



Carbon Neutral Nottingham 2028

**ACTION PLAN**

**ANNUAL REVIEW 2022-23**

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# 1. Introduction

## a. Context

Carbon dioxide (CO<sub>2</sub>) is produced naturally by plants and animals and through earth processes like volcanic eruptions.

However, the burning of fossil fuels by humans has created an in-balance in the atmosphere resulting in an increase in CO<sub>2</sub> along with other greenhouse gases (GHGs) such as methane. These human derived greenhouse gases are resulting in excessive global heating by insulating Earth and resulting in dangerously rising temperatures<sup>1</sup>. This is having far-reaching, long lasting and, in many cases, devastating consequences for humans and planet Earth.

The effects of global heating can be seen happening in real time in many places. All over the world, there are more and more deadly floods and heat storms. Ice is melting in both polar ice caps and mountain glaciers. 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. The causes of these events are complex but carbon emissions resulting from human activity are likely to be resulting in their increased frequency and intensity<sup>2</sup>.

The year of 2022 will be remembered for the passing of two significant milestones in the UK (United Kingdom) – the highest daily recorded temperature for the UK (40.3°C in Coningsby, Lincolnshire on 19 July 2022) and a national average temperature over the year of more than 10°C making it the UK’s warmest year on record overall<sup>3</sup>.

These accelerated high temperatures have astounded scientists, who are pointing to several parallel events, including the human-caused climate crisis and the naturally occurring weather event El Niño, to explain the cause. The World Meteorological Organisation (WMO) has forecast that global temperatures are likely to surge to record levels in the next five years<sup>4</sup> and those affected are often among the most marginalised groups in society<sup>5</sup>.

Tackling climate change is, at the best of times, a huge and complex issue, and circumstances such as the economy and political upheaval add layers of unprecedented difficulties. However, it is clearly imperative that we all act now to do everything we can despite the pressures we face. The scale of change needed to limit global heating to under 1.5°C<sup>6</sup> remains an increasingly significant challenge for us all.

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<sup>1</sup> Latest report from the IPCC on Climate change - <https://www.ipcc.ch/report/sixth-assessment-report-cycle/>

<sup>2</sup> How is climate linked to extreme weather? <https://www.metoffice.gov.uk/weather/climate/climate-and-extreme-weather>

<sup>3</sup> <https://www.carbonbrief.org/met-office-a-review-of-the-uks-climate-in-2022/#:~:text=The%20year%20of%202022%20will,year%20of%20more%20than%2010C.>

<sup>4</sup> <https://public.wmo.int/en/our-mandate/climate/wmo-statement-state-of-global-climate>

<sup>5</sup> <https://www.hrw.org/news/2023/06/30/extreme-heat-signals-need-inclusive-climate-action>

<sup>6</sup> <https://www.ipcc.ch/sr15/>

## b. This Document

This review represents the third year of implementing the eight-year citywide action plan to deliver the shared ambition to make Nottingham the first UK city to be carbon neutral by 2028 (CN28). The plan currently consists of nearly 200 actions, which focus on:

- Reducing the amount of CO<sub>2</sub> produced as far as possible in the city in key themes such as transport and the built environment;
- Capturing CO<sub>2</sub> and offsetting residual GHG emissions that cannot be removed entirely through means such as nature-based solutions;
- 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 own 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.

This plan contributes to the UK government's legally binding target for the whole of the UK to be 'net zero'<sup>7</sup> by 2050 as set out in the [Climate Change Act 2008](#).

## 2. Nottingham's Carbon Emissions

### c. Summary

The Department of Energy Security and Net Zero (DESNZ) produce citywide CO<sub>2</sub> emissions data for all local authority areas on an annual basis and that data has a two-year data lag. The analysis of the 2020 data showed that Nottingham produced 1.041m tonnes of CO<sub>2</sub>e in that year and had reduced its overall CO<sub>2</sub> emissions (since 2005) by 49.96% and its per capita emissions by 57.7%. The analysis of the latest citywide data (for 2021) was not available at the time of writing this review so will be reported separately later in the year.

### d. Emission Reduction Modelling

Nottingham City Council (NCC) continues to use ClimateView to model emissions projections towards the city's carbon neutral ambition. Through ClimateView, NCC monitors the impacts of the action plan delivery against Nottingham's emissions and provides greater insight to inform action development and delivery.

This work has again fed into this CN28 action plan review to look at what further actions may be needed to maximise emissions reductions.

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<sup>7</sup> Net Zero = a target of completely negating the amount of greenhouse gases produced by human activity, to be achieved by reducing emissions and implementing methods of absorbing carbon dioxide from the atmosphere.

Taken from [Google's English dictionary, provided by Oxford Languages](#)

#### e. NCC's Carbon Emissions 2022-2023

In 2022-2023, NCC produced just over 20,300t CO<sub>2</sub>e directly from its operations. This represents a 21% decrease across all scopes (1, 2 & 3) compared to 2021/22. This was most significant for Scope 2 emissions which are those emissions that result from the energy used or produced; down 60% on 2021/22.

NCC's continued conversion of its fleet to ULEV resulted in a 7% reduction in their emissions compared to last year. Emissions resulting from waste were also down by 42%, mainly due to reduced volumes of waste and more efficient recycling during the year.

However, emissions resulting from its business travel, employee commuting and working from home rose by 39%, 13% and 18% respectively.

### 3. CN28 Action Plan 2022-2023

#### a. Delivering the Action Plan

This report represents the third annual review since the plan started in 2020. Previous reviews concluded that some actions required revision to ensure the 2028 ambition is more likely to be met. Several further new actions have been introduced for delivery from 2023-2024 onwards for this reason.

An internal City NCC Programme Board manages the plan closely throughout the year. A senior NCC officer leads each theme and reports on the actions' progress each quarter to the CN28 Strategy Board chaired by a member of NCC's Council Executive. From 2023, this will be the NCC Leader to highlight the importance of the Programme. These reports are in turn presented to the external Nottingham Green Partnership (NGP) for input and comment. The chair of the NGP now attends the CN28 Strategy Board.

The 2022-2023 plan had 186 active actions. Of these, 39 (17%) actions were completed in the year. 118 (53%) were expected to achieve their planned outcomes and targets ('green' rating), proportionally, similar to the previous year 2021/22. There was a slight decrease in the proportion of actions (64 actions [29%]) where there is some concern that they will not meet their expectations without further resources or intervention ('amber') and three (1%) were predicted to miss their targets completely ('red'), a decrease on 2021/22. This is shown in Figure 1 below:

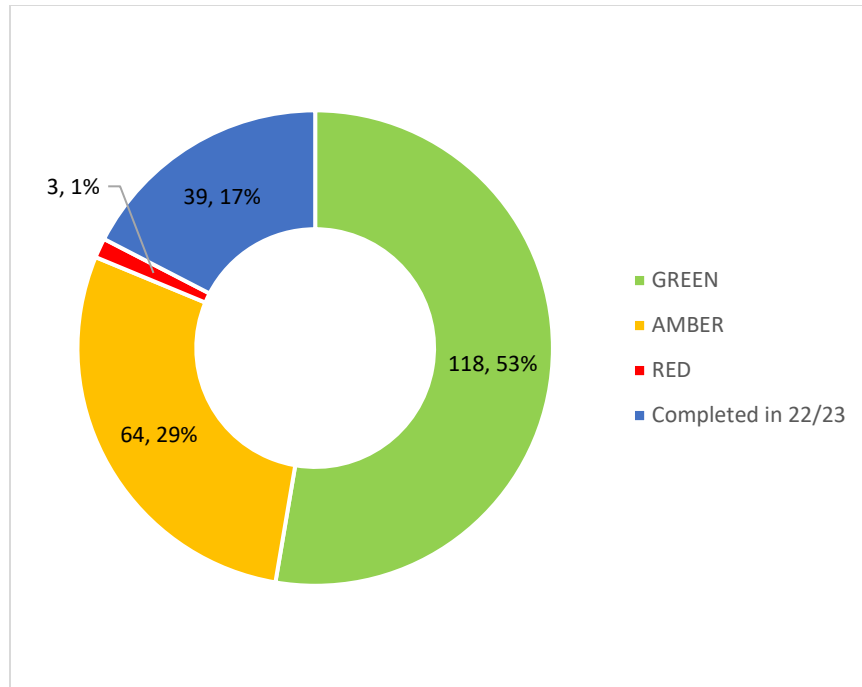


Figure 1 – Forecast of likelihood of completion of CN28 actions in 2022-2023

#### b. Key Achievements

Notable achievements were made citywide which contributed towards the CN28 ambition in 2022-2023. A selection of these are as follows:

- Nottingham remains one of the top world cities for climate action (CDP)
- 1,400 city residents signed up to Green Rewards app whose actions have avoided nearly 134t of CO<sub>2</sub> going into the atmosphere
- NCC is now a BRONZE accredited carbon literate organisation
- 27% of NCC's vehicle fleet is now ULEV (Ultra Low Emission Vehicles) which includes 20 e-RCVs
- Nottingham has the highest number of EV charge points per head of population for any UK core city and well above the national average
- 30% of public buses operating in the city are biogas or electric. £15m of funding was secured for 78 new electric buses and charging infrastructure for NCT (Nottingham City Transport) being introduced later in 2023
- 200 E-scooters are in use across the city, the most used scheme in the country
- All taxis are now ULEVs or Euro 6 compliant
- Introduction of the Lime e-bike hire scheme in the city
- Over 7,000 social and private hard-to-treat homes have been insulated and over 4,000 social housing properties have solar panels installed in the last 10 years
- A city wide streetlight replacement programme started in April 2022 replacing with low energy Light Emitting Diode (LED) bulbs

- Over 36,500 new trees have been planted since 2019/20. When these are fully grown, they can remove approximately ½ million tonnes of CO<sub>2</sub> every year
- NCC's direct emissions decreased by 21% compared to 2021/22 to just over 20,300t CO<sub>2</sub>e
- University of Nottingham considered as the 3<sup>rd</sup> most sustainable university in the world<sup>8</sup>
- Nottingham City Hospital replacing its coal fired boilers saving 800 tonnes CO<sub>2</sub>e per year
- Nottingham University Hospitals NHS Trust (NUH) launched their NHS Green Plan in April 2022 to become net zero by 2040
- Free carbon literacy training offered to Nottingham city businesses as part of a collaboration between the Nottingham BID and Nottingham Trent University (NTU).

## 4. Working in Partnership

Achieving a carbon neutral city by 2028 is something that cannot be done by one organisation alone. NCC is responsible for approximately 2% of the City's CO<sub>2</sub> emissions so it is imperative that all businesses, organisations, workers, residents, and visitors to the Nottingham play their part.

NCC works with key City partners through the well- established Nottingham Green Partnership, which was 30 years old last year, formed in 1992. The partnership, chaired by a senior partner at local legal firm Browne Jacobson, consists of over 30 City organisations and businesses and works across the City to develop, share, and encourage businesses and organisations to work together to deliver carbon reduction strategies.

In 2020, NCC 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. NCC then works with them on an ongoing basis to help explore ways in which they could reduce their carbon footprint and visibly promote them as a supporter of CN28. To date, nearly 50 organisations have signed up to the scheme and include Boots, the Canal & River Trust, Nottingham College, Romano's Caterers, and many others.

