

South Derbyshire District Council

Climate and Environment Action Plan 2021-30



Executive Summary.

This Climate and Environment Action Plan is in response to the Council's Climate and Environment Strategy and their aspiration to achieve carbon neutral by 2030 across the Council controlled (in-house) operational activities. It also aims to work with partners to deliver carbon neutrality across South Derbyshire area (District-wide) before the UK Government's carbon zero target of 2050.

The initial part of this plan focuses on estimating of the Council's carbon **emission baselines**, based on the 2018/19 levels that result from Council-controlled activities (in-house emissions) and secondly resulting from the carbon emitting activities across the South Derbyshire area (District-wide emissions). The Council **in-house** annual emission baseline is estimated at **2,500 tCO₂e** and the **District-wide** emission baseline is estimated at **695,100 tCO₂e** (based on 2018/19 data).

The second part of this Climate and Environment Action Plan is to detail the carbon mitigation, adaptation, and offsetting actions across all the Council Services that will reduce the carbon emissions to the target levels to meet the Councils Climate Emergency Declaration commitments. The four categories of decarbonisation actions detailed in this plan (see appendices) are:

Actions Completed – the decarbonisation actions already delivered by the Council.

Transformative Actions (2021/30) - 80% of the carbon emissions resulting from Council in-house activities are from four high emission sources that require significant high-cost Transformative Actions to tackle this high level of emissions.

Annual In-house Service Plan Actions – these actions are led by the Council's Services and predominately support, influence and lead to behaviour change across In-house activities resulting in smaller carbon emission reductions.

Annual District-wide Service Plan Actions – these actions are led by the Council's Services and support other partners to reduce District-wide carbon emissions across South Derbyshire.

One of the major challenges is the cost of these actions, especially Transformative Actions that will deliver most of the carbon neutral journey to 2030. The indicative cumulative decarbonisation costs for all in-house actions over and above 'business as usual' expense is estimated to be between **£5.8 and £7 million**.

The indicative financial cost to the Council for reducing the District-wide emissions over the longer timeframe to 2050 is much smaller in comparison, although it is estimated that a total of **5,000 hours** of employee time will be required to deliver the current District-wide actions.

The reduction of carbon emissions resulting from these In-house actions is illustrated by the **Carbon Road Map**. This maps the Council's journey to carbon neutral by 2030 provided the annual Service Plans and the Transformative Actions are delivered in the timeframe suggested.

The Council's delivery of carbon reduction and neutrality will rely heavily on the UK Government investment, funding, and support. One of the main objectives of this Climate and Environment Action Plan is to ensure that all the Service and Transformative actions are worked into '**ready-made**' decarbonisation plans ensuring the Council is prepared for when Government funding opportunities become available.

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1. Introduction.

This Climate and Environmental Action Plan outlines South Derbyshire District Council's (SDDC) actions to deliver the aspirations of the South Derbyshire Climate and Environment Strategy (STEMS-07-ST2) and the SDDC's Climate Emergency Declaration of 2019.

The Plan is a working document that enables the Council to have fully prepared decarbonisation plans that are updated on a yearly basis to incorporate ongoing UK government strategy, technology advances and to ensure SDDC is prepared for any decarbonisation funding opportunities that support the cost of delivering carbon neutrality.

The aspiration to become a carbon neutral Council by 2030 and a carbon zero District before the UK Governments 2050 target will require significant reduction in carbon emissions. The SDDC has two distinct and separate roles to play in this decarbonisation aspiration:

1. To identify and reduce carbon emissions that result from the activities directly and indirectly caused from ongoing Council-controlled operational activities, called Council **In-house** emissions.
2. To use the SDDC's influence to support the whole community and business sectors to reduce their own carbon footprint and carbon emissions across the whole South Derbyshire District, called SDDC **District-wide** emissions.

2. Council Climate and Environment Aspiration.

On 27th June 2019, the Council declared a Climate Emergency and made a commitment to strive to make SDDC carbon neutral by 2030 and achieve carbon neutrality before the Government target of 2050.

3. Action Plan Objectives.

From the aspiration, the SDDC Climate and Environmental Action Plan has the following objectives:

- To continually improve the monitoring and reporting of carbon emissions that result from both the Council-controlled activities (in-house) and those across the South Derbyshire area (District-wide).
- To deliver actions through the annual Corporate Plan, Service Plans and Business Transformation Plans that enables SDDC to achieve carbon neutral by 2030 by reducing the emissions resulting from the council-controlled operational activities (In-house actions) and support partners to reduce carbon emissions across the whole of the South Derbyshire region (District-wide actions).

4. Carbon Emissions Reporting

The reporting of carbon emissions data resulting from both In-house and District-wide activities are a critical part of Climate and Environment action planning and performance monitoring.

