However, development viability continues to challenge many actions which can prevent or weaken their realisation. Also, for Council owned land, there is still tension between the capital receipt and achieving planning and CN28 outcomes. The much anticipated Planning Bill expected to be announced by the Government in in the autumn is seen as key to setting the direction and deliverability of the theme's actions in 2021/22,

however, further delay is expected in light of the recent cabinet re-shuffle.

c. Energy Theme

Where we get our energy to power and heat our homes and businesses is critical to reducing CO₂ emissions. A proportion of the City's energy already comes from low carbon and renewable sources in the city boundary itself. This includes solar and 'energy from waste' produced via the district heating network. However, this proportion needs to increase significantly if we are to reach the CN28 ambition.

i. Summary

Current and projected future national grid decarbonisation is no doubt benefiting the ambitions of the theme. However, we continue to implement a broad range of energy efficient schemes across the city, helped by sustainable grant funding from central government and others.

Of the 39 actions in the theme, 33% are considered as on track with one action completed so far. This reflects the uncertainty in being able to deliver some actions due to their reliance on external funding being available.

ii. Achievements

The Green Homes Grant Local Authority Delivery project is underway, reaching up to 827 homes

with improved energy efficiency measures being installed. The ARC SME support programme is also underway which includes free energy assessments and grant to support energy efficiency/generation measures. Progress is also being made in additional solar farm provision with a partnership model identified. Western Power Distribution's green recovery funding has been secured for a new primary substation to help boost grid capacity.

iii. Case Study

Going Solar

The Council has secured over £4m from the Government's Green Homes Grant to fit solar panels to around 655 properties in the city.

Installing solar panels is expected to save around £240 a year in electricity costs per household and would equate to a carbon saving of 440 tonnes over 655 properties.

The primary purpose of the scheme is to raise the energy efficiency rating of low income and households with low energy efficiency which will help Nottingham achieve CN28.

Our desired outcomes are:

- *Tackle fuel poverty by increasing low-income household's energy efficiency rating while reducing their energy bills*

- *Support clean growth and ensure homes are thermally comfortable, efficient, and well-adapted to climate change*
- *Support economic resilience and a green recovery in response to the economic impacts of COVID-19, creating thousands of jobs*
- *Use learnings from the delivery experience to inform the development and design of further energy efficiency and heat schemes.*

iv. Plan Review

Many of the actions in the theme remain valid and there are some amendments to ensure any actions that relate to central government/Ofgem plans remain current. Also, some actions have been combined where reporting has been duplicated. We have also made strong links to ClimateView outputs to ensure we have correct focus based on impact of actions and quantify these e.g. how much PV deployment is needed across the city.

d. Waste Theme

What we throw away and how we dispose of it has a significant impact on our carbon emissions. In 2020/21, Nottingham recycled, reused or composted 23.9% of its domestic waste, the lowest of any core city in the UK. However, only 7.1% of the City's waste ends up going to landfill with the remainder going to be incinerated.

i. Summary

The waste theme in the action plan has 16 actions of which only 25% are considered as likely to achieve their outcomes. Of particular issue is regulations that will be introduced in 2023 to collect all food waste alongside other household waste by the local authority.

Work has focussed on developing the new waste strategy for the city and developing city wide recycling campaigns and associated literature to reduce waste contamination of waste (the wrong materials being placed in the incorrect bins) which remains a big issue in the city.

ii. Achievements

- Throughout the year new households or residents who sign up to pay Council Tax receive a 'how we recycle in Nottingham leaflet'
- Working closely with management agencies of flats and shared complexes to ensure they understand the Council's waste policy, their residents receive a specific communal recycling leaflet
- We are in the beginning phases of planning a trial of 1,100 litre bin units which will be situated on the street for Houses of Multiple Occupation (HMOs) in the area to use as opposed to having multiple 240 litre bins on the property

- Students in halls and HMOs currently have no recycling facilities in their private bedrooms, so we are currently looking at what caddies would be suitable for their recycling needs
- Work is in progress on the development of a new waste strategy for the city, due to be published in 2023.

iii. Case Study

Improving the recycling of Electrical Goods and Tetrapaks

During the 2020 Recycling Week, the waste team collected over 36 bin loads of small electrical equipment (WEEE) from a one day drop off event at the Forest Recreation tram stop. Following this, the waste team decided to pilot a scheme where residents can drop off unwanted small WEEE and empty Tetrapak (currently not recyclable in kerbside collections), at local community or leisure centres near them.