## 5. Engagement

A monthly CN28 newsletter is issued to over 2,750 subscribers providing news, tips, and advice on reducing carbon emissions in the workplace and at home. NCC uses social media to get key messages and information across and set challenges to encourage people to change their habits in often fun and engaging ways. To date, CN28 on Twitter has nearly 1,400 followers and over 700 follow the CN28 Facebook page.

A new [CN28](#) web page is to launch in the summer of 2023. This will provide a single resource for all things CN28, tips on how to contribute as well as the latest news and reports on climate change at home or more widely.

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<sup>8</sup> <https://www.nottingham.ac.uk/currentstudents/news/university-of-nottingham-is-third-in-the-world-for-sustainability-1>



The [Green Rewards](#) scheme and app launched in October 2021, designed to encourage carbon reduction behaviours by citizens through a reward scheme, continues to grow. It now has nearly 7,000 Nottingham and Nottinghamshire households signed up and engaging in sustainable behaviours. Since its launch, users have logged individual actions equating to over 611,000kg CO<sub>2</sub> being avoided. This collaborative partnership project was highly commended in a prestigious national award ceremony this year.

The Hello Nottingham project used a free messaging platform, where users could have a conversation with a digital persona on climate change and explore their attitudes and feelings towards it (for more information, see 7, Section E – Behaviour and Culture Change).

## 6. Carbon Disclosure Project (CDP)

Each summer, following the end of each year of the CN28 action plan delivery, NCC compile and submit an annual disclosure on Nottingham's climate progress to [CDP](#). This international project helps to identify and monitor major risks, opportunities and sources of emissions that need to be accounted for. It uses the international Common Reporting Framework, aligning reporting requirements of multiple international initiatives in one place. Nottingham is also a signatory of the Global Covenant of Mayors for Climate and Energy, Race to Zero and Race to Resilience initiatives.

These initiatives and leading global best practice were used to help inform and review the City and NCC's own action plan and progress.

In last year's CDP submission (2021), Nottingham was scored as an A list City, one of only 122 cities globally to achieve this top rating from over 1,000 reporting their climate progress. A further 11 UK cities also achieved this highest score. CDP A List Cities are proving their climate leadership through concerted and effective action to mitigate and adapt to climate change. The 2022 result is expected in November 2023.

## 7. CN28 Action Plan Reviews 2022-23

### A. Carbon Reduction

Key to Nottingham contributing to reducing global heating and achieving carbon neutrality is the ability to reduce the amount of CO<sub>2</sub> humans put into the atmosphere as much as possible. The actions to reduce CO<sub>2</sub> emissions in this section of the plan are divided into six themes:

- I. Transport
- II. The Built Environment
- III. Energy Generation
- IV. Waste
- V. Water
- VI. Consumption

#### I. Transport

##### *i. Introduction*

This theme contains actions to decarbonise transport by behaviour change, modal shift and change of vehicle propulsion to electric. A tenth of the City's CO<sub>2</sub> emissions in 2022 came from transport in the City which is still dominated by vehicles that run on fossil fuels i.e., petrol and/or diesel. The number of electric vehicles on the road has seen a significant increase in the year and now account for over 16% of new cars registered in the UK by the end of 2022 compared to 3.2% in 2019. This key theme aims to reduce transport emissions by encouraging mode shift away from cars to public transport and active travel modes, constraining traffic growth and congestion levels, and promoting the use of electric vehicles.

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, the City's public transport continues to be affected by the coronavirus pandemic with public transport usage still not up to the levels compared to the start of the pandemic in March 2020, but there are still high car traffic volumes. However, the East Midlands Rail contract has now returned to similar passenger volumes as pre-COVID despite ongoing disruption due to industrial action. Buses have around 90% pre-COVID demand and Trams about 80%.

##### *ii. Achievements*

- The Transport theme had 40 actions of which eight were completed during 2022-2023 and 63% were on track to be delivered, similar to 2021/22
- The e-van experience concluded with 79 businesses (73% of participants) planning to take on 158 hybrid and electric vehicles; 55 electric vans transferred to NCC' fleet and 61 workplace electric vehicle charging points installed

- An inductive charging loop trial for electric taxis implemented and completed to trial the technology
- Successful bids to Active Travel England and others for cycling and walking infrastructure, active travel social prescribing projects
- Streets for People programme of 60 road and pavement repairs, replacing 34,000 streetlights with LEDs and 8 school street schemes
- Transforming Cities Fund schemes completed and/or underway – bus priority, public transport real time information, single and multi-operator contactless payments, and cycle and pedestrian corridor improvements
- Future Transport Zone programme – Implementation has begun the for real time traffic, air quality and journey time monitoring sensor network, development of a new travel planning data platform encouraging switch to public transport and active travel, and e-mobility hubs in the Trent Basin and other areas
- Active Travel Fund – cycling and walking corridor schemes delivered, and further schemes developed and funding gained, School Streets schemes introduced to make it safer and easier for people to regularly walk, cycle and scoot to school; and a pioneering Active Travel Social Prescribing project jointly with NHS partners under way
- Levelling Up Fund (Greener Streets) – funding announced for upgrading the remaining streetlights in the City to low-energy LED standards and further expansion of the City’s community electric vehicle charging network into residential areas with limited off-street parking.
- Continued expansion of the electric vehicle-charging network across the D2N2 region
- E-scooter trial extended, and e-bike and e-cargo bike schemes introduced in 2023
- Bus Service Improvement Plan agreed and indicative funding announced for NCT to replace their existing midi bus fleet with zero emissions vehicles, with delivery starting in 2023
- Cleaner taxi fleet – all fleet now ULEVs (Ultra Low Emission Vehicles) or Euro 6 compliant
- Seven actions were completed in 2022-2023:
  - Worked with voluntary sector organisations to encourage the shift away from the use of the private cars
  - Government agreed to electrification of the Midland Mainline rail link into Nottingham and enable more accessible, affordable and frequent services
  - Investigated freight consolidation centres in the city to reduce freight journeys by road
  - Understood impacts of road user and congestion charging e.g. an emissions-based parking tariff policy for public and internal NCC parking charges, occupancy-based parking signposting, review all Workplace Parking Levy (WPL) scheme exemptions and discounts

- Deployed integrated on and off-street vehicle charging infrastructure in NCC operated car parks
- Government provided funding for local authorities to implement measures that support their Road to Zero Strategy ambitions
- Government invested in more research in innovative on street charging solutions.

*iii. Case Study*

**Streets For People**

In October 2022, NCC secured £18m funding from the Governments’ Levelling Up fund, has been used to replace road and pavement surfaces at over 60 sites within the City under the Streets for People initiative (£10.5m). This has significant benefits in terms of road safety, reduced emissions from vehicles (both tail pipe and brake/tyre), on-going maintenance and improved journey times.

A further £7m improved programme has commenced to replace 34,000 streetlights in the City with Light Emitting Diode bulbs resulting in a £1.5m annual reduction in operating costs and maintenance. This not only saves electricity, but also because of the brighter and more directed nature of the lights encourages more people to walk, cycle or use public transport after dark and promote a safe public environment.

The programme also includes a further £1.5m for School Streets at eight locations around the City, enabling large numbers of children and parents to go to and from school in a much safer and less polluted environment.

*iv. Plan 22/23 Review*

A key consideration this year has been the devolution deal being worked on by Nottinghamshire County, Nottingham City, Derby City and Derbyshire County Councils, which will include an increased transport settlement. To achieve further significant reductions in transport emissions, Government policy change needed, e.g. increased transport capital funding, vehicle excise duty changes, incentives to switch to electric vehicles. The COVID pandemic has had a very damaging impact on public transport and development work on NET extensions still is on hold due to financial pressures. Due dates for some actions now reflect amended scheme programmes. The review of the theme concluded that minor change was needed except for alignment of some of the due dates with the emerging transport funded programmes.

For further details on the changes made for 2023-2024, see Appendix 1.

## II. The Built Environment

### *i. Introduction*

The actions in this theme are to reduce the carbon impact of (a) existing development through retrofit and decentralised low carbon energy generation; and (b) new development through planning policies and developing best practice.

### *ii. Achievements*

- The theme had 31 actions of which four were completed during 2022-2023 and 74 % were on track to be delivered by their planned due dates
- Greener HousiNG programme continues to deliver grant funded energy efficiency measures to social and private homes, and received Highly Commended category in prestigious MJ awards
- Home Upgrade Grant 1, Social housing Decarbonisation Fund Demonstrator, Whole House Retrofit and DReEM programmes all concluding, with ongoing delivery of Home Upgrade Grant 2, Social Housing Decarbonisation Fund Wave 1 and further award for funding granted through Social Housing Decarbonisation Fund 2
- Ongoing collaboration with Nottingham Energy Partnership to promote energy saving initiatives. In addition, work continues through promotion of retrofit schemes and assessment of premises businesses through energy audits
- Domestic and commercial audit and compliance work continues through the compliance and consultancy team, with several new clients secured for 2023 - promotion of services to private rented sector through selective licensing has also taken place
- Upskilling of staff in retrofit skills continues through dedicated training provided through the Midlands Net Zero Hub
- NCC statement on Energy Company Obligation (ECO) funding complete
- Low Carbon in New Development Interim Planning Guidance now adopted and in use for all relevant planning applications
- Brief in preparation for commissioning a Low Carbon in New Development Supplementary Planning Document. Commission will also advise on robust planning policies for inclusion in the Greater Nottingham Strategic Plan.
- Three actions were completed in 2022-2023:
  - Roll out of retrofit at scale across NCC properties, and investigated scaling low carbon sources of heating (air/ground/water source heat pumps)
  - Investigated setting up a pre-application advice service in regards to carbon statements for future developments
  - Developed a Carbon Neutral Design Guide for the Design Quality Framework.

iii. Case Study

**Retrofitting Housing**

Our Greener Housing programme has been shortlisted for two prestigious awards this year, delivering over 2,000 measures to ensure warmer, more energy efficient homes across both the private and social sectors.

Ms K's home used to be a real struggle to keep warm, with gas bills as high as £40 per week in the winter. To keep costs low, she used to heat just one room in the house, and the rest of the house was so cold she could use it as a fridge.

Through the Deep Retrofit Energy Model (DREEM) scheme, Ms. K's home has been transformed with external wall cladding, new windows and doors, a new roof, and solar panels. Ms. K says her house now feels like a '*proper home*' after the work was completed.

In addition to the work NCC has done on socially owned homes, it has supported private homeowners to reduce their energy bills through the Local Authority Deliver Scheme and Home Upgrade Grants, funded by the Department for Business, Energy and Industrial Strategy.

By collaborating with fuel poverty charity Nottingham Energy Partnership to onboard residents to the schemes, NCC aimed to reach those who are in most need. Areas with a high deprivation index have also been targeted.

To support residents to understand how the scheme could help them, NCC ran a drop in event where those who were interested in applying could visit and get reassurance around the measures available.

The contractors that were delivering the measures attended with samples and a mock-up cross-section of the external wall insulation so that residents could see how it could be applied to their home. Over 200 residents attended the session to find out more about the scheme.

*iv. Plan 22/23 Review*

Some minor changes were needed to actions in the theme but generally, they remain relatively unchanged for 2023-2024. A small number have been moved to another theme to ensure similar actions are grouped together.