This plan uses **tonnes of carbon dioxide equivalent (tCO₂e)** as the measure and the current levels of carbon emissions that result from In-house and District-wide activities. The estimation of in-house emissions is based on the regular scheduled monitoring of emission sources across all Council

owned property and fleet vehicles. The District-wide emissions are based on UK Government statistics from the Department of Business, Energy, and Industrial Strategy (BEIS, 2018) that measures historic emissions data from the key sectors across the District. For the purposes of this plan, the 2018/19 emission data form the **emission baseline**, from which any emission reductions resulting from the decarbonising action selected are based on.

As part of the Climate and Environment Governance and ISO14001 management processes, the Council will publish an **Annual Carbon Reduction Report** that will detail, analyse and compare the In-house and District-wide carbon emission trends (see South Derbyshire District Council's website).

4.1 Emissions resulting from Council In-house activities.

In line with the BEIS (2020) guidance on carbon emission reporting, the emissions are divided into three categories, Scope 1, 2 and 3 as described below.

Category	Description	Example data used in this analysis
Scope 1	Emissions that the Council is directly responsible for.	<ul style="list-style-type: none"> Metered heat (gas) data for buildings where SDDC pay the heating bills. Mileage for SDDC-owned vehicle fleet and pool cars along with vehicle make/model and age.
Scope 2	Indirect emissions that the Council has some control over.	<ul style="list-style-type: none"> Metered electricity data for buildings where SDDC pay the electricity bills. Employee business mileage.
Scope 3	Indirect emissions that the Council has no direct control over but can exert an influence on.	<ul style="list-style-type: none"> Business that supplies goods to SDDC. Metered water use data. *Estimated energy data for the SDDC housing stock.

*Estimated energy data for SDDC housing stock is not currently included in the SDDC emissions baseline but is part of the decarbonisation actions detailed to be delivered as part of this Action Plan.

The Council's In-house activities emissions for 2018/19 (Scope 1 & 2) estimates the **emission baseline** as **2,500 tonnes** of carbon dioxide equivalent (tCO₂e) annually, resulting from the carbon emissions activities from the Council locations shown below:

Table 1. Council in-house carbon emissions (tCO₂e) by location (Scope 1 & 2).

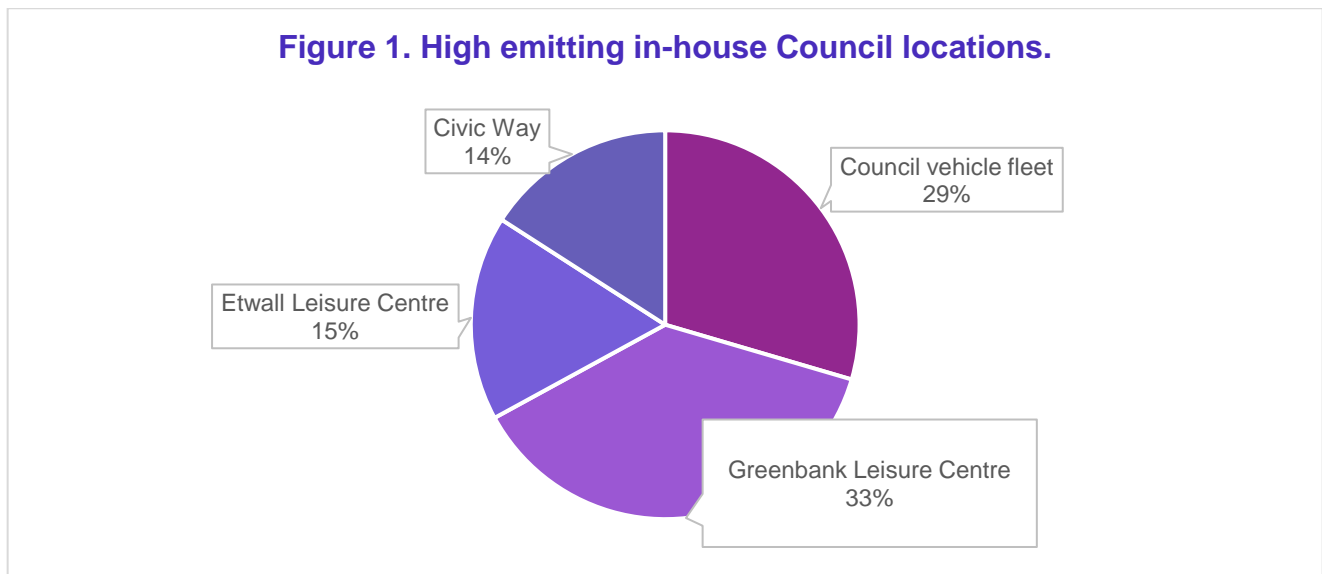
Location	Heat	Refrigerant	Vehicle fuel	Electricity	Total
Greenbank LC	439	230	0	150	819
Enwall LC	162	155	0	66	383
Civic Offices	49	68	134	91	342
Public Buildings	33	0	0	119	152
Rosliston	102	0	0	34	136
Boardman Depot	26	32	588	17	663
Other (waste etc)					6
Total	811	485	722	476	2,500

*Some Scope 3 Council in-house carbon emissions are show in Appendix 1.