Currently there are two designated drop off points inside Loxley House and Clifton Leisure Centre, with two more to be decided in the coming months. A further two points will be roving around NCH's flats and apartment complexes every eight weeks.

Previous to this scheme, residents were told to put their items into their general waste bin or take them to the local recycling centre, which excluded

a large part of the city's population who do not have access to a car and wanted to recycle their items. This scheme has allowed residents to use their general waste bins more efficiently and stops two recyclable products going to the incinerator or landfill.

iv. Plan Review

The review showed that there remains significant challenges to the delivery of the actions in the waste theme but progress was being made sufficiently to retain all actions for 2021/22 with no amendments.

e. Water Theme

The way we do our laundry, clean our dishes and hose down our cars all have a surprising and largely unnoticed impact on the climate. The CN28 Action Plan has a number of actions aimed at reducing water demand and improving efficiency, helping to reduce energy used for water supply and treatment, and subsequent carbon emissions.

i. Summary

This is a small theme with currently only six actions however, a significant one was delivered in 2020/21 which was the provision of water to the Council's estate through its own water self-supply licence.

ii. Achievements

Along with the management and monitoring of the Council's water self-supply, work continues to strengthen partnership relationships and leverage action from others, and development of projects for NCC's Water Efficiency Loan Scheme (WELS).

iii. Case Study

Managing the Water Self Supply during COVID-19

The Council's water self-supply licence with a fully in-house operating model was a hit, unlike all other commercial water retailers during the COVID-19 pandemic. 2020 saw the first ever freeze on meter readings and related performance measures required by the national market operator. In addition, the majority of on-site activities were suspended making it near impossible for the Council to operate and undertake their duties as a retailer. NCC strived during these challenging times to continue to monitor consumption as accurately as possible, in addition to identifying leaks across the estate.

The water self-supply team has helped to support the green recovery following the pandemic by continuing to manage water consumption and identify a number of leaks through better and more consistent meter reading. We have saved over 96,000m³ during 2020/21 compared with

2017/18 baseline (derived from 10 months of data with an extrapolated average) though some of this reduction has been because of property closure and not just the improved data and utilities management. There have also been five leaks identified by the self-supply team and the timely spot and subsequent repairs will have saved the Council in the region of £3,700 annually compared to if these had gone unnoticed.

iv. Plan Review

Little change is anticipated in 2021/22. The focus will be on behaviour change and working more closely with Severn Trent Water to reduce consumption as well as industrial consumption.

f. Consumption Theme

What we buy as goods or services has a carbon impact due to their embodied emissions, resulting from their manufacture and transportation. For instance, meat and dairy are considered as 'high carbon' foods due to the amount of CO₂ that is created in the production of them. Therefore this theme seeks to reduce the amount of embodied carbon in the goods and services we consume, and develop behaviours, processes and ways of working that seek to reduce this significantly.

i. Summary

In 2020/21, there were 38 actions in the theme of which 92% are on target to be delivered. These are being managed successfully despite the

pressures of delivering the services during the COVID-19 outbreak.

ii. Achievements

- The development of a Nottingham City Food Network continues. A Public Sector Decarbonising Fund first phase application for school catering dishwashing equipment is underway
- The Council has worked with specialist partners (ProVeg) on school menus and introduced Quorn's 'Swap It' scheme to encourage schools to swap from meat to veggie dishes
- Exploration of potential future milk supplies from local dairy to food outlets including the Council's commercial cafes in the future.

iii. Case Study

Reducing the carbon footprint of school meals
The Council's School Catering Service creates school meals menus to reflect the diverse nature of the pupils the Council serves, are bespoke for each school and have a daily vegetarian option, and weekly non meat days.

