



Climate Change Annual Report

2022 - 2023

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1 Introduction

This is the first of Chesterfield Borough Council's annual climate change reports. We have committed to producing these within our new Climate Change Strategy so that we can monitor our progress towards our climate change targets. This report includes a summary of our activities during the last year, which have mainly focussed on bringing the previous Climate Change Action Plan to a close and developing the new Climate Change Strategy and Delivery Plan to take us to 2030. The annual report also includes estimates of the council's and borough's emissions, along with a brief discussion of metrics and reporting and how these will be addressed in future reporting periods.

2 Background

In 2019 Chesterfield Borough Council declared a climate emergency¹. In doing so, we set a goal of reaching carbon neutrality as an organisation by 2030, and as a borough by 2050. As a consequence, we then went on to develop a Climate Change Action Plan which was adopted in February 2020² and amended in 2021³. We have recently come to the end of the action plan reporting period (March 2023) and adopted a new Climate Change Strategy⁴ and associated delivery plan⁵ unanimously at a meeting of Full Council in February 2023⁶.

3 Climate Change Action Plan 2019 - 2023

The Climate Change Action Plan (CCAP) was developed as a response to our council's climate emergency declaration and comprised 39 separate actions intended to start us on a road to carbon neutrality. The CCAP was revised to include a further six actions in 2021 to develop our internal training provision and evidence base for the new Climate Change Strategy. We have monitored and regularly reported our progress in delivering the previous action plan through the council's performance management framework. Highlights of this work included:

- Development of the council's Climate Change Impact Assessment tool which has received wide interest from other local government partners and has been modified and adopted by several other councils in England.
- Implementation of a programme of training to council officers and elected members using the Climate Fresk⁷ and Carbon Literacy⁸ courses.
- An extensive programme of tree planting in the borough (around 6000 trees planted).
- A substantial programme of investment and funding made available for improvements to homes and social housing in the borough.
- A switch of energy purchasing to an exclusively green electricity contract which has saved approximately 2,500 tonnes of CO₂ so far.

Of the 45 actions in the Climate Change Action Plan, 43 were completed to satisfactory outcome, and two actions were incomplete as of 1 April 2023. These actions have been captured within the first year Delivery Plan⁵ of the new Climate Change Strategy (under actions BE.01, BE.02, and T.10).

4 Some highlights from the year's activities

Electric vehicles

Over the last year, our teams have trialled a range of electric vehicles and equipment as we consider options to move away from diesel and petrol fuel. Some of these trials have been successful, and we now have several electric vehicles in our fleet.

Electric vehicles now being used by our parking services and tenant engagement teams



Community volunteers have supported our annual tree planting programme, which has resulted in over 6000 trees being planted since 2019.

Changes to verge management have taken place to reduce cutting while maintaining safety standards. We mow less frequently than all neighbouring councils and we have also allocated 27 large areas of council-owned land for a meadow mowing regime.

Biodiversity Net Gain (BNG) requires an approach to development that aims to leave the natural environment in a measurably better state than it was beforehand. A 10% net gain in biodiversity is set to become mandatory in late 2023 (through the 2021 Environment Act), however our Local Plan has required development to demonstrate a measurable net gain since its adoption in July 2020.

Work is currently underway with Derbyshire Wildlife Trust to develop a 'Plan for Nature' and to determine the locations in the borough that can best support habitat creation and enhancement in the future. This includes a review of our land and its potential for supporting biodiversity net gain in cases where it is not possible to achieve a measurable gain on a development site.

Top right: One of our Volunteer Tree Wardens.

Middle right: Reduced mowing area in Holmebrook Valley Country Park

Bottom right: Grub hub signage created to identify areas that have a reduced mowing schedule, with links to more information.



Economic growth

During 2022, we opened our new BREEAM 'Excellent' rated Northern Gateway Enterprise Centre, which provides modern office space (32 suites) for start-up and medium-sized businesses. The project builds on the success of Enterprise Chesterfield, that includes the council's Dunston and Tipton Innovation Centres which for many years have offered excellent support and accommodation for innovative and growing businesses.