Reporting carbon emissions from 'other indirect' (Scope 3) carbon emission sources such as the procurement of goods and services from third party suppliers are estimated annually and although currently not included in the Councils emission baseline, there is planned actions to include these in the 2022/23 Annual Carbon Reduction Report and detail the action being taken by the Council to reduce these.

The two highest carbon emission sectors resulting from the Council's in-house activities are from **heat** (gas) and **vehicle** (petrol and diesel fuel). This results in four specific high emission sources, which in

order of magnitude are the **Greenbank Leisure Centre, Council vehicle fleet, Etwall Leisure Centre, and Civic Way Offices**, accounting for 91% of the Councils total 2,500 tCO₂e emissions.



Identifying these high carbon emitters illustrates the Councils requirement for **Transformative Actions** that will tackle these high emission items.

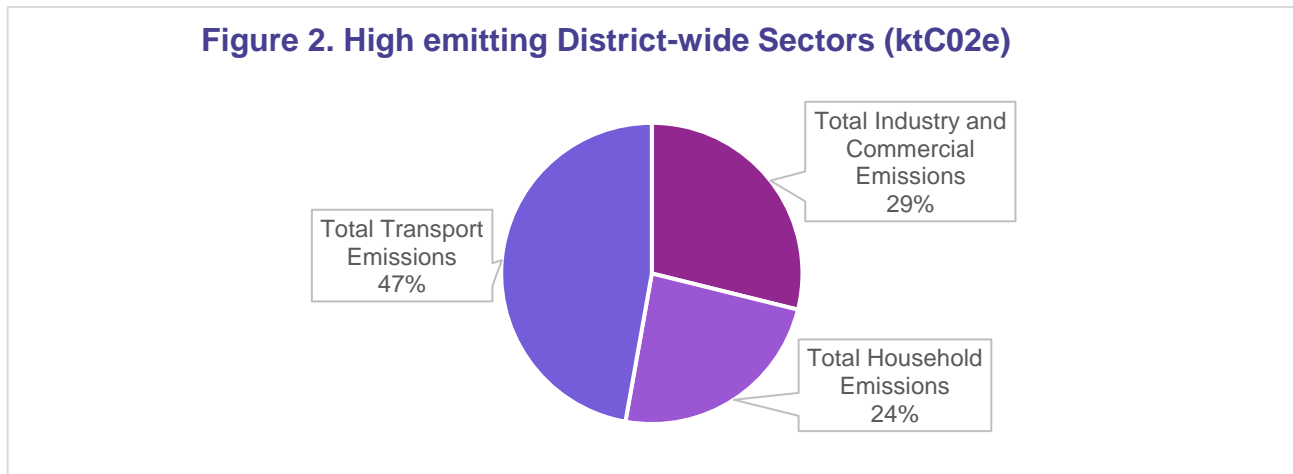
4.2 Emissions resulting from South Derbyshire Area-wide activities.

The current carbon emissions resulting from District-wide activities across the South Derbyshire are estimated using emissions data from BEIS (2018). The estimated (2018) annual **emissions baseline** for South Derbyshire is **695,100 tCO₂e** and the main sectors producing these emissions are shown below.

Table 2. District-wide carbon emissions (ktCO₂e) by sector.

District-wide Sector	Carbon emissions (ktCO ₂ e)
Road Transport	302.5
Other Transport	30.2
Household heat (gas)	100.9
Household (other)	28.8
Commercial/Industrial heat (gas)	72
Commercial/Industrial heat (other)	36.2
Household electricity	39.1
Commercial/Industrial electricity	84.2
Other	1.2
Total	695.1

These District-wide emissions can be categorised in three main sectors (illustrated below), the highest carbon emissions sector by some margin is **Road Transport**, followed by **Household Energy** and **Commercial/Industrial Energy** categories. In a similar way to Council in-house emissions, identifying these high carbon emitters supports the prioritisation process for the District-wide decarbonisation actions.



4.3 Comparisons of Emissions from across other Derbyshire Councils

As a comparison with other Council’s District-wide emissions in Derbyshire, Table 3 below shows the BEIS emission comparisons on a per head of population basis.

Table 3. Comparison between all Derbyshire Councils based on emissions per head.