The service is also accredited to the Silver Food for Life standard. However, the service wanted to go further in order to reduce its carbon footprint and help to influence pupils, so they started by engaging with colleagues who specialise in this

field. ProVeg, worked with the Council to change the format of the menus and descriptions to ensure the meat option meal is not always listed first or seen as the better option but stands on equal footing with the vegetarian option. This encourages the uptake of more vegetarian choices.

The Catering Service also used Quorn's 'Swap It' campaign to raise awareness of the impact of eating less meat to pupils. The campaign made use of Quorn's online sustainability calculator to show the savings in CO₂ emissions made by eating vegetarian school meals. The winning school, Rufford Primary, achieved 431 swaps with the catering team engaging with pupils on the subject of environmental benefits of eating vegetarian and displaying information posters.

iv. Plan Review

No changes are to be made to the actions for 2021/22 although concern remains that there is limited ability to impact on some aspects due to the residual impact of COVID-19, such as reduced café facilities and limited school meal uptake/resource limitations.

7. Ecology and Biodiversity

Climate change is resulting in reduced biodiversity, reduced habitats and pressure on all natural and green spaces. The

pandemic has showed how important our green spaces are in helping us connect with nature, provide peace and solace from the difficult times, as well as critically playing a significant role in the reduction of climate change impacts for plants and animals.

a. Summary

This section contains 13 actions of which 38% are considered as expected to meet their targets. Some actions are due to commence in the future so some caution as to their expectations is being expressed due to the unpredictable nature of the subject.

b. Achievements

- The Council has been working on a grassland cutting policy which will give criteria-based decisions for where grassland is cut, and where is left long and cut at the end of season
- 'Seedcorn' funding has been secured from Natural England to partially fund the habitat and opportunity mapping
- There is a risk to the City's current woodland from ash dieback. The Council is seeking additional funding to remove ash trees that are at risk of failing and to replant trees to counteract the canopy cover loss
- The Tiny Forest projects continue with a view to planting towards the end of 2021
- A biodiversity Supplementary Planning Document (SPD) has been adopted and is being used and appears to be having an impact with more developer buy-in for eco enhancements especially for smaller

scale and developments in dense urban areas such as city centre.

c. Case Study

Relaxed Mowing

During 2020/21, the ring road verges and central reservation, and a host of other verges, incidental spaces and public open spaces were subject to 'relaxed mowing'.

This is a significant change to the mowing regime whereby instead of maintaining a close mown, or 'amenity cut', the grasses and wildflowers are allowed to grow and thrive through the spring and summer. At the end of this growing season they are then cut short and the clippings removed for composting.

One small section of the ring road was seeded with a colourful display of annual flowers, although the majority was left to support the naturally occurring grasses and forbs. The spring saw a huge display of dandelions, and the bees and other pollinators were fed on this rich resource, the summer saw oxeye daisies, thistles and yarrow feeding the insects and birds. Additionally fewer vehicles and ongoing resources were needed to manage the areas, fewer particulates entered the atmosphere from the passing traffic and thriving plants captured carbon as they grew.

This is just the start of the relaxed mowing regime. The Council is looking to extent this to other suitable verges

and open spaces and to educate and enthuse residents about the value of our native flora.

d. Plan Review

The review of the actions saw the introduction of a new action for 2021/22 to investigate the feasibility of introducing more ambitious projects for habitat creation. e.g. the Council priority for 'grey to green' opportunities such as green roofs on Council owned buildings, greening the tram network, bee-friendly bus shelters, earmarking Council owned development sites or parts thereof for creation of new nature reserves as it has become clear that this is something developers are not considering sufficiently.