For further details on the changes made for 2023-2024, see Appendix 1.

### III. Energy Generation

#### *i. Introduction*

The actions in this theme aim to provide local low carbon sources of energy, reducing Nottingham's reliance on grid electricity and fossil fuel sources of heating, therefore reducing the city's carbon emissions.

#### *ii. Achievements*

- The theme had 36 actions of which three were completed during 2022-2023 and 69% were on track to be delivered by their planned due dates
- There is a well-established Local Plan policy on carbon reduction now supplemented by adopted Informal Planning Guidance
- CME project almost complete, with batteries in place and integrated software management system to balance energy demand with options for aggregator being investigated (see iii. case study)
- Funding for retrofit projects continues at scale across the city, with Social Housing Decarbonisation Fund (SHDF) wave 2 funds now awarded.
- Three actions were completed in 2022-2023:
  - Embedded de-centralising energy generation to reduce carbon dioxide emissions from energy within planning policy
  - Framed challenges in the Innovation Gateway to ensure difficult problems can be met with new solutions
  - Reviewed the V2G pilot and assessed viability of further roll out.

#### *iii. Case Study*

##### **CleanMobilEnergy (CME)**

This has taken place at the Eastcroft Depot on London Road, home to the NCC's fleet, and focuses on reducing CO<sub>2</sub> emissions through the development and application of a new interoperable energy management system to better balance energy demand with supply.

The CME Project allows NCC to export unused energy stored in EV batteries back to the grid at times of high demand and re-charge EVs – either from energy generated locally from solar PV, stored in stationary batteries, or from the grid at times of low demand when energy costs are much cheaper.

At the depot, bi-directional EV charging, also known as vehicle to grid (V2G), is used, alongside Battery Energy Storage Systems (BESS) to capitalise on local solar PV generation, low electricity tariffs, and the provision of demand side response services (DSR). 40 V2G units have been installed which allow EVs to act as short-term storage for energy produced by the 138kWp solar array on site. The vehicles are able to discharge to the BESS or the grid during peak times.



The 720kWh BESS is made up of second-life electric vehicle batteries. While these batteries are no longer sufficient for car journeys, they have plenty of life left in them for storing power.

*iv. Plan 22/23 Review*

Capacity has increased this year to enable delivery of a range of actions to be re-commenced. Some actions are to be deleted as they are no longer viable and some are having their due dates revised to ensure they are deliverable.

For further details on the changes made for 2023-2024, see Appendix 1.

## IV. Waste

### *i. Introduction*

What we throw away and how we dispose of it has a significant impact on our carbon emissions. In 2022-23, Nottingham recycled or composted 25.1% of its domestic waste, the lowest of any Core City in the UK. However, only 7.6% of the City's waste ends up going to landfill with the remainder going to energy from waste, in various forms.

The waste theme both supports NCC's own ambitions and statutory obligations, within the Governments Resources and Waste Strategy for England.

Work has focused on developing a new waste strategy for the city, replacing the one adopted in 2010. Many of the themes relate and support options on collection choices and policies as set in the new waste strategy for Nottingham.

Many of the critical waste themes relate directly to regulations that will require the separate weekly collection of food waste, phased in by 2025. Alongside changes to recycling and other household waste collections required by the governments "consistent collections" policy.

### *ii. Achievements*

The theme had 20 actions of which three were completed during 2022-2023 and 41% were on track to be delivered by their planned due dates.

The principal achievement over the last year has been the adoption of a new municipal resources and waste strategy. This aims to set out the authority's direction on waste ambition and policy and continued commitment to environmental principals and carbon reduction and serving our residents.

The action to investigate using food waste for anaerobic digestion to provide energy as an alternative to Eastcroft Energy from Waste was completed.

### *iii. Case Study*

#### **Food Waste Trial**

Approximately 8-10% of the world's greenhouse gas emissions relate to food waste. If food waste were a country, it would be the third biggest emitter of greenhouse gases, behind the USA and China.

Up to 37% of the household rubbish put into non-recycling bins in Nottingham is food waste.

Ahead of regular domestic food waste collection to be introduced across the country in the next few years, NCC began a trial in March 2023 to test how this could operate and what issues need to be addressed. 3,000 households and three primary schools in Berridge ward were provided with a small indoor kitchen caddy (7 litre) and a larger food waste bin (23 litre) to put outside for collection. The food waste is collected weekly on the same day as household waste and recycling bins. The food waste is collected by a different vehicle and at a different time of the day.

The food waste collected is taken to Biodynamic in Colwick where it is turned into fertilizer for farming and energy.

Engagement with the trial so far has been positive and over 37 tonnes of food waste has been collected which has resulted in nearly 100kg of CO<sub>2</sub> being avoided. Volumes of waste collected is going down suggesting a change in residents buying behaviour as they see how much they are wasting each week.

*iv. Plan 22/23 Review*

A number of actions are to be deleted, reworded and added for 2023-2024 to align with the new waste strategy and will include aspects such as food waste collection and reduction of single use plastic. Some actions will be moved from other themes to ensure similar activities are grouped together.

The theme's actions will be combined with Water actions into a new theme 'Waste and Water' from 2023-2024 onwards.

For further details on the changes made for 2023-2024, see Appendix 1.

## V. Water

### *i. Introduction*

This theme aims to reduce water consumption across NCC via its Water self-supply license (WSSL) which continues to be the only in-house operating model in the market. Awareness raising and best practice sharing with citizens and businesses alongside the process of leak detection activities. In addition, the implementation of water efficiency measures via Water Efficiency Loan Scheme (WELS).

### *ii. Achievements*

- The theme had nine actions of which eight were completed during 2022-2023
- The water theme and the majority of its actions are heavily linked to business as usual. Due to staff resources, which have only been resolved in June 2023, WELS projects have not been progressed this financial year, so the focus has been on developing a pipeline of works and increasing performance levels, which are directly linked to retaining our license. A key highlight this financial year has been the implementation of “Limpet” devices (automatic meter reading devices), across a number of our estate meters, which will help support our compliance objectives but also link with the reduction of wasted water via leaks.
- 381 meters currently on water self-supply portfolio (full portfolio inclusive of sewerage sites)
- Performance of WSSL 85% average for the financial year
- The self-supply license is resulting in an estimated £200k a year avoidance based savings
- Seven actions were completed in 2022-2023:
  - Carried out an exercise of potential sites with water leaks, and seek to undertake in-depth assessment of water leaks at those sites
  - Provided water to NCC’s estate through water self-supply, helping them to work towards more accurate billing and monitoring, helping to reduce water usage
  - Worked with the regional water supply company to help identify water leaks across the city
  - Via water self-supply operations identified non-standard consumption and identify leaks across the estate and resolve with wholesaler
  - Provided information on the best practices to reduce water consumption, helping to improve understanding of the issues and solutions to better water management, reducing bills and carbon emissions

- Undertook awareness campaigns to promote water efficiency
- Worked with wholesaler to respond to and promote engagement with communications and action plans in addition to any campaigns they run.

*iii. Case Study*

**Limpet**

One of the key objectives of WSS compliance is to undertake regular meter readings for the estate, in addition, the identification and resolution of water leaks. Since NCC transferred into the market, they have undertaken this reading activity manually utilising existing staffing resources.

In early 2023, a company who wanted to provide us with a trial implementation of their product called “Limpet” devices approached NCC. These devices are cameras attached to water meters, that take a photo of the meter read every month, so that the team can read meters remotely and monitor them for leaks. These are currently being rolled out across our estate, with an initial 83 devices being installed in Phase 1 of the project. Currently, there are 36 live devices within the estate, with a 2<sup>nd</sup> phase (another 83 devices) planned for this financial year.

The Limpet devices have enabled meter reads to be read remotely in the 36 locations. It has meant that the team have been able to closely monitor these meters remotely and identify any leaks within the month. All the other meters are required to be read twice a year, so the increase in frequency gives a greater chance of identifying and stopping leaks a lot quicker.

*iv. Plan 22/23 Review*

From 2023-2024, the actions in this theme will be consolidated with those of the Waste Theme into a new theme entitled ‘Waste & Water’. Many of the actions are considered BAU processes and so have been marked “complete”. 12 new actions have been formulated that better represent the activities to reduce carbon emissions.

For further details on the changes made for 2023-2024, see Appendix 1.

## VI. Consumption

### *i. Introduction*

This theme predominantly seeks to reduce the carbon emissions that result from the stuff we consume, buy or make.

These are part of so-called Scope 3 carbon emissions and are likely to be the largest share of our carbon emissions. Scope 3 emissions are essentially all the carbon emissions indirectly generated by a person or business so will include business travel, commuting, transportation, distribution, and more. In this theme, the actions focus on reducing emissions found in any purchased goods and services, the things that are produced and how they are disposed of.

### *ii. Achievements*

- The theme had 30 actions of which one was completed during 2022-2023 and 48% were on track to be delivered by their planned due dates
- Food growing research is underway with the University of Nottingham with partner workshops and project meetings taking place to seek to map and collate the actors working on food growing in the city and county
- The proposed East Midlands County Combined Authority (EMCCA) has green growth as a target and there is sector support to grow this important part of the region's economy in areas such as sustainable energy production with the potential to create 1000s of new jobs in the city and county
- Options for identifying ways of improving the sustainability of city events have been created and these are being considered by the city's events team
- The city is taking part in a sustainability index project for city tourism developed by Visit England (see iii. Case Study)
- NCC's Climate Impact E-learning module now includes the need to reuse internal resources and goods wherever possible
- NCC is continuing to work with cross-sectorial partners and networks in the D2N2 Growth Hub area, to improve sustainability strategies and operations e.g. signposting/referrals to free training events and courses.
- 26% of household waste collected by NCC was sent for reuse, recycling and composting in 2022-2023
- Two actions were completed in 2022-2023:
  - Explored adoption of Green Kitchen Standard/Food for Life
  - Reviewed the Business Charter for a strong environmental focus.

*iii. Case Study*

**City Sustainability Index**

NCC, along with Visit Nottinghamshire, has been working with Visit England and Core Cities to create a new standard in the tourism sector. Nottingham is now an official partner in a project partly funded by Visit England to create the basic model for standards, through a network of other core cities using GDS sustainability index.

Initially this is a monitoring tool and will be used to benchmark the sector and then NCC will work with Visit England on a new tourism sustainability standards policy.

*iv. Plan 22/23 Review*

This year, reduced resources and capacity has hampered the progress of several of the actions. This has resulted in some revisions to due dates for 2023-2024 onwards. However, there is now a focus on promotion of the benefits of adopting healthier and sustainable eating which in turn reduces carbon emissions. There is also a new action to develop a local 'green kitchen' standard/accreditation for the city's catering offers.

NCC's Procurement team are looking at all procurement related actions in the theme with a view to revising them for 2023-2024 in line with the developing procurement strategy, which is due for publication in 2023.

For further details on the changes made for 2023-2024, see Appendix 1.

## B. Ecology and Biodiversity

### a. Introduction

To enhance biodiversity provision within the city of Nottingham through working with key partners both internally and externally so that it contributes to mitigating the effects of climate change.