Local Authority	Total emissions (ktCO2e)	Population (000’s)	Emissions / head
South Derbyshire	695.1	104.5	6.7
Northeast Derbyshire	516.1	101.1	5.1
High Peak	2,832.9	92.2	30.7
Erewash	549.6	115.5	4.8
Derbyshire Dales	545.8	72.0	7.6
Chesterfield	459.7	104.6	4.4
Bolsover	1,030.1	79.5	13.0
Amber Valley	659.0	126.7	5.2
Derby	1,148.7	257.2	4.5
Derbyshire Total	7,288.3	796.1	9.2

Source: BEIS (2020) based on 2018 data.

South Derbyshire’s carbon emissions per head sit in the middle of the comparison league across the County, with the highest emissions coming from the High Peak that are largely due to the high energy usage of its large industrial installations (quarrying). The lowest emissions from Chesterfield resulting from its low transport, industrial and commercial emissions.

5. Climate and Environment Actions - Mitigation and Adaption.

The Climate and Environment Actions that the Council selects to deliver is a combination of mitigation actions that predominately lead to reducing carbon emissions by decarbonisation and adaption actions that will lead to adjustments to the current or expected effects of climate change.

The carbon emissions resulting from both Council in-house and South Derbyshire District-wide activities as shown above are mainly a product of the Heating, Transport and Electricity sectors. Each of these sectors have typical established decarbonisation actions as detailed below.

5.1 Typical Decarbonisation Actions.

Heat decarbonisation – To decarbonise heating in buildings, it is necessary to reduce heat through efficiency (data, behaviour, etc), improve the building fabric to reduce heat loss (retrofit measures) and in the longer term all buildings need to switch from gas/oil (fossil fuels) to a low or zero carbon heat technology.

Transport decarbonisation – requires a planned replacement of all existing vehicles with low or zero emission vehicles and the development of an appropriate located supporting infrastructure. A key challenge here is heavier trucks, where the current new vehicle technology (electric and hydrogen) is extremely expensive because of its infancy. In addition, vehicle decarbonisation requires reduction in vehicle use and mileage through behavioural change programmes.

Electricity decarbonisation – requires the uptake of renewable energy from green utility suppliers or through renewable technology sources. These actions together with behaviour change and smart technology that optimises energy usage will lead to efficiencies. It is expected that the UK national grid will be decarbonised from around 2033 and will be producing electricity from 100% renewable sources, making electrification through the grid carbon zero.

Finance decarbonisation – requires the planned transition of any finances, investments and pensions that are connected to fossil fuels.

5.2 Indicative costs of decarbonisation actions - decarbonisation cost.

The Council's route to carbon neutral through decarbonisation actions will require significant investment and funding. Each decarbonisation actions detailed in this Climate and Environment Action Plan has an indicative cost that is intended to give an overall ball-park figure of the decarbonisation costs but should in no way be used as definitive.

Some of the actions detailed have already been committed to by the Council and are highlighted as such. The costs associated with these committed actions are not included in the overall decarbonisation costs.

Where appropriate costs are allocated to actual carbon reduction actions, a good example of this is the vehicle fleet, where between now and 2030 most of the vehicle fleet will be replaced as part of the SDDC procurement/asset process. The difference in cost between replacing with a diesel vehicle and an Electric vehicle is the **decarbonisation cost** and the indicative figure used to illustrate the cost of carbon neutral.

As with the carbon emissions, the Councils decarbonisation actions are split into in-house actions and District-wide actions. They are a combination of '**Hard**' measures which will lead to predicted carbon emission reductions and '**Soft**' measures that will support behaviour change and engagement with the potential of carbon reduction. Soft actions are recognised by the Committee on Climate Change (CCC, 2019) as being able to deliver emission reductions that average at around 10% of the carbon emissions they are focused on.

5.3 Co-benefits of decarbonisation actions.

Most decarbonisation actions have co-benefits, in addition to reducing carbon emissions they can lead to an overall significant reduction of operating costs. In terms of transport this is through the comparative cost of electricity or hydrogen per mile compared to petrol or diesel. Through heating, decarbonisation measures lead to significant efficiencies and reduction of energy used compared to fossil fuel generated heat. This type of co-benefits is noted with each action, but more work is required to quantify the cost savings resulting from decarbonisation.

All actions included in the Climate and Environment Action Plan will have the co-benefits detailed and all the Councils engagement and communications will include an awareness of the co-benefits.

5.4 Biodiversity and Environmental actions

South Derbyshire District Council has a separate **Action Plan for Nature** (published on the Council's website) which is aligned to the Climate and Environment Action Plan. The Action Plan for Nature sets out its vision and mission as shown below along with the core delivery actions

Vision: "South Derbyshire will be a District where its green spaces, natural habitats and biodiversity is fully valued, properly managed and appropriately protected to ensure optimum contribution to the natural capital and ecosystem services of the District and the health and well-being of its communities, whilst providing pleasure to current residents and visitors, as well as future generations."