It was confirmed in April 2023 that the centre was already 75% occupied, proving a major success in the first year since the building officially opened. It has been designed to a BREEAM Excellent standard. BREEAM (Building Research Establishment's Environmental Assessment Method) is a sustainability rating scheme and focuses on building design, construction and use. It helps measure and reduce the environmental impacts of buildings. Some of the low carbon and sustainability features include:

- Encouraging sustainable forms of transport with enough cycle storage space to cater for the number of occupants.
- A flexible building, allowing for future expansion, room subdivision and to allow further segregation and / or open-plan office spaces.
- Incorporating the latest water minimisation technologies where possible which will substantially reduce water use.
- Low energy lighting throughout.
- High performance double glazing.
- Bird boxes and mixed planting around the building to support urban wildlife.



In January 2023, we officially opened One Waterside Place which is a BREEAM 'Very Good' rated office provision for larger businesses looking to relocate or expand. The building features six floors of office space with a ground floor space for retail. It provides all the modern features expected of a high-quality office space including air conditioning, on-site bike parking, showers and with high energy efficiency throughout.



Council homes

We are continuing our substantial programme of investment in Council Homes to improve environmental standards and support decarbonisation, for example, by improving insulation and replacing windows. All new build houses with off-street parking are being fitted with electric charge points as a standard planning requirement.

The recent refurbishment project at Mallard and Leander Courts, and all other sheltered refurbishment projects completed to date, are being designed and built to standards that exceed the minimum as set out in Part L Conservation of Fuel and Power of the current building regulations.

We have achieved increased efficiency of the properties through the installation of energy efficient boilers and increased levels of insulation in the floors, walls, ceilings and void roof areas; they have been upgraded to meet and exceed current building regulation standards, for example ceiling voids now receive 400mm of quilt insulation where previously they had in some instances zero or 100mm. The existing projecting gables and bays, amounting to over 25% of the original buildings' external envelope which were previously uninsulated, are now fully compliant to current standards bringing the building up from a notional EPC C rating to an EPC rating of B, score 70 (in comparison to the average energy rating in the UK of D with an average score rating of 60).

In addition to the buildings' fabric being upgraded throughout, all construction materials are locally sourced from sustainable suppliers and local traders to reduce the carbon footprint. For future use, sustainable features such as cycle stores will be introduced, electric car charging points and rainwater recycling through collection points in the garden. Water usage is calculated and features such as perforated taps and low flow baths have been incorporated to reduce consumption.

Refurbishing, fully insulating and upgrading these particular buildings has been found to be a greener solution than demolition and rebuilding when we considered the embodied energy in the existing structures, and issues through waste materials to landfill, carbon emissions during the demolition process etc.

However, at the sheltered accommodation at Aston Court, we are proposing to refurbish part of the existing buildings, and other areas (flat roof common and circulation areas that are of poor quality, flat roofs etc) have been assessed as requiring full replacement with new housing designed to exceed the building regulation thermal U-values/SAP ratings.

As part of the refurbishment of Aston Court, electrical services will be upgraded and will replace previous gas provision. New solar panels and enhanced insulation will also be installed to improve efficiency.