### b. Achievements

- The theme had 11 actions of which three were completed during 2022-2023 and 63% were on track to be delivered by their planned due dates
- Expanded the Bee Friendly Initiative to include further sites across the city
- Completed a large-scale habitat improvement project across four sites improving access to biodiversity
- Procured consultants to complete a Biodiversity Net Gain (BNG) feasibility study detailing the economic feasibility of providing BNG units using sites in our ownership
- Working to develop the BNG Policy and strategy for NCC including work with the county on the Local Nature Recovery Strategy (LNRS)
- Two actions were completed in 2022-2023:
  - Updated Phase 1 habitat mapping and biodiversity opportunity mapping to understand development opportunities and future habitat options for the open space network outlined in open and green space plans
  - Investigated the feasibility of introducing more ambitious projects for habitat creation.

### c. Case Study

#### **Woodland and Wetland Biodiversity Access Project**

This was a large-scale habitat and access improvement project. The work was funded using the European Regional Development Fund and was focused on four sites within the city; Colwick Woods, Colwick Country Park, Colwick Racecourse and Ventnor Rise abandoned allotments.

The work involved woodland enhancement and species diversity improvements through tree planting, glade creation and hibernaculum creation at Colwick Woods. Also new footpaths were constructed to open up an area of old allotments, which has been enhanced, and a sculpture trail has been installed.

Colwick Country Park has benefitted from a huge improvement to the footpath making it safe for cyclists to use as well as tree works to improve habitat around the lakes. Further infrastructure improvements there have been undertaken as well with improved signage and cycle racks.

The Colwick Racecourse site has undergone some major improvements to the wetland areas to open these back up and limit vegetation taking over. This will improve the habitat for protected species.



Ventnor Rise has benefitted from pond creation and habitat improvements to marginal vegetation. A boardwalk and other associated infrastructure has also been installed to improve education facilities at the site.

d. Plan 22/23 Review

- To make it clearer what these actions relate to, from 2023-2024 this theme section will be re-titled as 'Biodiversity'.
- The action CN ECB 011 to '*Encourage sustainable and nature-friendly development beyond the levels mandated by legislation*' has been deleted due to updated legislation coming in through central government.
- For further details on the changes made for 2023-2024, see Appendix 1.

## C. Carbon Removal

### a. Introduction

The actions in this section of the plan aim to reduce carbon in the environment and improve air quality by working on various objectives aimed at taking CO<sub>2</sub> out of the atmosphere e.g. tree planting.

### b. Key Achievements

- The theme had 11 actions of which one was completed during 2022-2023 and 70% were on track to be delivered by their planned due dates.
- Planting of 37,000 trees since 2019 including creating several 'Tiny Forests' with partners
- Over 700 volunteer hours spent planting trees
- Working with the National Trust on the Blossom Project to plant more spring blossom trees in public spaces
- Commissioning of a Tree Planting Strategy and Ecological Benefit Report, which will form part of the next Urban Forest Strategy
- The action to adopt the biodiversity, green and open spaces supplementary planning document to ensure a consistent approach for developers to take up protection and enhancement measures of key biodiverse areas was completed.

### c. Case Study

#### **Ash Dieback and Streets For People**

This fungal disease is causing widespread decline of Ash trees across the UK. It is likely that the majority of our native Ash trees will exhibit symptoms of ash dieback, but not all that do will die. It is estimated that up to 60% of the Ash trees in the city are infected and so NCC therefore is undertaking systematic removal of those effected trees as it weakens the tree making it more likely to fall or shed deadwood which can be dangerous in public places. NCC is looking at ways to utilise the timber for carbon removal purposes such as turning it into Biochar (see section (d)).

The Streets For People programme aims to replace stumps on the roadside with newly planted trees. This should help with replacing the lost canopy cover of trees removed for Ash Dieback. Trees are an important part of carbon sequestration amongst the other benefits they bring such as cooling from shading and providing habitats for other flora and fauna.

### d. Plan 22/23 Review

*CN CAR 001 Explore placing a value on internal unavoidable carbon emissions to seed fund staff-led projects and other invest-save carbon projects.*

*CN CAR 005 Explore creating a climate offset fund through implementing an internal offset charge for NCC run events*

Work on these actions has shown they would be difficult to deliver due to increasing budgetary pressures in NCC and so attention will be switched to exploration of wider

collaborative funding project options with external partners. Therefore, CN CAR 001 will be amended to focus on offsetting internal NCC emissions and CN CAR 005 will be marked as completed.

*CN CAR 002 Investigate the use of parks and open spaces to offset carbon for individuals and local businesses emissions.* The due date for this will be now June 2024, as it is being consider as part of a wider sponsorship programme.

A new action will be included from this year exploring the creation and use of Biochar on open spaces, sports fields, verges etc. in order to help 'soak up' more CO<sub>2</sub> (sequestration). Biochar is organic material that has been carbonised under high temperatures, in the presence of little or no oxygen. This process leaves a solid residue of at least 80% elemental carbon. Biochar when spread on land can improve soil fertility and help the soil soak up more CO<sub>2</sub>.

For further details on the changes made for 2023-2024, see Appendix 1.

## D. Resilience and Adaptation

### a. Introduction

How the city adapts and becomes 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 wellbeing of our citizens. Flooding and extreme heat events are becoming more frequent and severe as the climate changes. These effects often affect the vulnerable and underrepresented members of our communities disproportionately so it is important we take steps to ensure they are protected as far as possible.

The effects of climate change can also affect the mental health of our citizens; meaning positive action to protect our city will also be beneficial to citizen wellbeing.

### b. Achievements

- The theme had 21 actions of which eight were completed during 2022-2023 and 69% were on track to be delivered by their planned due dates
- Partnership working with University of Nottingham and other educational organisations, supporting projects, which improve our understanding of heat vulnerability
- Partnership working with Severn Trent Water and Environment Agency to improve our understanding and strategic oversight of flooding in Nottingham
- Successful bid for surface water modelling grant to improve local understanding of surface water flooding
- Public and professional engagement events on flooding and sustainable drainage systems.
- Four actions were completed in 2022-2023:
  - Acknowledged flood risk and flood management in all new developments in high flood risk areas
  - Government increased the available funding for flood risk management to meet the growing need for action, particularly related to surface water flooding
  - Investigated historic claims information and damages that arise from the impacts of severe weather events, mapping any trends to help inform future actions and understanding
  - Conducted a Local Climate Impacts Profile (LCLIP) for Nottingham, to help understand the impacts on citizens and businesses, building a citywide picture of current impacts.

c. Case Study

**Sustainable Drainage Systems**

Working with developers, landowners and major projects to consider implementation of sustainable drainage systems within their development to reduce flood risk, future proof sites for climate change and improve local ecology. This includes measures such as ponds, rain gardens, green roofs, tanks and tree pits.

For example, rain gardens delivered on Middle Hill as part of the wider Broadmarsh transformation. These will collect surface water from surrounding paving and provide shade during heatwaves.

d. Plan 22/23 Review

- *CN REA 017 Assist marginalised and vulnerable groups to become more resilient and deliver educational engagement programme with target communities - will be re-worded*
- *CN REA 020 Work with businesses across the city to help them develop business continuity plans in response to climate change and extreme weather events – to be re-opened.*
- It is anticipated a number of new actions will be created from the Adaptation & Resilience Strategy, which is due for later in 2023.
- For further details on the changes made for 2023-2024, see Appendix 1.

## E. Behaviour and Culture Change

### a. Introduction

The government appointed Committee for Climate Change produced a report in 2019 that showed that 60% of the changes necessary to effectively tackle climate change come from alterations to our own behaviours and attitudes<sup>9</sup>.

The recent CN28 Engagement Strategy contains the following vision statement -

*“Everyone in Nottingham knows about the climate crisis and the impact it will have on their lives. They understand Nottingham’s target to be carbon neutral by 2028, as well as the co-benefits of taking action, and they feel motivated and empowered to help the city transition.”*

It is therefore critical that all people in the city are aware; feel informed and empowered to make choices that will reduce carbon emissions in all aspects of their lives.

### b. Achievements

- 84% of the theme’s actions were on track to be delivered by their planned due dates
- NCC now considered a BRONZE organisation for carbon literacy training with more to come in 2023-2024
- Production of a CN28 Engagement and Marketing strategy and action plan
- Improved information on CN28 provided on both external and internal NCC websites
- Development of a new city partner reporting progress and improvements made to the working of the Nottingham Green Partnership
- CN28 engagement and awareness at key city events such as Green Hustle and Lenton Fun Day. Plans in place for attendance at Nottingham Green Festival in September
- Green Rewards app now has over 1,400 Nottingham residents signed up and taking actions to save over 80,000kg of carbon emissions
- Subscriptions to the CN28 newsletter was up 25% on last year to now over 2,750.
- Five actions were completed in 2022-2023:
  - Carried out mapping of key stakeholders to enable behavioural and cultural change, building on existing mapping and identifying gaps in key stakeholder contacts

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<sup>9</sup> <https://www.theccc.org.uk/publication/behaviour-change-public-engagement-and-net-zero-imperial-college-london/>

- Developed a CN28 communication and marketing strategy and action plan
- Aligned promotion and communications of CN28 to national days of action to reinforce the message of collective action
- Developed a process by which all NCC service plans include a consideration of the carbon impact of their activities
- Developed a new city partner reporting process to showcase carbon reduction work from right across the city.

#### c. Case Study

**Hello Nottingham**  
In collaboration with the University of Nottingham, NCC has been working on Hello Nottingham, a digital engagement project, where members of the public can share their thoughts about climate change and how it affects them.

Using a free messaging platform, users can have a conversation with a digital persona by connecting with a Hello Nottingham sign in a space that is meaningful to them, such as a local street or park, using their mobile phone. Since the project began, there have been over 450 conversations with Hello Nottingham and the anonymous nature of the conversations means that people can share their reflections in an honest and authentic way.

Findings so far have shown that 93% of users are taking some action to help address climate change and 73% of users think climate change will significantly affect their lives.

The project is supporting understanding of local attitudes and behaviours responding to the climate crisis and will inform the development of CN28 communications and engagement work, as well as informing research at the University of Nottingham.

#### d. Plan 22/23 Review

Many of the actions remain unchanged however; some wording has been altered to ensure key issues such as democratic involvement and marketing are better addressed. There is also a new action around better working with external partners and businesses.

For further details on the changes made for 2023-2024, see Appendix 1.

## 2023-2024 Action Plan Preview

This year, NCC has again undertaken some detailed modelling (see section 3) of what is needed to achieve the ambition to be carbon neutral by 2028. Delivery this year will consider this as the City looks to accelerate efforts even further towards 2028.