Mission: "To protect, improve, increase and sustain the biodiversity of the District's habitats and species on Council land through to the National Forest and beyond; develop the Council's skills and knowledge of the natural environment; contribute towards climate change adaptation and resilience; strengthen the intrinsic functioning of the District's ecosystem services and natural capital; enhance the health and wellbeing of local residents; and support economic prosperity within the District through continued environmental improvements for the benefit of current and future generations."

5.5 Climate Adaption actions

The Council realises that reducing carbon emissions through either decarbonisation or biodiversity net gain is no longer enough to halt the impacts of climate change. The Climate Adaption actions selected are detailed in the District-wide actions set out to understand the risks and deliver actions around the natural environment, infrastructure, people and the built environment. These adaption actions will be reviewed and adapted to ensure the Council is managing and improving its climate related risks.

6. Council In-house actions to achieve Carbon Neutral.

The in-house decarbonisation actions to achieve carbon neutral consist of:

- **Actions Taken** – for both financial years 2019/20 and 2020/21 are detailed in the **Appendices**
- **Transformative Actions** (2021/30) required to tackle the high carbon emission sources.
- **Annual Service Plan Actions** (2022/23) that each of the Council Services will deliver.

The summary of all these decarbonisation actions is shown below, more detail of each action by Service is shown in the Appendices.

6.1 Actions Taken (2019/20 and 2021/21).

In line with its Corporate Climate and Environment Strategy and the Climate and Environment Action Plan, the Council has already engaged in carbon emission reduction and environmentally sustainable actions. The completed actions for the last two years are detailed in the Appendices (Table 4).

6.2 Transformation Actions 2021/30.

The carbon emissions from Council's Public Estate and the Vehicle Fleet contribute to 91% of the total in-house carbon emissions. These high emitters require specific transformational project management to deliver and significant investment. In addition to the above the decarbonisation of Rosliston Forestry Centre, Boardman Depot and the Council Housing Stock are included as Transformation Actions because of their size, cost, and complexity.

Table 5. Transformation Actions 2021/30 – 8 high emission source actions

Committed Actions – costs are budgeted for		Uncommitted Actions – no current budget				New actions for 2022			
Action Ref.	Decarbonisation Actions.	Total Indicative £Cost of Action	DE carbon £cost of Action	Hours	Current tCO ₂ e	tCO ₂ e Reduction	Start	Finish	Co-benefit
T1	Carbon Neutral Civic Hub Options 1. Retrofit of existing Civic Way. 2. Energy efficient new build.	1. £3 m 2. £8 m	1. £1.2m 2. £2.4m	0	208	208	2024	2030	Reduced energy consumption and operating costs
T2	Carbon Neutral Greenbank Leisure Centre · Energy efficient retrofit measures · Renewable energy source.	£750k	£750k	0	589	589	2024	2030	Reduced energy consumption and operating costs
T3	Carbon Neutral Etwall Leisure Centre · Energy efficient retrofit. · Renewable energy source.	£280k	£280k	0	228	228	2024	2030	Reduced energy consumption and operating costs
T4A	A. Transition to Low Carbon Waste Fleet o EV replacement of small vans. (38) o EV/Hydrogen replacement of trucks (13)	£1.3m £5.2m	£325k £2.6m						Reduce fuel costs
T4B	B. Low Carbon Housing Fleet o EV replacement of small vans. (13)	£422k	£110.5k	0	722	722	2021	2030	
T4C	C. Other Fleet. o Other small vans. (6)	£204k	£51k						

T5	Carbon Neutral Boardman Depot								
	o Renewable energy source - heating	£200k	£200k	0	75	75	2021	2030	Reduce energy consumption
	o Installation of Hydrogen/EV infrastructure	£120k	£120k						Reduce fuel
	o Potential Depot relocation	£1m plus?	£1m plus						
T6	Rosliston Environmental Exemplar								
	o Biomass repair or replace	£117k	0	0	102	102	2024	2030	Reduce energy
	o On-site renewable energy source	tbc	Tbc	0	36	36	2024	2030	Reduce energy cost
T7*	SDDC Housing Stock Decarbonisation								
	Develop a programme to decarbonise SDDC housing stock	tbc	tbc	0	8,000*	tbc	2021	2050	Reduce energy consumption and cost
T8*	Develop a programme to decarbonise worst performing housing stock	£3m	£1.2m	0	1,200*	tbc	2021	2050	Reduce energy consumption and cost
	Totals	£10 – £15m	£6-£7m	0	2,500	2,020	2021	2050	

*T7 and T8 CO2e emissions are classed as District-wide emissions and as such are not included in the 2018/19 In-house emissions baseline (2,500 tCO2e).

Collectively the 6 Transformation Actions (excluding the two relating to Council Housing Stock) have an indicative decarbonisation cost in the range of £5.6m to £6.8m and would reduce the annual Council in-house carbon emissions by 2,020 tCO2e (80% of the Council's total in-house carbon emissions).