8. Carbon Removal

Removing the residual CO₂ from the atmosphere is undertaken in conjunction with any carbon reduction activities as there will be a certain amount of residual emissions that cannot be removed entirely from Nottingham's emissions. This can be achieved through local carbon sequestration, use of negative emission technologies, and large scale carbon offsetting. For instance in Nottingham, 50,000 additional trees are planned to be planted by 2023.

a. Summary

There are 13 carbon removal actions in the plan of which 10 (77%) are on track to be delivered. Some actions have been hampered by social distancing restrictions due to COVID-19 but generally progress in this area has been good.

b. Achievements

- The Council has appointed a Volunteer and Tree Planting Co-ordinator and is working on a number of projects including Tiny Forests to be planted by volunteers and Highway Tree planting projects
- The tree 'giveaway' will recommence later this year
- A street tree sponsorship scheme to commence shortly which should enable up to 50 new street trees to be planted this planting season
- The Council is working with local university students on carbon sequestration measurement.

c. Case Study

Planting 50,000 Trees

The Council has set a challenging target to plant 50,000 trees by 2023. This has been made even more difficult working within COVID-19 restrictions resulting in it's Tree Giveaway and several tree planting events being postponed.

However, this is now getting back on track with the aim of providing over 2,000 trees for people to plant in their gardens this winter. Five Tiny Forests are to be planted with the help of volunteers who will be responsible for ongoing maintenance. Three of the Tiny Forests are to be fully funded in order to measure their carbon capture and effectiveness of being planted in a Tiny Forest environment where it is claimed the trees will grow ten times faster.

We are working with the National Trust on a Blossom Project to plant blossom trees at two locations in Nottingham. There are only a handful of cities who have been selected for this project. The project aim is to unite people in remembering those people we have lost due to COVID-19. This project will increase the accessibility for individuals to the parks and the planting of larger trees will assist in achieving the CN28 target.

A Volunteer and Tree Planting Coordinator has been recruited to focus on improving the environment and mental health of individuals. Training individuals on the

eco-benefits of planting trees and providing them with the skills to apply for green jobs in future.

d. Plan Review

No major issues were found during the review of the actions and so no new or amended actions were required for 2021/22.

9. Resilience and Adaptation

How the city adapts and become resilient to the extremes of weather and climate that we are facing now and in the future is critical to not only the fabric of the city but the health and well-being of all who live here. Flooding, extreme heat and cold episodes are becoming more and more frequent as the climate changes. The vulnerable and underrepresented members of our communities are often impacted disproportionately by these effects so we must have strategies to ensure they are not affected as far as we can. The effects of climate change are also scary so we need to look after the mental health of our city as much as we can too.

a. Summary

The plan contains 21 actions to address adaptation and resilience. 71% of these are considered as on track to be delivered. However, there is still some concern for the actions that look at the impact of climate change on our vulnerable citizens is not progressing as expected mostly due to capacity issues in the Council's Public Health service who have been dealing with the COVID-19 impact and aftermath.

b. Achievements

- The Council will work to create a process to ensure flood risk is fully acknowledged on minor applications. The Flood Risk Management (FRM) team have a 100% response rate on planning applications received
- Through both developer contributions and the Lead Local Flood Authority's capital programme, natural flood risk management approaches are considered at the forefront of project proposals
- NCC recently secured a significant amount S106 money for flood risk management works from 3 major developments adjacent to the River Leen, which we will seek to benefit main rivers and urban drainage
- NCC utilise an existing dataset of flood risk maps and data, which is openly available to the public. Flood models are currently being updated for the River Leen and Tottle Brook catchments, in partnership with the Environment Agency.
- The FRM team submitted a bid to deliver SuDS on Haydn Road. This was successful and funding has been allocated subject to business case approval.
- The gully cleaning programme is on target, all trash screens are being checked and cleaned within the agreed timescales
- The Growth Hub continues to support businesses dealing with climate change and trying to reduce CO₂ emissions and energy usage. Also, project ARC provides grants to businesses to support energy

efficiency schemes in businesses. There also may be some projects from the Community renewal fund that focus on supporting businesses move to carbon neutral.

c. Case Study

Blue Green Infrastructure Project

The Blue Green Infrastructure Project is a flood risk management scheme recently completed on the Day Brook. The Day Brook, which has been historically heavily engineered, regularly floods due to the flashy and urban nature of the catchment. The aim of the scheme was to return sections of the river to a more natural state, slowing the flow downstream, whilst seeking opportunities to reduce and store flows entering the watercourse.