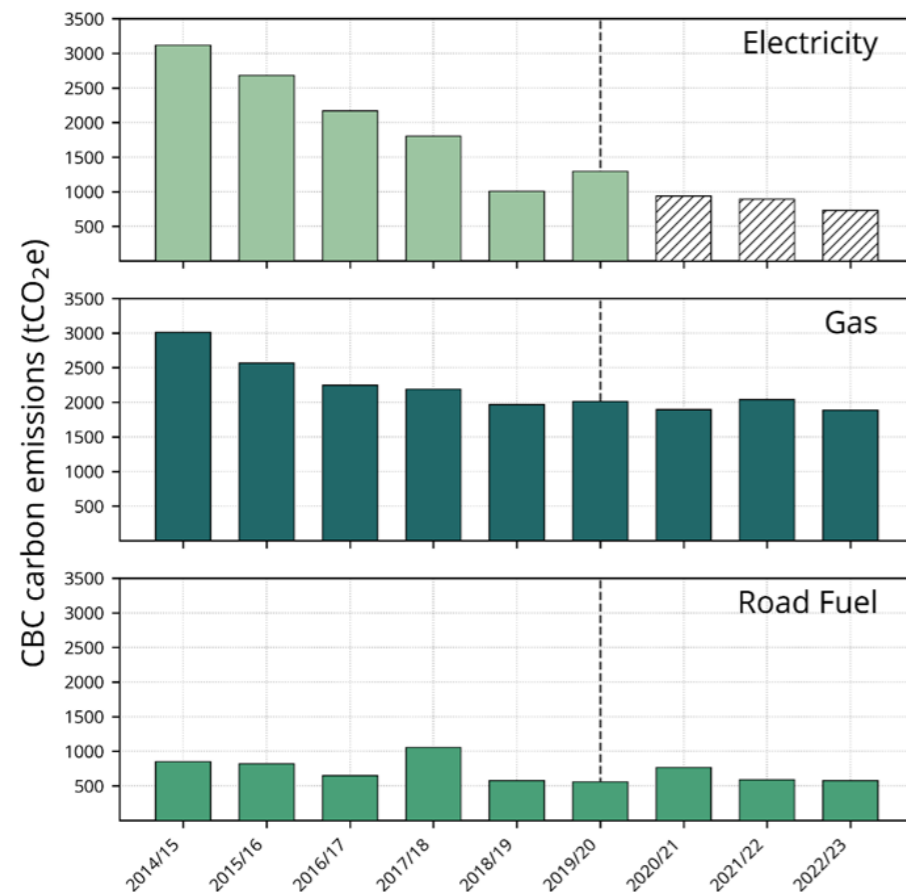


Above left: Badger Croft - Brockwell Court - a new council housing development that has been built on the site of the former Brockwell Court. Each of the new properties has increased levels of insulation.

Above right: Mallard and Leander Court - older persons housing which have been refurbished and brought up to a higher thermal standard.

5 Chesterfield Borough Council emissions reporting

Using 2019/20 as a baseline (the year we declared a climate change emergency), our organisational emissions have fallen by 36%, to around 2,500 tonnes of CO₂ equivalent per year in 2022/23. This has been primarily as a result of decarbonising our electricity supply. The bulk of our remaining emissions come from gas-fired boilers which heat the overwhelming majority of our premises, and also by the combustion of road fuels (predominately diesel). As shown below.



Council emissions from electricity, gas, and road fuels. The climate emergency declaration is denoted by the dotted line. Electricity use is shown as a hatched bar where use has been from exclusively low carbon sources. We show this to illustrate the amount of carbon saved through using a decarbonised electricity supply.

When the long-term change in the emissions from council sources is shown, a number of notable features become apparent.

Firstly, emissions from electricity have been steadily falling since the 2014/15 financial year^a; this is due to wider decarbonisation of the electricity sector, primarily the transition of UK power generation away from coal, and while our electricity use has fallen by about 40% during this period, the carbon intensity of electricity on the national grid has also fallen by around 61%. The significant drop in emissions associated with our electricity emissions is largely due to the policy decision to purchase of Renewable Energy Guarantees of Origin (REGO) certificates from 2020/21 which ensure that an equal amount of renewable electricity is generated to what we use as an organisation. This makes a substantial difference to our emissions from electricity (the shaded area in figure 1) but cannot be repeated in other areas: decarbonising other fuels is significantly more difficult.