6.3 Council In-house Service Plan Actions 2022/23

The Service Plan Actions are specific to the individual Council Service activities and are a combination of hard and soft actions. The majority are relatively low-cost actions, or their costs are already committed and part of the Service budget.

Table 6. In-house Service Plan Action Summary 2022/23.

The 30 In-house Actions aligned to individual Council Services as part of their 2022/23 Service Plans.

Action Ref.	Decarbonisation Action	Total indicative £cost of Action	DE carbon £cost of Action	Hours	Current tCO2e	tCO2e Reduction	Start	Finish	Co-Benefit
	Buildings and Heat decarbonisation								
ISP1	Improving the data content of the Social Housing Stock condition survey data	0	0	300	tbc	tbc	2022	2023	Fuel saving
ISP2	Maintenance programme for all public building estate linked to decarbonisation	£300k	£150k	0	152	tbc	2021	2023	Energy reduction
ISP3	Embed carbon neutral in new SDDC Local Plan	0	0	300	tbc	tbc	2021	2023	Energy reduction
ISP6	Creating and developing a Low Carbon Homes Team that supports home decarbonisation across the District	£100k	£100k	3,000 pa	tbc	tbc	2022	2023	Energy reduction
ISP13	To create and develop a programme to educate and inform residents/public on using low carbon heating sources	0	0	300 pa	tbc	tbc	2022	2023	Energy reduction
	Transport and Fleet decarbonisation								
ISP4	Ongoing delivery of the Sustainable Travel Plan and the annual Sustainable Travel Questionnaire	£40k	0	300 pa	26	2	2021	2023	Energy reduction
ISP5	Review fleet Procurement to transition to low/zero carbon vehicles	0	0	300	722	0	2021	2023	None