Each theme considered their actions for 2023-2024 and a number of changes were made. Over half remain unchanged and there will be 18 new actions. Overall, the changes to the actions are shown in Figure 2 below:

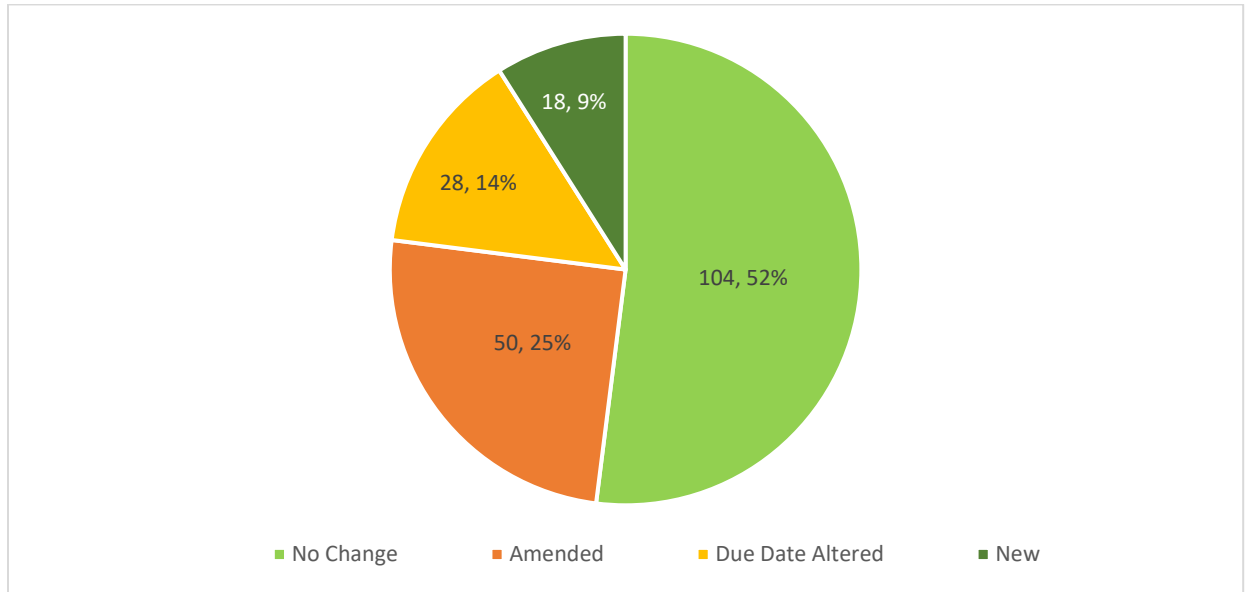


Figure 2 – CN28 Action Plan Changes for 2023-2024

### a. Methane & Nitrous Oxide

From 2023-2024 onwards, the action plan will include targets for the reduction of the other non-CO<sub>2</sub> GHGs that are responsible climate change namely methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). This city is aiming to reduce CH<sub>4</sub> emissions by 84% and N<sub>2</sub>O emissions by 89% to achieve net zero for these by 2028. Fortunately, existing actions such as managing our domestic food waste and transport improvements will result in the reduction of all GHGs (including CO<sub>2</sub>) but new actions will be included around reducing the amount of water wasted as this has a particular impact on CH<sub>4</sub> and N<sub>2</sub>O levels.

### b. NCC Leadership

This year, the Leader of NCC, Councillor David Mellen will be leading the strategic oversight of the CN28 ambition to give it added impetus and demonstration of its critical importance to NCC and the wider city.

### c. Increasing Key Activities

To achieve the further energy consumption and subsequent emissions reductions, modelling suggests a need to increase the rollout of solar panels to be installed on both commercial and



domestic properties. In addition, further renewable generation would be needed, potentially outside the City boundary and/or further reductions in electricity consumption. NCC and the City will be working closely on achieving these in the years to come.

Usage of public transport remains a concern with levels still only at 83% of what it was in pre-pandemic times, and this will mean increased efforts to encourage people back on buses, trams and trains as well as adopting more active and sustainable travel choices of walking, cycling, and e-scootering.

Collaboration and cooperation are vital to achieving CN28 so NCC will continue to work with the Nottingham Green Partnership and the increasing number of 'We Support CN28' partners amongst others.

#### d. Air Quality

Air quality is inextricably linked to the work to reduce carbon emissions and improvements to it are synergistic particularly with transport and traffic volume control actions and also in work on the built environment, energy generation and land management. Therefore, from 2023-2024 onwards reports on NCC's statutory duty to improve air quality will be included as a new action as part of the Transport theme.

#### e. Key actions

The key actions to deliver in 2023-2024 include:

##### **Transport**

- Deliver the 4<sup>th</sup> and final year of the Transforming Cities Fund
- Implementation of the ongoing Future Transport Zone, completing the Levelling Up fund programme
- Deliver Active Travel schemes on St. Ann's Well Road (in construction), Porchester Road (design and consultation), and the Active Travel Social Prescribing project
- Implement the Bus Service Improvement Plan and the Zero Emission Bus Regional Area scheme
- Continue investment in real time Public Transport information through on-street variable message signs and mobile devices
- NCT introduce their new electric bus fleet
- Continue the expansion of the electric vehicle charging network across the region
- Develop local electric car club/car sharing schemes
- Continue the Workplace Travel Service programme to help city employers on making changes to their fleet, travel plans and ways to help employees switch to ULEVs, cycles and e-bikes for personal use.

##### **Built Environment**

- Commission a new Supplementary Planning Document, and associated consultation
- Publish the Greater Nottingham Strategic Plan (including recommended policies on low carbon) for representation, prior to submission for examination

- Complete Local Authority Delivery Phase 3 and SHDF Wave 1 housing retrofit schemes
- Ongoing delivery of the Home Upgrade Grant (HUG) Phase 2 and SHDF Wave 2 scheme.

### **Energy Generation**

- Progress the pipeline of solar PV installations once strategic review of NCC properties and sites is complete
- Progress the pipeline of Salix projects to increase use of energy storage and solar.

### **Waste**

- Promote repair and reuse facilities, workshops and skill sharing across the city
- Adopt the Joint Waste Local Plan with Nottinghamshire County Council.

### **Consumption**

- Develop Nottingham's Clean Growth economy through joined-up plans, strategies, and programmes, aligned with regional and national strategies
- Develop education and outreach programmes to reduce meat consumption/increase plant-based diets within NCC's Catering Services.

### **Biodiversity**

- Implement a Biodiversity Net Gain Strategy and policy following completion of the feasibility study
- Begin to complete the LNRS in partnership with Nottinghamshire County Council
- Continue to develop project proposals to enhance and improve biodiversity across the city, the first of these is a bid for species recovery funds.

### **Adaptation & Resilience**

- Undertake public consultation and publish the Adaptation & Resilience Strategy
- Deliver a revised Local Flood Risk Management Strategy
- Deliver improved citywide surface water modelling.

### **Behaviour & Culture Change**

- Introduce a new sustainable procurement strategy for NCC
- More key decision making at NCC to include mandatory consideration of impact on carbon emissions.

### **Partners Organisations**

- Decarbonisation of the heating systems continues at Queens Medical Centre and City Hospital sites by NUH
- Browne Jacobson installing a roof mounted solar panel array to their Nottingham offices
- East Midlands Ambulance Service (EMAS) to begin trials of EV ambulances.

For further information

For further information on Carbon Neutral Nottingham 2028 click [here](#) or Email [climatechange@nottinghamcity.gov.uk](mailto:climatechange@nottinghamcity.gov.uk)

## Appendices

### a. Action Plan 2023-2024

#### Key

**GREEN** – no change

**AMBER** – amended wording/recoded/moved

**YELLOW** – due date altered

**DARK GREEN** - New

## CARBON REDUCTION Transport Theme

### 01 Objective - To reduce the need to travel, particularly by car, within the city boundaries

Actions	Review Changes
<b>CN TRA 006</b> Government use fiscal policy to incentivise home working	No change
<b>CN TRA 007</b> Government increase the proportion of Department for Transport (DfT) capital funding delegated to Local Authorities (LAs)	No change
<b>CN TRA 008</b> Government review vehicle excise duty in order to encourage a switch to sustainable forms of transport	No change
<b>CN TRA 062</b> Encourage employers to use shared hubs and new technology	RECODED from CN TRA 002.01
<b>CN TRA 063</b> Encourage NCC workforce to use shared hubs and new technology	RECODED from CN TRA 002.02 and DUE DATE now March 2025
<b>CN TRA 064</b> Ensure that new developments promote walking	RECODED from CN TRA 003.01
<b>CN TRA 065</b> Ensure that new developments are within easy reach of high-quality public transport and within easy reach of high-quality Cycle Network routes	RECODED from CN TRA 003.02

## 02 Objective - To increase the uptake of active travel and availability of safe and green walking/cycle networks

Actions	Review Changes
<b>CN TRA 009</b> Develop and publish a Local Cycling and Walking Improvement Plan (LCWIP) for the D2N2 area with Local Enterprise Partnership support	DUE DATE now December 2023
<b>CN TRA 010</b> Prioritise the development of a high-quality cycling network and secure cycle parking in Nottingham	AMENDED WORDING
<b>CN TRA 012</b> Work with schools/employers to encourage all to travel by walking and cycling where possible inc. Car Free Days, Clean Air Days and other events, in conjunction with communities and voluntary orgs	DUE DATE now June 2028
<b>CN TRA 016</b> Government provide support for investment into cycling and walking infrastructure and complementary promotional activities	No change

## 03 Objective - To increase in the quality, accessibility and frequency of public transport for all

Actions	Review Changes
<b>CN TRA 018</b> Actively seek to expand the tram network to cover more of the city and conurbation of Nottingham	No change
<b>CN TRA 019</b> Invest in real time Public Transport information through on-street variable message signs and mobile devices	No change
<b>CN TRA 021</b> Improve bus infrastructure and priority measures	DUE DATE now June 2025
<b>CN TRA 022</b> Expand Public Transport networks in partnership with public transport operators and large employers	No change
<b>CN TRA 024</b> Develop a MaaS platform in partnership with public transport operators and service providers of shared transport solutions	No change
<b>CN TRA 027</b> Government provide support for investment into public transport	No change

Performance Indicator	Review Changes
<b>CN TRA 001</b> No. of local bus and light rail passenger journeys originating in the Council area (millions)	No change (formerly NP NN7)

#### 04 Objective - To create a clean system for freight to enter and move around the city

Actions	Review Changes
<b>CN TRA 029</b> Modify the City Centre Clear Zone to ensure that only the cleanest delivery vehicles will be able to access the city centre	No change
<b>CN TRA 030</b> Encourage freight organisations to make the switch to electric vehicles and promote the use of cargo-bikes for final stage deliveries	No change
<b>CN TRA 034</b> Government review vehicle regulations particularly looking at refrigeration in transport and how this can be made cleaner	No change

#### 05 Objective - To reduce and better manage demand of traffic on the City's streets

Actions	Review Changes
<b>CN TRA 037</b> Promote the park and ride facilities and investigate expansion to other areas of the city and county	No change

#### 06 Objective - To provide high quality infrastructure across the city which enables low emission and low carbon transport

Actions	Review Changes
<b>CN TRA 038</b> Expand the D2N2 electric vehicle charging network across the region	No change
<b>CN TRA 039</b> Introduce Vehicle to Grid (V2G) in order to help deal with peaks in energy demand	DUE DATE now March 2024
<b>CN TRA 048</b> Government provide clear and coordinated communications campaigns to help raise public awareness, alongside providing incentives to switch the ULEV vehicles to aid the switch from petrol/diesel vehicles	No change
<b>CN TRA 052</b> Government require charge point suppliers to provide contactless payment options and support interoperability (roaming) across networks (powers under the Autonomous Vehicles Bill)	No change
<b>CN TRA 066</b> Work with D2N2 in linking the network of vehicle charge points across the region (public and Heavy Goods Vehicles [HGV])	RECODED from CN TRA 043.01 and DUE DATE now June 2028
<b>CN TRA 067</b> Work with Local Energy Partnership (LEP) to understand and coordinate the potential role and requirements of hydrogen as a transport fuel	RECODED from CN TRA 043.02 and DUE DATE now June 2028