By increasing upstream storage at the existing Jubilee Ponds on the river, and by re-naturalising the watercourse through Valley Road Park and Jason Spencer Sports Ground, 160 properties have been better protected from the risk of flooding. A number of properties were also fitted with Property Level Protection. The scheme also introduced several new back-wash areas along the watercourse, which provides new habitat for wetland wildlife. This was delivered in partnership with Severn Trent Water and the Environment Agency, with the support of Flood Defence Grant in Aid, Local Levy and ERDF and Homes England Grants.

Whilst the scheme's main benefits are reducing the risk of flooding and the re-naturalisation of the Day Brook, the habitats created and long-term growth of the trees planted will sequester carbon, eventually mitigating the carbon cost of delivery. The park's amenity value has also been improved as a result of the scheme, with many users coming to the waterside to enjoy the natural space, having a knock-on benefit on mental wellbeing.

d. Plan Review

The team undertook a thorough review which resulted in some actions being re-profiled for delivery and reallocated to ensure delivery is kept on target. Two new actions were added for 2021/22 on working more closely with citizens to empower them to become more resilient and to develop a climate justice strategy.

10. Behaviour and Culture Change (formerly Organisational Development)

This chapter of the plan contains a wide range of actions aimed at changing the behaviour, culture and attitudes towards climate change of organisations and citizens etc through improved awareness, training and engagement. It also seeks to find financial solutions to the delivery of climate change actions and to ensure the work is reported, monitored and managed robustly and effectively both within the Council and with its partner organisations.

a. Summary

This diverse chapter contains 23 actions of which only three were considered as unlikely to deliver their objectives and one was completed. This was the establishment of a dedicated project team in the Council to manage the overall CN28 action plan.

b. Achievements

- A series of Carbon Cafés were undertaken at the Council during the summer to help understand how climate change can most effectively be communicated in the Council and develop a series of activities to promote innovation problem solving. A 'CN28 Colleague Panel' has now been formed which will meet regularly
- The Council is committed to becoming a certified Carbon Literate organisation and work on this has already begun which includes forming a partnership

with the Carbon Literacy Project to work together to replicate and share good practice. Bronze accreditation will be achieved this year

- The number of Council colleagues completing the internal Carbon Literacy Training eLearning is steadily increasing. This builds in an awareness of impacts of everyday activities and the ability and motivation to reduce emissions on an individual level and team level
- The Council's Carbon Neutral Policy team are increasing their capacity to support delivery across the action plan themes more effectively.

c. Case Study

Embedding Carbon Impacts in Decision Making

A key objective in the action plan is to develop a 'carbon neutral by design' ethos where everything that is proposed includes carbon reduction considerations/activities as a matter of course.

The Council makes hundreds of decisions each day on areas such as procurement, staffing, financing, and service delivery across its services. Any proposal to influence decision making will need to be made at the right time, in the right way and not to impede the process with complex bureaucracy. It also needs to be seen as a genuine positive benefit that enriches the decision making and avoids it simply being seen as another 'tick box' exercise. In addition, it needs to fit with how progress and performance is subsequently reported and managed so

that the achievements of any objectives or impacts are effectively monitored and evaluated.

There is a need, ultimately, to be able to influence all Council decisions but pragmatically, given the current resource it is proposed to initially focus on influencing those key decisions/policies that are taken at Council Executive. These are considered as having the greater impact and presence.