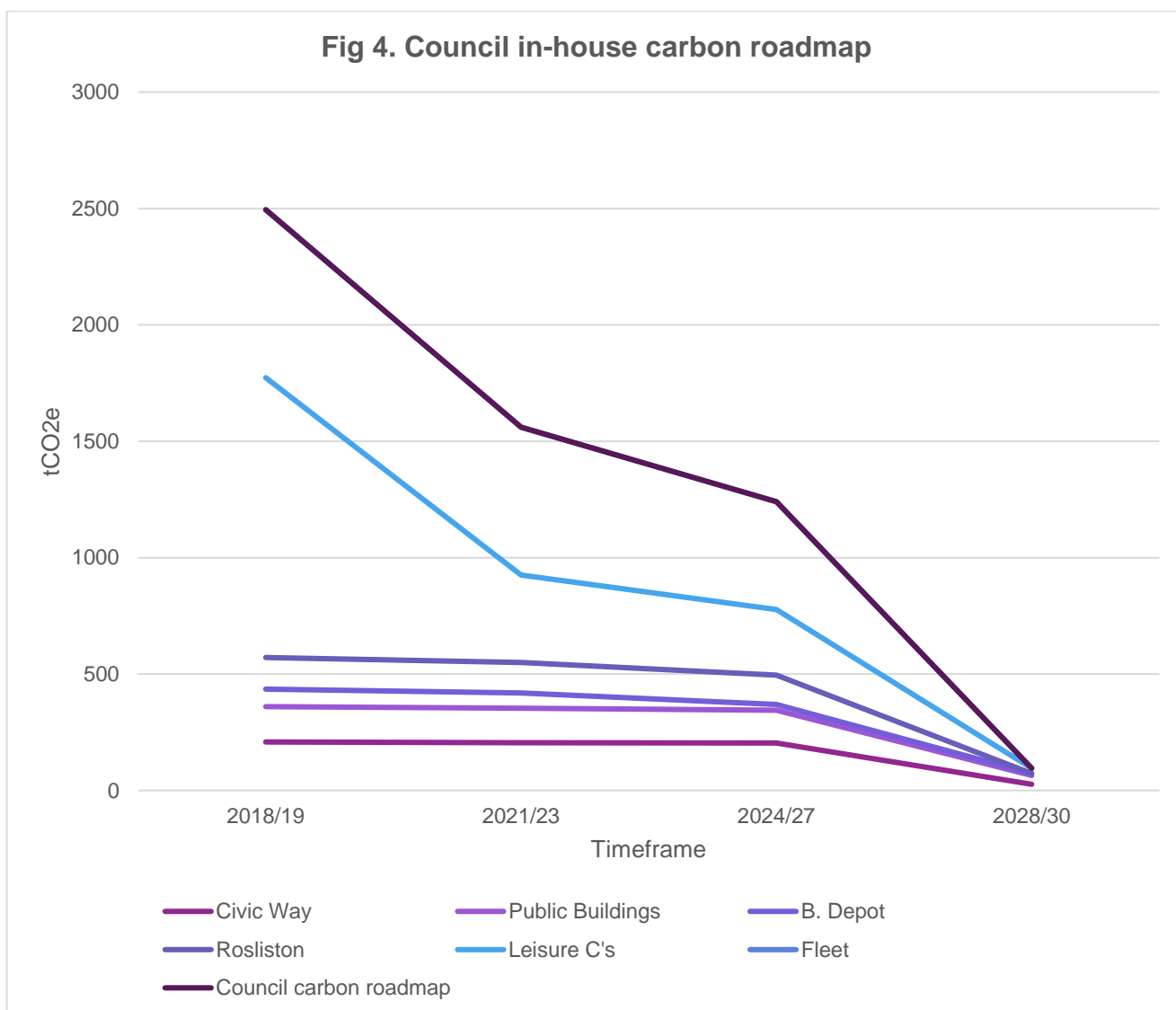
ISP7	Appropriate route optimisation software for SDDC fleet vehicles in Housing and Env Health	£10k	£10	0	722	72	2021	2023	Fuel saving
	Energy decarbonisation								
ISP8	Transition to electric grounds maintenance machinery	£250k	£125k	0	tbc	10	2021	2023	Fuel saving
ISP9	Install Smart metering at all Council buildings	£5k	£5k	0	477	48	2021	2025	Electricity saving
ISP10	Leisure Centre electricity reduction and review	0	0	50	216	22	2021	2023	Electricity saving
ISP11	Ongoing Leisure Centre maintenance plan for emission reduction	tbc	0	50	1202	120	2021	2023	Energy saving
SPI12	F gas replacement/efficiency across Council buildings*	tbc	tbc	0	485	242	2021	2030	None
	Finance decarbonisation								
ISP14	Carbon review of tendering process	0	0	30	tbc	tbc	2021	2023	None
ISP15	Investment review to embed decarbonisation	0	0	50	0	0	2021	2023	Higher returns
ISP16	Review of costings and financing of Transformative Actions	0	0	500	0	0	2021	2024	None
	Community Engagement								
ISP18	Ongoing Environmental/Carbon Literacy training	0	0	400 pa	0	0	2021	2023	None
ISP19	Embed carbon emission reduction into the new Economic Development Plan for SDDC	0	0	300 pa	0	0	2022	2023	None
ISP20	Rosliston Exemplar Sustainable Hub Plan	0	0	500	136	0	2021	2023	Revenue channel
	Biodiversity and Environment								
ISP21	Alteration to grounds maintenance practices	0	0	50	tbc	tbc	2021	2023	Fuel/time reduction
ISP26	Monitoring biodiversity net gain – mapping all green spaces owned by SDDC	0	0	300 pa	tbc	tbc	2022	2023	None
ISP28	Create and develop a methodology to estimate the carbon sequestration of council owned green areas across the district	0	0	300 pa	tbc	tbc	2022	2023	None
	Performance and Governance								
ISP22	Continuous Review of climate change funding and grants	£1k	0	100 pa	0	0	2021	2023	None
ISP23	Annual carbon review of SDDC suppliers (Scope 3) and develop a supply chain reduction guidance	0	0	200 pa	tbc	tbc	2021	2022	None
ISP24	Ongoing monitoring and reporting of carbon emissions and delivery of an annual carbon report	0	0	500 pa	2,500	125	2021	2023	Reduce energy
ISP25	Review of all Council policies/strategies to embed carbon neutral	0	0	50	2,500	0	2021	2023	None
ISP27	Annual review of SDDC Climate and Environment Action Plan (2021/30)	0	0	50pa	2,500	0	2022	2030	None
ISP17	Develop a full equality, diversity and inclusion impact assessment of SDDC's Climate and Environment Action Plan	0	0	100 pa	0	0	2022	2023	None
	Waste								
ISP30	Ongoing waste collection service review to support reduction in waste and increase in recycling and composted	0	0	100 pa	tbc	0	2022	2023	None
	Communications								
ISP29	Develop an annual Climate and Environment Communication Plan	0	0	200	2,500	0	2021	2022	None

*This estimate does not include the F gas replacement, for which an accurate figure is not yet available.

Collectively the 30 Council In-house Service Plan actions have an indicative decarbonisation cost of £290k, reduce the carbon emissions by 772 tCO₂e (30% of the Council’s total in-house carbon emissions) and have 4,780 employee hours allocated to them. Currently 16 In-house Service Plans are uncommitted with a Total Cost of £565k and 3,450 employee hours to deliver these actions are uncommitted.

6.4 Council Carbon Reduction Road Map.

The resulting carbon reductions of the Transformation and the Annual Service Plan Actions (ongoing through to 2030) can be plotted on the Carbon Reduction Road Map Calculator (see Carbon Reduction Roadmap in Appendix) and illustrated below to show the Council’s in-house journey from the 2018/19 carbon emission baseline to carbon neutral by 2030.