Emissions from gas have been falling over the same period; improvements in the efficiency of gas supply chains have partly caused this improvement (the average carbon intensity of gas production and use has fallen by 37%) but we are also using 36% less gas than in 2014/15.

In contrast, the use of road fuels has remained largely static over this period showing a minor reduction which is well within the variability seen on an annual basis. 2020/21 saw an increase in road fuel usage, which was caused by the Covid-19 pandemic as restrictions on sharing vehicles led to less efficient travel arrangements for staff.

It is important to note that a simple extrapolation of the change in our emissions will not result in a useful rate of decarbonisation to project whether we are on target to hit our 2030 target or not. The substantial decrease already seen in emissions was largely the result of decarbonisation of our electricity supply and future decarbonisation efforts are likely to be more difficult.

Success rests particularly on our ability to transition building heating away from natural gas. This issue has been recognised in the development of the new Climate Change Strategy and delivery plan where the decarbonisation of our commercial building stock, and vehicle fleet are addressed in a range of actions under themes 1 and 2 (buildings and energy, and travel).

6 Borough-wide emissions

According to BEIS estimates of territorial emissions within the scope of influence of Local Authorities^b, Chesterfield emissions were around 375,000 tonnes of CO₂ equivalent (tCO₂e⁻¹) during 2020 (the most recent dataset). When these emissions are broken down by sector (as shown in the table below) by far the largest emitters in the borough are shown to be domestic properties and transport. All sectors showed a reduction in emissions since 2014 much of which is likely to have been driven by the electricity grid decarbonisation process described above. The proportion of emissions coming from electricity use (versus gas for heating for example) is likely to be a major cause of the disparity between emissions reductions in different sectors.

^a2014/15 is when we switched to our current bills recording system, which makes it a convenient starting point for data collection. ^bExcludes large industrial sites, railways, motorways, land-use and waste / landfill emissions

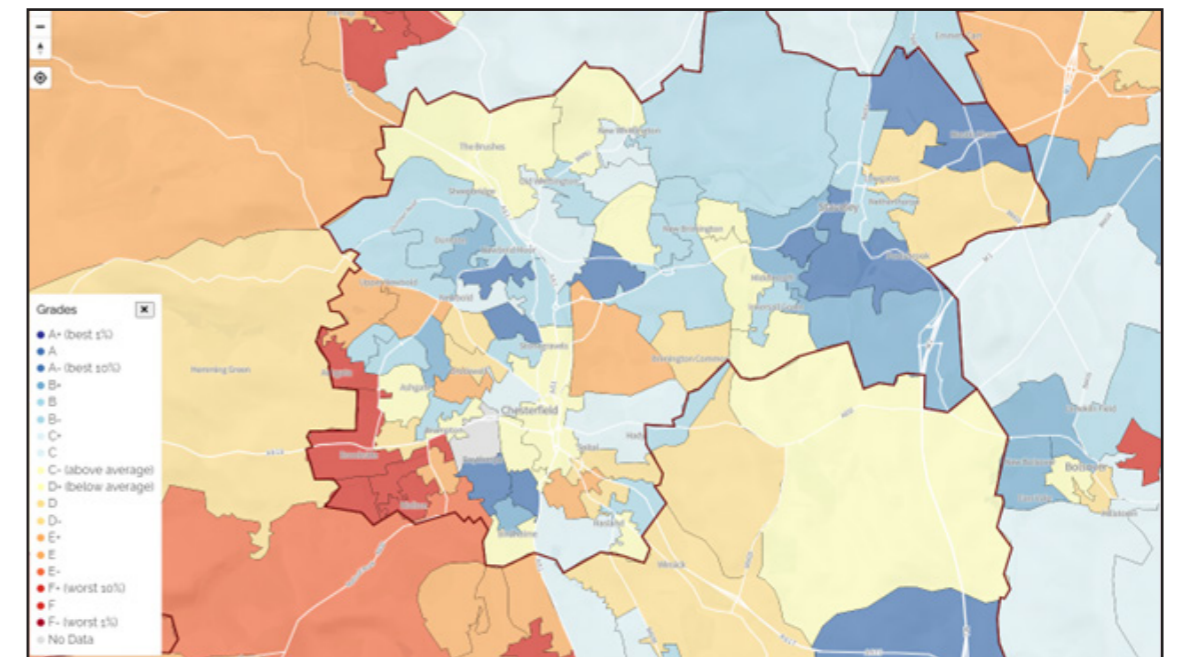
Emissions in Chesterfield broken down by sector based on 2020 data from BEIS.