**07 Objective - To shift to ULEVs, investigate additional demand management measures to encourage shared travel and introduce new technology solutions**

Actions	Review Changes
CN TRA 054 Introduce new technology and use smart cities developments to improve the efficiency of the transport network	No change
CN TRA 056 Transition NCC's operational and grey fleet to ULEV where practicable	AMENDED WORDING and DUE DATE now June 2028
CN TRA 057 Develop local electric car club/car sharing schemes and investigate applications/communications to support greater uptake	DUE DATE now June 2028
CN TRA 058 Work with NTU and University of Nottingham (UoN) to identify opportunities for research into clean transport technology	DUE DATE now June 2028
CN TRA 060 Work with city employers on making changes to their fleet, travel plans and ways to help employees switch to ULEVs, cycles and e-bikes for personal use	No change
CN TRA 061 Work with key public sector organisations to investigate demand and capacity for accommodating greater numbers of ULEVs	No change

# CARBON REDUCTION

## The Built Environment Theme

### 01 Objective - To have all heating from low carbon and/or renewable heating sources

Actions	Review Changes
<b>CN BEN 001</b> Work with partners to provide information and materials to educate and engage citizens and businesses with low carbon sources of heating	DUE DATE now June 2028
<b>CN BEN 005</b> Undertake heat mapping exercises for ground, water, air, waste heat and other sources for low carbon heating, considering locally appropriate scale of infrastructure	DUE DATE now June 2024
<b>CN BEN 006</b> Investigate the potential for local low carbon heating for commercial premises through energy audits, advice and grant funded opportunities	AMENDED WORDING and DUE DATE now June 2024
<b>CN BEN 045</b> Deliver and maintain the roll-out of retrofit in private homes using Green Homes Grant and other similar schemes	No change
<b>CN BEN 046</b> Maintain a funding recording system which looks for funding opportunities	No change

### 02 Objective - To enforce regulations effectively to monitor and encourage energy efficiency standards and improvements

Actions	Review Changes
<b>CN BEN 007</b> Enforce private rented and non-domestic Minimum Energy Efficiency Standards regulations	No change
<b>CN BEN 008</b> Review and evaluate the potential of an 106 agreements or allowable solutions mechanism for developers to pay into when a certain high level of energy efficiency of buildings is not able to be met in the development and use this for carbon saving projects	DUE DATE now September 2024
<b>CN BEN 012</b> Promote awareness and understanding of Energy Performance Certificate for domestic and commercial properties to foster greater action in the city	No change
<b>CN BEN 013</b> Stay up to date and help promote an emerging Carbon Neutral Supplementary Planning Document (SPD) which may require developers to produce carbon statement	DUE DATE now September 2024



### 03 Objective - To have greater and more frequent citywide uptake of energy efficiency technologies both commercial and domestic

Actions	Review Changes
<b>CN BEN 016</b> Increase the number of EnergieSprong Household retrofits	AMENDED WORDING
<b>CN BEN 018</b> Contribute to making household retrofits commercially viable through creating local sites for retrofit material and ensuring sufficient skills and infrastructure is in place, as well as attracting investment in future retrofit measures	No change
<b>CN BEN 019</b> Capitalise on available funding and expand ECO measures where appropriate	No change
<b>CN BEN 020</b> Address over 50,000 solid wall or inadequately insulated properties across the city	No change
<b>CN BEN 021</b> Regenerate areas of the city with more energy efficient and climate smart buildings	No change
<b>CN BEN 022</b> Prioritise building new builds on NCC land to a high energy efficiency Standard progressing towards a 'carbon neutral' standard	AMENDED WORDING
<b>CN BEN 025</b> Ensure NCC's own estate's energy efficiency is maximised through invest to save practices, such as using SALIX financing	No change
<b>CN BEN 026</b> Engage and collaborate with large public and private sector organisations to improve the energy efficiency of their buildings	No change

### 04 Objective - To help businesses and citizens reduce energy demand from buildings

Actions	Review Changes
<b>CN BEN 029</b> Inform citizens and businesses across the city on energy saving measures through developing materials and engagement e.g. local pop-up stalls, with the aim to also reduce fuel poverty	No change
<b>CN BEN 030</b> Provide information and engage with citizens and organisations to encourage switching to renewable energy tariffs	DUE DATE now June 2024
<b>CN BEN 047</b> Work with key partners to use procurement approaches to encourage suppliers to report on their operational emissions	RECODED from CN BEN 032.01
<b>CN BEN 048</b> Investigate the potential for establishing a citywide energy and carbon ratings scheme for businesses	AMENDED WORDING and RECODED from CN BEN 032.02

**05 Objective - To maximise the uptake of low-cost technologies to reduce the demand for energy across all buildings**

Action	Review Changes
CN BEN 033 Ensure, where feasible, low cost technologies such as LED lighting are rolled out across the NCC estate, including parks and open spaces to reduce energy use	No change

**06 Objective - To minimise emissions in construction of new buildings**

Actions	Review Changes
CN BEN 035 Trial the open-source Embodied Carbon in Construction Calculator (EC3) tool	DUE DATE now September 2024
CN BEN 038 Measure Scope 3 emissions impacts of current construction approaches and procurement	No change
CN BEN 039 Promote more sustainable materials for new constructions based on the BREEAM tool	DUE DATE now September 2024
CN BEN 041 Influence regional procurement frameworks	No change

# CARBON REDUCTION

## Energy Generation Theme

01 Objective - To have a vision of how the energy system would ideally look to align energy development and secure funding

Actions	Review Changes
CN ENG 003 Align Future Parks Accelerator (FPA) Parks and Heritage Strategy to 2050 to the shared energy vision	DUE DATE now December 2023
CN ENG 006 Work with adjacent LAs, partners etc. to develop local energy generation on periphery of city for use in the city	No change
CN ENG 007 Support an active and visible community of energy discussion and working groups to tackle energy challenges collectively	No change
CN ENG 008 Work with partners to understand the potential for low-carbon hydrogen gas in the distribution network for heating and hot water provision	No change
CN ENG 009 Government devolve funding into local energy infrastructure and capacity building	DUE DATE now June 2028
CN ENG 042 Implement Nottingham City's Local Area Energy Plan (LAEP)	No change

## 02 Objective - To expand local low carbon sources of energy within the city

Actions	Review Changes
<b>CN ENG 010</b> Install solar Photo Voltaic arrays (PV) on all viable NCC properties and encourage uptake across the city	No change
<b>CN ENG 011</b> Undertake a viability survey at all existing sites (inc. structures in Parks) to potentially accommodate further solar PV wherever possible with shared surplus income towards sustaining parks and open spaces	No change
<b>CN ENG 014</b> Map out the potential to increase local renewable electricity generation and across buildings and sites, particularly in conjunction with research and other public sector partners	No change
<b>CN ENG 017</b> Explore the opportunities for anaerobic digestion to produce clean energy e.g. electricity and biogas, deal with waste, and produce resources	No change
<b>CN ENG 018</b> Explore the potential for local water source heat pumps	No change
<b>CN ENG 019</b> Through engagement with citizens and partners, develop information and guidance materials through different media to facilitate greater uptake of renewable energy generation	DUE DATE now June 2025
<b>CN ENG 020</b> Government remove/refine current regulation which causes significant barriers in re-enforcing the network ahead of need	DUE DATE now June 2024
<b>CN ENG 021</b> Government remove/refine current ceiling pricing rules on the amount companies can earn from charges to use the networks set by Ofgem	DUE DATE now June 2024
<b>CN ENG 022</b> Government invest strategically, and work closely with the Distribution Network Operators (DNOs), in order to meet growing demands as new technology and green priorities mean more of a move to electricity for transport and heating	No change

## 03 Objective - To improve the capacity to store local low carbon energy

Actions	Review Changes
<b>CN ENG 023</b> Increase electricity storage on NCC properties to allow maximum use of locally generated energy	No change
<b>CN ENG 024</b> Investigate the potential of parks and open spaces sites for local electricity generation and heat storage	No change
<b>CN ENG 025</b> Encourage non-public sector businesses to investigate feasibility of electricity storage locally, through consultation and advice	No change

Actions	Review Changes
CN ENG 026 Investigate the potential for thermal storage e.g. hot water and ground inter-seasonal storage for greater maximisation of local energy generation	No change
CN ENG 027 Investigate the potential of caves for energy storage	No change

#### 04 Objective - To have a stable and secure energy system that maximises energy from local diverse mix of low carbon sources

Actions	Review Changes
CN ENG 028 Improve the resilience and coordination of NCC's energy systems to manage demand response which is sensitive to weather conditions and local energy needs	No change
CN ENG 030 Government develop a nationally smarter grid to make energy assets work together, with timely rollout and engagement for smart meters	No change

#### 05 Objective - To enable the city to be a test bed for new energy generating technologies

Actions	Review Changes
CN ENG 034 Be an innovative testbed city for new energy technologies e.g. micro-wind, pumped storage	No change
CN ENG 035 Government provide nationally available funding to drive the national low carbon agenda at a city level which NCC can access	No change

**06 Objective - To ensure low carbon energy is affordable and accessible to all**

Actions	Review Changes
CN ENG 036 Reduce energy poverty with support from sister organisations e.g. EnviroEnergy, Nottingham Energy Partnership	No change
CN ENG 037 Increase community and cooperative energy projects in partnership with other organisations	DUE DATE now June 2028
CN ENG 039 Government enable access to appropriate nationally available funding, incentives and access to finance, to support affordable energy generation for all	DUE DATE now June 2025
CN ENG 041 Move NCC's energy supply to a zero emissions electric tariff and explore a green gas tariff	No change

## CARBON REDUCTION

### Waste & Water Theme *(AMENDED for 23/24 to incorporate Water actions)*

01 Objective - To reduce the total volume of waste generated through the use of technological and behavioural changes

Actions	Review Changes
<b>CN WAW 001</b> Develop strategies to significantly reduce the use of single use plastic by NCC	AMENDED WORDING, RECODED from CN WAS 004
<b>CN WAW 002</b> Develop citywide information and engagement to support citizens and businesses with a transition to zero-waste approaches	OWNERSHIP now Waste Collection Service (WCS), RECODED from CN WAS 007
<b>CN WAW 003</b> Work with local partners to support the reduction of waste and to turn waste into a resource in a circular economy	NEW, moved from Consumption Theme, OWNERSHIP Waste Collection Service
<b>CN WAW 004</b> Encourage a reduction in consumption by highlighting the environmental benefits of waste reduction and prevention, and signposting to waste prevention and reuse activities and services in the City	NEW, incorporates CN WAS 001, 002, 005, OWNERSHIP now WCS
<b>CN WAW 005</b> Reduce food waste at source for organisations in Nottingham	NEW, moved from Consumption Theme
<b>CN WAW 006</b> Explore the opportunity for commercial food waste collection and potential for Anaerobic Digestion	NEW, moved from Consumption Theme