Therefore the Council have developed an approach which will support this process by providing dedicated advice and support to the decision author, along with the need for officers to complete a 'Carbon Impact Assessment Dashboard' (CIAD) which will consider positive and negative impacts on a range of factors based on the themes of the Carbon Neutral Action Plan. A simple scoring system will be used to give 'traffic light' ratings for each aspect. The CIAD is adapted from a model developed by colleagues at Chesterfield Borough Council.

The CIAD will accompany the decision throughout its approval journey. All Council Executive reports that covers the decision will be amended to refer to the CIAD as having been completed and key issues arising from the assessment summarised in a dedicated section and so can be considered alongside the other key aspects of the decision such as finance, equalities, and data protection.

Adoption of the new approach for Council Executive decisions is expected to be in place from the autumn and

gradual roll out will be undertaken to cover all Council decisions by 2024.

d. Plan Review

The key aspect of the actions here is to influence our behaviours towards climate change and to shift the culture to one that considered our impact on it as central. Therefore, this chapter has been retitled to 'Behaviour and Culture Change' to make it clearer what it covers. We will also be reporting the 'score' the Council achieves in the international Climate Disclosure Project (CDP) which is calculated against several hundred other cities worldwide and will indicate how well Nottingham is progressing with regards to climate action relative to other cities.

11. 2021/22 Action Preview

The review process looked critically at what had been achieved and what was needed in the subsequent year to be delivered to keep the ambition to achieve carbon neutrality by 2028 on track.

Key issues that arose was the need for quantifying more accurately the scale of changes required to get us to carbon neutral by 2028 and this of course remains a huge challenge as some of the changes required will need a significant shift in our behaviours and habits. This is especially true of how we travel around the city where large reductions in car journeys and significant increases in public transport use, walking and cycling are needed.

Key actions planned to be delivered in 2021/22 include:

- Encouraging other employers to implement home working or smarter working initiatives
- Working with schools/employers to encourage more to travel by walking and cycling where possible
- Working with drivers and operators to ensure that we have a cleaner hackney carriage and private hire fleet
- Investigating the potential for extra-urban freight consolidation centres - transferring to electric freight vehicle into the city
- Reviewing the Vehicle to Grid (V2G) pilot and assessing viability of further roll out
- Undertaking heat mapping exercises for ground, water, air, waste heat and other sources for low carbon heating, considering locally appropriate scale of infrastructure
- Identifying areas of the city that would not practically go onto the heat network and model potential technologies for example heat pumps
- Investigating expanding waste collection services e.g. food collections
- Investigating available tools to incorporate whole-life costing into procurement processes
- Reusing internal resources and goods wherever possible
- Using offsetting practices e.g. tree planting as an educational opportunity for local residents and schools about the issues we face and the available solutions
- Promoting schemes to allow homeowners and organisations to access trees and seeds for gardens and premises
- Updating Nottingham's Urban Forestry Strategy including the assessment of existing woodlands, with understorey planting and expansion programmes introduced where necessary
- Introducing a phased implementation of bee friendly projects that have been identified across Nottingham's parks and open spaces, this includes rewilding, shrub, tree and bulb planting and seeding
- Establishing a suite of Key Performance Indicators to routinely report delivery of the CN28 action plan objectives and targets
- Utilising ClimateView software to quantify, model and track delivery and incorporate into action plan progress reports

- Develop a new city wide website as a key resource for citizens and businesses to find information on and awareness of climate change actions in the city.

A new CN28 engagement officer will begin work in the Council soon to increase the communications, awareness and promotion of CN28 to the city.

2021/22 will also see the reporting of progress and contributions made by organisations other than the Council in delivering activities that help the city towards its ambition to be the first city in the UK to be carbon neutral by 2028.

For further information on Carbon Neutral Nottingham 2028:

Citizens – click [here](#)

Businesses – click [here](#)

Email climatechange@nottinghamcity.gov.uk