	Emissions in 2020 (ktCO ₂ e ⁻¹)	% of total emissions in 2020	% change since 2014
Industry	61.32	16.4	-37.4
Commercial	44.47	11.9	-16.0
Public Sector	20.18	5.4	-10.7
Domestic	143.30	38.3	-19.3
Transport	103.85	27.7	-17.5
Agriculture	1.38	0.4	-2.9

Realistically, attribution of any changes to borough-wide emissions to the council's activity is impossible. This is partly because of the wide range of influences on emissions from other sources, and partly because the BEIS dataset does not yet include data for the full period covered by the Climate Change Action Plan.

Based on a comparison of borough emissions and Chesterfield Borough Council emissions over a similar period (2020, compared with 2020/21 financial year) the council was directly responsible for 0.96% of borough-wide emissions. Indirect influence on emissions is far larger (through grey fleet, or gas boilers in our social housing portfolio for example) but it is not currently possible to quantify this with any certainty.

The image below shows an estimation of carbon emissions across the borough per head of population using the Place Based Carbon Calculator (PBCC). It draws on a wide range of data and research to give a representative view of how carbon footprints vary across the country. PBCC is intended to help communities and policy makers understand where their carbon footprints come from and what we need to do to reduce them.



Estimation of carbon emissions across the borough per head of population using the Place Based Carbon Calculator.

7 Communications and training

Communications

We continue to proactively communicate with key stakeholders on climate change issues, through a range of internal and external communications projects – delivered under the Climate Action Now (CAN) campaign. These projects help demonstrate what actions we are taking as a community leader, to meet our own climate change commitments, while also encouraging behaviour change within the borough's population, to help lower carbon emissions.



This work is aligned to the key themes set out in the Climate Change Strategy, and also links in with national initiatives throughout the year. Examples of communications include:

- Social media campaigns across the council's main channels on Facebook, Twitter and LinkedIn – which combined have more than 25,000 followers.
- Email newsletter – two Climate Action Now e-newsletters have been produced to date, with more planned over forthcoming months. The March 2023 newsletter was sent to more than 3,500 recipients with

around 1,400 of those estimated to have opened the publication. This equates to an 'open rate' of 40 per cent, which is considered high by email marketing average metrics. We are continually and proactively growing this audience by encouraging members of the public to sign up via our website.

- Updates in our residents' newsletter, which reaches around 45,000 households every quarter. Recent features have included a focus on the Climate Change Strategy and considering green travel options as part of a daily routine.



Above: an example of recycling campaign and information on the council's bin lorries

- A series of mini campaigns (including social media and website content) to highlight how we can all play our part in reducing our carbon emissions by making small changes to our routines. To date, this has included a focus on how we can protect our environment together and the difference we can make by switching to greener forms of transport.
- A consideration of climate change and related issues is built into all communications and marketing plans to help achieve the objectives of the Climate Change Strategy. For example, climate messages are embedded within communications with council tenants, in relation to things like the energy efficiency of their homes.

Training

In collaboration with partners from the D2N2 Local Authority Energy Partnership (LAEP) we have adopted a two-phase climate change training programme which incorporates elements from both the Carbon Literacy⁸ course and Climate Fresk⁷ exercise. The training takes the form of two half-day sessions, the first of which we aim to roll out to all council staff, with a top-up session for volunteers to become accredited as Carbon Literate. So far, we have trained elected members in key positions as well as approximately 14% of council staff (with just under half of these, 42%, going on to become certified Carbon Literate). This includes 88% of senior officers at service director and higher.