02 Objective - To reuse, reduce, recycle and use more waste for energy and eliminate it from landfill

Actions	Review Changes
<b>CN WAW 007</b> Prioritise energy recovery and explore the potential to expand the District Heating network to more properties	AMENDED WORDING, RECODED from CN WAS 009
<b>CN WAW 008</b> Continue to keep waste sent to landfill under 10%.	AMENDED WORDING, RECODED from CN WAS 010
<b>CN WAW 009</b> NCC work with local businesses and community groups to expand and promote repair and reuse services	NEW, incorporates CN WAS 003, 012, 013, OWNERSHIP now WCS
<b>CN WAW 010</b> Explore with the community and voluntary sector the reuse/repair of goods collected through the HWRC and the Bulky waste collection service	OWNERSHIP to include Waste Collection Service, DUE DATE June 2028

Actions	Review Changes
<b>CN WAW 011</b> Introduce a separate weekly food waste collection to its residents and treat food waste in a manner that reduces carbon emissions and generates energy	NEW, incorporates CN WAS 008.02, CN CON 017, 019, 022, DUE DATE June 2028, OWNERSHIP now WCS

Performance Indicators	Review Changes
<b>CN WAW 001</b> Percentage of household waste sent for reuse, recycling and composting	No change (formerly CER ES 024)
<b>CN WAW 002</b> Percentage of municipal waste landfilled	No Change (formerly CER ES D 023)

### 03 Objective - To have better waste management and ownership through effective regulations and policy

Actions	Review Changes
<b>CN WAW 012</b> Keep up to date with national policies on waste and seek to contribute and influence new waste regulations	OWNERSHIP now WCS, RECODED from CN WAS 014
<b>CN WAW 013</b> Adopt and promote the Nottingham Resources and Waste Strategy	AMENDED WORDING and DUE DATE now April 2024, RECODED from CN WAS 016
<b>CN WAW 014</b> Government to provide financial support for a new waste system infrastructure and initiatives and provide clarity on future waste arrangements to tackle waste issues	OWNERSHIP now WCS, RECODED from CN WAS 018
<b>CN WAW 015</b> Government to support or regulate greater levels of reusable and recyclable packaging, in line with national Waste Strategy principles	DUE DATE now June 2024, OWNERSHIP now WCS, RECODED from CN WAS 019
<b>CN WAW 016</b> Explore the potential mechanism of collection for dry recycling materials from its residents and businesses to ensure that the full range of recyclables can be collected from both the kerbside service and the Household Waste Recycling Centre service	NEW, incorporates CN WAS 011, 017, DUE DATE June 2027

### 04 Objective - To improve the efficiency of the water supply and water treatment to reduce water demand (moved from Water theme)

Action	Review Changes
<b>CN WAW 017</b> Undertake Water Efficiency Loan Scheme (WELS) projects across internal estate	RECODED from CN WAT 001 and DUE DATE now June 2024



05 Objective - To improve behaviours to reduce water demand (moved from Water theme)

Actions	Review Changes
<b>CN WAW 018</b> Build relationships with NHS colleagues and work to promote water efficiency within health care establishments i.e. care homes, assisted living homes, QMC, CHN working in partnership to share best practice and share knowledge	RECODED from CN WAT 011
<b>CN WAW 019</b> Undertake business as usual activities to identify anomaly consumption and potential leaks, working with wholesaler to reduce leakage and raise awareness of leaks both internally and externally	RECODED from CN WAT 012
<b>CN WAW 020</b> Undertake business as usual activities to supply water to NCC's estate via water self-supply license. Ensure performance remains above the market threshold and retain license.	RECODED from CN WAT 013
<b>CN WAW 021</b> Undertake internal and external marketing campaigns to raise awareness of water usage and associated carbon emissions and how to reduce this	NEW
<b>CN WAW 022</b> Develop campaigns to cover NCC estate inclusive of WELS projects	NEW
<b>CN WAW 023</b> Utilise external social media to promote hot weather warnings to raise awareness on water usage	NEW
<b>CN WAW 024</b> NCC work with wholesaler/MOSL/Ofwat to promote messages as required	NEW

# CARBON REDUCTION

## Consumption Theme

### 01 Objective - To increase local and low-carbon production

Actions	Review Changes
<b>CN CON 004</b> Develop Nottingham's Clean Growth economy through joined-up plans, strategies and programmes, aligned with regional and national strategies	No change
<b>CN CON 007</b> Develop a package to improve the efficiency of schools' catering equipment, and switch to electric sources to allow for carbon neutral catering	No change
<b>CN CON 011</b> Encourage and incubate businesses that can deliver low-carbon goods and services to develop in or relocate to Nottingham	No change
<b>CN CON 041</b> Develop a food strategy for Nottingham	DUE DATE now January 2025 and RECODED from CN CON 001.01
<b>CN CON 042</b> Increase local growing and food sharing through community gardens/hubs and explore the use of technology	DUE DATE now June 2028 and RECODED from CN CON 001.02
<b>CN CON 043</b> Promote the reduction in the use of high carbon fertilizers by e.g. increased use of locally produced compost	AMENDED WORDING and RECODED from CN CON 003.01
<b>CN CON 044</b> Promote community-led local composting and vermiculture schemes	AMENDED WORDING and RECODED from CN CON 003.02
<b>CN CON 045</b> Encourage and promote local cooperative, community owned and other collaborative ventures to foster more effective use and sharing of resources	AMENDED WORDING and RECODED from CN CON 010.01

## 02 Objective - To reduce consumption of high carbon products

Actions	Review Changes
<b>CN CON 012</b> Develop education and outreach programmes to reduce meat consumption/increase plant based diets within Catering Services	No change
<b>CN CON 013</b> Create full greenhouse gas footprint for catering functions to identify biggest emissions areas	No change
<b>CN CON 014</b> Work with partners to reduce the carbon impact and overall sustainability of food choices, for example meat and dairy	DUE DATE now June 2028
<b>CN CON 015</b> Explore carbon reduction opportunities in procurement, by getting suppliers to present lifecycle/carbon assessments and look to adopt appropriate standards	DUE DATE now June 2028
<b>CN CON 016</b> Ensure sustainable consumption campaigns and interventions e.g. Green Rewards are more effective through recognising and addressing existing inequalities	No change

## 03 Objective - To reduce local waste and link all remaining waste to energy, composting and a circular economy

Actions	Review Changes
<b>CN CON 008</b> Explore ways of providing a reduced carbon catering provision across NCC's services	AMENDED WORDING and DUE DATE now June 2025
<b>CN CON 021</b> Promote how citizens and businesses can reduce their food waste through buying, storing, preparation and cooking	AMENDED WORDING

Performance Indicators	Review Changes
<b>CN WAW 001</b> Percentage of household waste sent for reuse, recycling and composting	No change (formerly CER ES 024)

## 04 Objective - To encourage more low carbon cooking and meals

Actions	Review Changes
<b>CN CON 025</b> Expand and promote carbon neutral kitchen	AMENDED wording

Actions	Review Changes
<b>CN CON 026</b> Explore the adoption of tools (e.g. EATS - Environmental Assessment Tool for School meals) to help engage school staff (and potentially students) with creating low-carbon meals through consideration of ingredients, food miles and cooking methods	No change
<b>CN CON 046</b> Develop local green kitchen standard for the city's public and private kitchens	NEW
<b>CN CON 047</b> Work with universities to develop a web-based resource on food, nutrition, health, environmental impact etc.	NEW

#### 05 Objective - To reduce the carbon emissions of city events and improve their sustainability

Actions	Review Changes
<b>CN CON 027</b> Introduce a drinks cup deposit scheme at events held on NCC land where possible	AMENDED wording
<b>CN CON 030</b> Identify options for improving the sustainability of city events	No change

#### 06 Objective - To develop sustainable tourism

Action	Review Changes
<b>CN CON 031</b> Develop clear standards for leisure, tourism and accommodation venues	No change

#### 07 Objective - To buy and procure sustainably, and maximise existing resources

Actions	Review Changes
<b>CN CON 032</b> Investigate available tools to incorporate whole-life costing into procurement process	No change
<b>CN CON 033</b> Raise awareness through training in NCC on need to reuse internal resources and goods wherever possible	No change
<b>CN CON 037</b> Work with partners and networks in the city to support SMEs across all sectors to become more sustainable and low carbon in their operations	No change
<b>CN CON 040</b> Explore how carbon impact assessments can be included in all NCC purchase decisions under £25k	AMENDED WORDING and DUE DATE now June 2024
<b>CN CON 048</b> Investigate available tools to incorporate whole-life costing into procurement process with support from finance where appropriate to the tender	RECODED from CN BEN 036 and from Built Environment Theme

Actions	Review Changes
CN CON 049 Include carbon reduction into procurement specification and set appropriate minimum standards where appropriate to the tender	RECODED from CN BEN 037 and from Built Environment Theme

# CARBON REMOVAL

## 01 Objective - To offset residual citywide emissions from hard to reduce sources

Actions	Review Changes
<b>CN CAR 001</b> Explore the use of offset charges for internal services who continue to produce avoidable CO <sub>2</sub> emissions and use these funds for carbon emissions reductions projects elsewhere in NCC	AMENDED WORDING and DUE DATE now September 2023
<b>CN CAR 002</b> Investigate the use of parks and open spaces to offset carbon for individuals and local businesses emissions	DUE DATE now June 2024
<b>CN CAR 015</b> Develop a proposal for an annual 'carbon offset levy' for the city	NEW for 23/24

## 02 Objective - To participate and actively encourage national research/investment into negative emission technologies

Actions	Review Changes
<b>CN CAR 007</b> Work with academic institutions to explore the implementation of other carbon sequestration technologies	AMENDED WORDING

## 03 Objective - To improve land, soil and building management practices to better retain carbon and reduce air pollution (REVISE WORDING)

Actions	Review Changes
<b>CN CAR 003</b> Ensure Open and Green Spaces are sustainable through the new 25 year strategy and offer diverse, bee friendly habitats , including offering training for bee friendly gardens and establishing 'bee hotels'	AMENDED WORDING
<b>CN CAR 008</b> Explore the opportunities and feasibility for urban greening (e.g. street trees), tree planting and green roofs/walls and promote them through the Biodiversity SPD	No change
<b>CN CAR 009</b> Promote local scale offsetting as a normal function of future planning processes	No change
<b>CN CAR 010</b> Implement Future Parks Accelerator Parks and Heritage Strategy to 2050 to include, for example, maximum carbon sequestration through detailed tree/meadow planting/growing, rewilding, soil management, waterways and wetland planning	No change
<b>CN CAR 012</b> Investigate the potential for using SPDs to maximise carbon sink potentials	No change

Actions	Review Changes
<b>CN CAR 013</b> Research the carbon released during developments on green spaces and how to mitigate the impacts through on site and off site interventions, whilst understanding the green benefits	No change
<b>CN CAR 014</b> Explore use of negative emissions technologies e.g. Biochar	NEW for 23/24 (existing action in NCC's Carbon Management Plan)

# RESILIENCE AND ADAPTATION

## 01 Objective - To ensure adaptation to climate change has a strong foundation in future policies

Actions	Review Changes
CN REA 001 Include adaptation for heatwaves and floods in Land and Planning policies documents	No change
CN REA 002 Integrate adaptation thoroughly into the new citywide Resilience and Climate Change Strategy	No change