Feedback from the training sessions over the last year has been very positive:

The card game was a really good way of getting us to think about climate change.

Very informative - good use of verbal and visual mixed with a practical session. This worked well to embed ideas and keep interest in the session.

Eye opener to listen to the motivational video of how to speak to others about climate change.

Learning the science behind the whole issue. Done in a non-science way that was more accessible.

Information which realistically set it in the context of the scene and what the local context is for CBC/the Borough.

It made me think about what I didn't know and what I could do to make a difference - both as an individual and within the authority.

8 Developing the new Climate Change Strategy

Evidence and data

During the last year, a significant amount of our activity has been focussed on developing our new Climate Change Strategy (2023 – 2030) to guide us to 2030. We wanted to ensure that the new strategy was evidence and data led, and, therefore, gathered an improved set of evidence and information about climate change in Chesterfield through independent research projects. The findings of these projects have shown:

- The predicted impact of climate change on the borough.
- A clarified definition of the council's 2030 carbon neutral target, and what activities and emissions should be included in this (procured bespoke research project).
- Possible pathways and activities for us to consider to become carbon neutral (procured bespoke research project).
- Possible pathways and activities for the wider borough to consider to become carbon neutral (procured bespoke research project).

We also considered:

- Lessons learned and progress made when developing and implementing our first Climate Change Action Plan.
- Changes in our understanding of the climate emergency.
- Improvement in our understanding of the actions of other local councils.
- National changes to strategies and legislation.
- Changes in public perception of the climate emergency (largely due to significant news coverage of COP26 in autumn 2021 and record-breaking heatwaves in the summer of 2022).

9 Consultation and engagement

A whole-organisation approach is essential to the delivery of our Climate Change Strategy and reaching our target to become carbon neutral. Therefore, in addition to the training programme, an internal engagement programme was developed to ensure each service was able to contribute to the development of the strategy and delivery plan.

Initial one-to-one sessions were held with all service managers to capture ideas, priorities and discuss potential issues and barriers. Following these, a series of strategic workshops were established to continue the development and support monitoring of the strategy and delivery plan. These workshops are ongoing, with each one focussing on a particular workstream / theme e.g. fleet.

In addition to the internal consultation, the wider community were also consulted during the development of the strategy during November and December 2022. A draft set of themes and proposed activities were circulated, and respondents were asked to comment on how effective they felt these would be in achieving our climate change targets. There were also opportunities to make additional suggestions for priority areas of work.

A range of promotional activities took place to encourage participation including:

- Website landing page with consultation pack including background information and glossary.
- Regular social media posts on Facebook, Twitter and LinkedIn.
- Press release shared with local and regional media.
- Carousel item on the council's homepage throughout live period.
- Newsletter sent to 4000 My Chesterfield contacts.
- Email to council tenants who have provided contact details.

- Face-to-face information sessions offered to local organisations, e.g. secondary schools, interest groups.
- Attending Chesterfield College Kindness events over two days, where 93 students talked to us about climate change (including 30 ESOL students).
- Consultation 'scene setting' session with the council's Overview and Performance Scrutiny Committee.
- A total of 98 individuals and organisations took part in the public consultation. We used the consultation responses to further shape our delivery plan and strategy, in particular in relation to waste, development and planning, transport and engagement.



10 Looking forward to next year (2023 – 2024)

We start 2023-2024 with the launch of our new and ambitious Climate Change Strategy to take the Council to 2030. The accompanying Delivery Plan which is reviewed annually will shape our activities for the year.

Climate Change Strategy Themes

1. Buildings and energy use – with most of the council’s operational buildings being reliant on gas, decarbonising our assets is a critical factor to enable us to reach our 2030 target. Also in this theme are wider 2050-related activities, such as decarbonising our housing stock.
2. Travel – our fleet includes vehicles and machinery used to repair and maintain our council homes and the green spaces in the borough. While we have trialled a number of alternatives, the fleet is currently mostly petrol and diesel fuelled, and we will need to move to alternatives where possible.
3. Green space, land use and offsetting - whilst direct emissions reduction measures are being prioritised, given the hard-to-treat nature of some emissions, such as those from larger vehicles or listed buildings, it is also likely that despite best efforts, there will be some residual emissions in 2030. This theme will support activities around maximising opportunities to tackle climate change through our green spaces and land use, as well as developing an offsetting plan to tackle any residual emissions.
4. Communications, engagement and training – the first annual delivery plan will see the launch of a new climate change forum which will support our ongoing public engagement around climate change. Activities in this theme will also include further CAN campaign initiatives and training programmes to raise awareness, with a focus on establishing a climate change forum during 2023/24.
5. Data, monitoring and corporate activity – the first annual delivery plan sees a set of new measures to capture more comprehensively the data we need to track our progress towards carbon neutrality, inform our decision making, and also to determine which areas are in need of prioritising. This will include feasibility studies and business cases, in addition to more in-depth monitoring of data such as road fuel use, gas and electricity usage at our premises, wastewater and recycling rates (further information below).
6. Council influence and partnership activity – partnership working with other councils, organisations, and businesses to establish solutions to issues that many of us are facing is crucial to delivering action on climate change. This includes climate-focussed partnerships such as the Local Authorities Energy Partnership, Vision Derbyshire, Local Government Association networks, and local business and community groups. The council also has a degree of influence where we have contracts with suppliers who provide a range of services on our behalf, e.g. construction and waste collection.

Future changes in reporting

In order to effectively monitor and report on the council’s emissions, and the progress we make towards our carbon neutral targets, we have included within the year one delivery plan a series of projects to develop improved, robust data sets. These will be reported in our annual reports, and include:

- BE.05 Development of metrics (private sector housing improvement)
- BE.09 Development of metrics (council housing improvement)
- T.07 Grey fleet research project
- DM.01 Report usage of electricity, gas, water, wastewater, road fuels
- DM.02 Report borough-wide waste and recycling rates
- DM.03 Annual climate change report



Above : Fairplay is one of the groups to have received grant funding. The charity supports children and young people with disabilities and additional needs, and their families, across North Derbyshire. Funding will be used to support a new project that will give young people with learning disabilities the chance to engage in work-based activities within their communities.

Community Grants Fund

The close of 2023/23 saw the launch of our new Community Grants Fund. This fund is aimed at community and voluntary sector organisations to bid into and comprises both UK Shared Prosperity Funding (UKSPF) and neighbourhoods Community Infrastructure Levy funding.

The criteria for the community grants fund have been designed to maximise climate change contribution. This will support community infrastructure decarbonisation and maximise opportunities for wider engagement. A total of 16 organisations received a grant during the first round, and we are very pleased to say that Transition Chesterfield were successful in receiving funding for their new Eco-Hub project.

Transition Chesterfield have received £2,500 from the Community Grants Fund to run a 'Eco Hub' project in Chesterfield town centre.

The pilot project will run for 12-months and work with residents to:

- Improve their awareness of 'Transition Chesterfield' and the aims and objectives of the community group.
- Improve their awareness of climate action and the protection of the environment.
- Improve their understanding of net zero and a more sustainable Chesterfield.
- Access further learning and volunteer opportunities.

Kathy Farr, a volunteer with Transition Chesterfield, said "We're excited to win this funding, which will enable us to be a contact point one day a week on climate change and related issues. Our Hub project will encourage interest and participation amongst residents to reduce their carbon footprint. It's also a great opportunity for people to volunteer to help our environment and meet new people."

We look forward to telling you more about the impact of this and other grant-funded climate change projects in the next annual report.



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