## 02 Objective - To reduce risk of flooding to properties and infrastructure

Actions	Review Changes
CN REA 003 Better protect homes and businesses across Nottingham that are exposed to flood risk	No change
CN REA 005 Through development opportunities, seek to open up main rivers and create wetlands, natural flood defenses and urban drainage, as supported by the Local Plan and Biodiversity SPD	No change
CN REA 006 Work with partners and organisations to conduct in depth flood risk mapping across Nottingham e.g. NTU and Environment Agency	No change
CN REA 007 Ensure Emergency Plans are adapted to reflect the changing risk through the Local Resilience Forum	No change
CN REA 008 Explore and encourage innovative technologies and natural interventions (Blue and Green infrastructure) to reduce flood and heat risk within urbanised areas	No change
CN REA 009 Maintain highways and other assets, removing blockages, to reduce the risk of surface water floods	No change but now reported annually
CN REA 024 Work with Nottingham partners to understand how green and blue infrastructure can be better used to manage water	RECODED from CN WAT 005 and moved from Water Theme



**03 Objective - To ensure all core City NCC services are adaptable to a changing climate**

Actions	Review Changes
CN REA 011 Improve knowledge and understanding of how NCC is affected by extreme weather events in terms of providing its services and its financial impact	No change
CN REA 013 Develop NCC service level plans for adapting to climate change	No change
CN REA 014 Work with partners and other local authorities to help evaluate and develop suitable tools to help understand impacts to NCC service areas	No change

**04 Objective - To understand the current and future impacts of extreme weather events and climate change, with an in-depth knowledge of the most vulnerable citizens**

Actions	Review Changes
CN REA 015 Establish a methodology with partners to undertake a full citywide vulnerability assessment for extreme weather events and future climate change scenarios	No change
CN REA 016 Identify those most at risk from extreme weather events, such as heat waves and develop mitigating actions	No change
CN REA 017 Assist marginalised and vulnerable groups to become more resilient and deliver educational engagement programme with target communities	AMENDED WORDING

**05 Objective - To create resilience to climate change in communities and business**

Actions	Review Changes
CN REA 019 Work with citizens across Nottingham to ensure those most vulnerable and at high risk to severe weather events are on the priority service register and have signed up to alerts e.g. flood risk alerts	No change
CN REA 020 Work with businesses across the city to help them develop business continuity plans in response to climate change and extreme weather events	DUE DATE extended to June 2028
CN REA 021 Work with residents and communities to empower them to become more resilient to current and future climate change impacts, including the use of simple interventions	No change

## BIODIVERSITY (renamed from Ecology & Biodiversity)

### 01 Objective - To identify more, better, bigger, joined habitat network

Actions	Review Changes
<b>CN ECB 001</b> Identify sites for additional tree planting, relaxed mowing, wildflower growth, hedge planting through opportunity mapping, helping to create diverse habitats in NCC owned parks and open spaces	No change
<b>CN ECB 004</b> Work in partnership with the Nottinghamshire Biodiversity Action Group and other stakeholders to build future resilience of habitats and species and identify habitats for carbon sequestration	No change
<b>CN ECB 015</b> Identify sites which meet the criteria for Local Nature Reserve designation to expand protected sites' network	RECODED from CN ECB 002.01
<b>CN ECB 016</b> Select strategic sites that need protection from current or future pressure from development or loss	RECODED from CN ECB 002.02

### 02 Objective - To increase woodland cover in appropriate places and managing sustainable woodlands

Actions	Review Changes
<b>CN ECB 005</b> Update Nottingham's Urban Forestry Strategy including the assessment of existing woodlands, with understory planting and expansion programmes introduced where necessary	No change
<b>CN ECB 006</b> Sustainably manage existing woodland and prevent its degradation	No change
<b>CN ECB 007</b> Work with partners to identify sites for woodland creation and promote tree planting across privately owned land, schools and businesses	No change

### 03 Objective - To install innovative natural features to developments, as per the Biodiversity SPD

Actions	Review Changes
<b>CN ECB 008</b> Support the Biodiversity SPD by including biodiversity enhancements to all developments, ensuring net gain in biodiversity	No change
<b>CN ECB 009</b> Consider green roofs, green walls, and sustainable urban drainage systems, in new developments	No change

Actions	Review Changes
<b>CN ECB 010</b> Identify aspirational projects for small scale wetland creation, biodiversity enhancement opportunities and natural flood defenses	No change

**04 Objective - To contribute towards improved crop production and plant propagation through having a Bee friendly city**

Actions	Review Changes
<i>No actions being undertaken towards this objective in 2023-2024.</i>	

## CROSS CUTTING ACTIVITIES including Behaviour & Culture Change, and Air Quality (renamed for 2023-2024)

### OBJECTIVE 01 – To effectively engage, involve and inform the city’s residents, workers, visitors and businesses in climate change and CN28

Actions	Review Changes
CN XCN 001 Advise other NCC services in developing actions and contributions to reducing their own carbon emissions	AMENDED WORDING, RECODED from CN BCC 004
CN XCN 002 Work with young people to co-create engagement activities that raise awareness, generate ideas, and promote behaviour change	AMENDED WORDING, RECODED from CN BCC 008
CN XCN 003 Deliver a range of engagement and awareness activities, campaigns etc. to develop fuller understanding and knowledge of CN28 both in the city and within NCC	RECODED from CN BCC 013
CN XCN 004 Develop new mechanisms of external democratic involvement with the carbon neutral agenda	AMENDED WORDING, RECODED from CN BCC 015
CN XCN 006 Develop a ‘carbon neutral by design’ ethos where everything that is proposed in NCC includes carbon reduction considerations/activities as a matter of course e.g. introduction of CIAs, planning application reviews	RECODED from CN BCC 016
CN XCN 007 Devise, promote and manage an internal staff CN28 champion programme	RECODED from CN BCC 007.01
CN XCN 008 Devise, promote and manage an external CN28 champion programme	RECODED from CN BCC 007.02
CN XCN 009 Deliver a range of communications and marketing activities, campaigns etc. to develop the awareness, understanding and knowledge of CN28 within NCC	RECODED from CN BCC 011.01
CN XCN 010 Deliver a range of communications and marketing activities, campaigns etc. to develop the awareness, understanding and knowledge of CN28 in the City	RECODED from CN BCC 011.02
CN XCN 011 Work with key city partnerships to affect greater involvement and ownership by businesses and other partners in the CN28 agenda	NEW (formerly CER ES C 024)

Performance Indicator	Review Changes
CN XCN 001 Number of subscribers to CN28 monthly e-newsletter	NEW (target for 23/24 = 4,000)

**OBJECTIVE 02 – To divest from any fossil fuel related investments in NCC**

<b>Actions</b>	<b>Review Changes</b>
<b>CN XCN 011</b> Review current asset portfolio and work with partners towards divestment from any fossil fuel related investments	RECODED from CN BCC 009.01
<b>CN XCN 012</b> Advise NCC councillors in their campaign for divestment of the Nottinghamshire Local Government Pension Scheme (LGPS)	AMENDED WORDING and RECODED from CN BCC 009.02

**OBJECTIVE 03 – To report and monitor carbon emissions across the city**

<b>Actions</b>	<b>Review Changes</b>
<b>CN XCN 013</b> Undertake an annual assessment of Nottingham's emissions against pathway projections	RECODED from CN BCC 018
<b>CN XCN 014</b> Undertake annual reporting to the CDP (Carbon Disclosure Project) Climate and Environment Reporting Platform for Cities	RECODED from CN BCC 020
<b>CN XCN 015</b> Produce an annual report on NCC's greenhouse gas emissions	RECODED from CN BCC 021
<b>CN XCN 016</b> Establish a suite of Key Performance Indicators (KPIs) Is to routinely report delivery of the CN28 action plan objectives and targets	DUE DATE now October 2023, RECODED from CN BCC 022
<b>CN XCN 017</b> Develop and integrate ClimateOS into CN28 action plan progress reports	RECODED from CN BCC 023.01

<b>Performance Indicators</b>	<b>Review Changes</b>
<b>CN XCN 002</b> Achieve Overall Score of A in CDP	No change

**Objective 04 - To ensure the NCC's statutory duty to improve the city's air quality is clearly linked to the delivery of carbon emissions activities**

Action	Review Changes
CN AQ 001 Compile and submit the annual Air Quality Improvement Report to Government	NEW for 23/24

Performance Indicators	Review Changes
CN AQ 001 Levels of atmospheric Nitrogen Dioxide ( $\mu$ g/m <sup>3</sup> )	No change (formerly CP COP P015)
CN AQ 002 Levels of atmospheric particulates less than 10 $\mu$ m in diameter (PM10) ( $\mu$ g/m <sup>3</sup> )	No change (formerly CP COP P016)
CN AQ 003 Levels of atmospheric particulates less than 2.5 $\mu$ m in diameter (PM2.5) ( $\mu$ g/m <sup>3</sup> )	No change (formerly CP COP P017)

b. Deleted Actions from 2022-2023

Energy Generation
CN ENG 001 Maximise the use of local energy generation through alignment with the smart city strategy
CN ENG 016 Work with East Midlands Mayoral Combined Authority (EMMCA) to invest in low carbon generation assets within the D2N2 region to increase regional manufacturing supply for local consumption
CN ENG 029 Investigate the potential for creating a roadmap and platform for private, municipal, co-operative and community developments to align in one energy system
CN ENG 033 Develop 'Living Lab' - new sustainability and energy impact research initiatives co-designed with citizens and organisations
CN ENG 038 Explore the potential for time of use tariffs and energy as a service model

Waste
CN WAS 001 Undertake citywide behavioural change initiatives and information campaigns to provide a greater understanding of waste issues, where local waste goes and best practices to reduce the volume of waste and how to recycle correctly
CN WAS 002 Promote initiatives to reduce waste across the city, such as Love Food, Hate Waste, #Refill and #Longlivethelunchbox campaigns, alongside increasing water fountains across the city to reduce single use plastic waste
CN WAS 003 Promote repair and reuse facilities, workshops and skill sharing across the city
CN WAS 005 Explore the opportunities of an initiative with social enterprises to tap into the funding to help change behaviours and/or delivering fuel from waste
CN WAS 008.02 Develop a plan for kerbside food collection in line with the national strategy
CN WAS 011 Conclude an investigation into alternative ways of collecting and disposing recyclable materials from homes and businesses, in order to maximise the quality and quantity of recyclable materials collected, in particular understanding the cost and benefits
CN WAS 012 Encourage organisations and businesses across the city to use re-usable cups for staff, retail and events
CN WAS 013 Work with partners to support and promote the development of repair cafes, centres and groups, including skills-share and swap shops
CN WAS 017 Explore with partners the development of innovative evidence-based approaches to target and tailor recycling/waste management campaigns

Consumption
CN CON 005 Work with schools, universities, colleges and other institutions to encourage and support sustainable entrepreneurs
CN CON 022 Work with local partners to support the reduction of waste and to turn waste into a resource in a circular economy
CN CON 048 Promote ethical sustainable purchasing and swapping of goods through re-use schemes, shops and initiatives
CN CON 049 Promote the sharing community platforms and libraries to reduce the need for individual ownership of goods that have occasional usage e.g. clothing

**Carbon Removal**

CN CAR 005 Explore creating a climate offset fund through implementing an internal offset charge for NCC run events