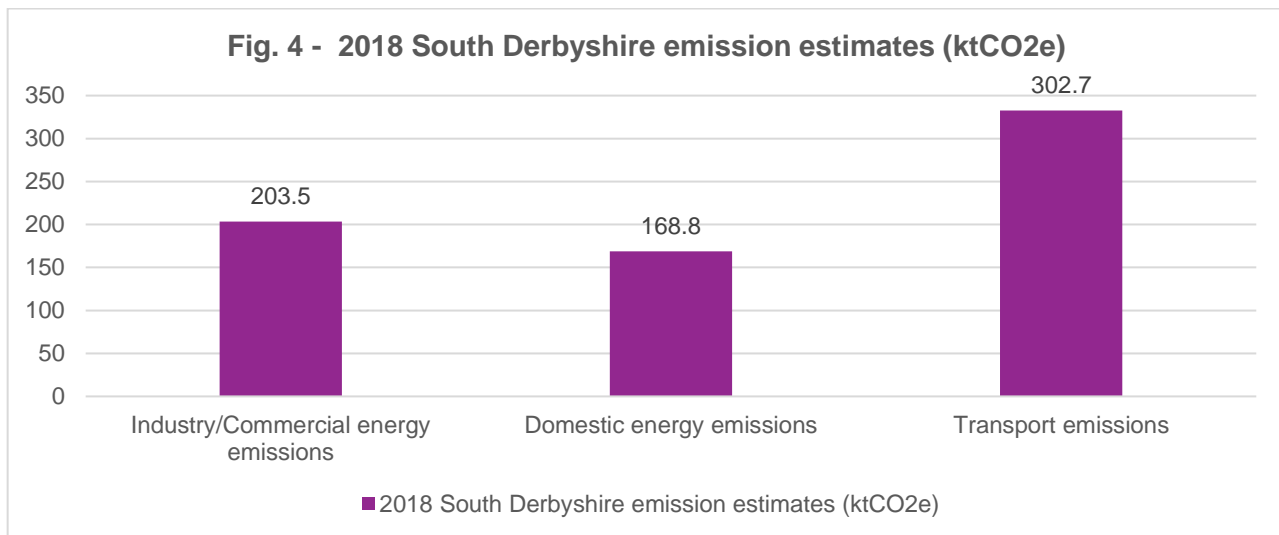


This shows the estimated cumulative carbon reduction from both Transformative and Service Plan Actions have the potential to deliver the Councils aspiration of Carbon Neutrality by 2030 with a total indicative decarbonisation cost of £5.8m - £7m and allocated employee hours of 4,780 hours.



7. Council District-wide actions to reduce carbon emissions.

The second part of the Climate and Environment Action Plan is to reduce District-wide carbon emissions resulting from activities across the whole of the South Derbyshire. The District-wide carbon emission baseline has been established as **695,100 tCO₂e** (BEIS, 2018) and the main emission sources are heat and electricity for domestic, industrial, and commercial use and transport as shown below.



To achieve the SDDC's District-wide aspiration of reducing carbon emissions across South Derbyshire to achieve the UK Governments 2050 carbon zero target will require a collaborative approach from businesses, households, and communities along with Derbyshire County Council.

The District-wide decarbonisation actions need a measure of alignment to Derbyshire C strategies to ensure effectiveness of carbon reduction methods.

7.1 Derbyshire County Council's Climate Change Strategy.

Derbyshire County Council has created a Climate Change Strategy that sets out what needs to be done to reduce emissions across the County to net zero by 2050 or sooner.

As well as reducing emissions across Derbyshire, delivery of the strategy will help to address the wider key issues facing society, including improving and future-proofing homes, business, infrastructure, and transport, reversing the decline in biodiversity, promoting community health and well-being, and the facilitation of a sustainable and robust low carbon economy, all of which are part of SDDC's Climate and Environment Strategy and Action Planning.

The strategic vision of the Derbyshire Climate Change Strategy for net zero, includes five common priority areas to reduce carbon emissions by:

- Decarbonising Local Authority Estate, Operations and Services
- Strengthening the low carbon economy
- Decarbonising Derbyshire's Housing
- Sustainable Transport, Travel, and Infrastructure
- Waste and Resources

All these five common priority areas align to South Derbyshire District Councils Climate and Environment Strategy and Action Plans (2021-30).

The strategy covers the period 2022 to 2025 and details that it is not intended to replace existing climate change strategies and plans in place with individual councils across Derbyshire, but instead will complement these and set out key common areas of collaboration.

It will enable the individual councils across Derbyshire to maximise their collective success in securing funding, support, and resource for the delivery of decarbonisation action and will utilise DCC's links with central government to lobby for additional support for local government on this agenda and to secure investment for decarbonisation across Derbyshire.

With the increasing need to accelerate action on tackling climate change, through reducing County-wide emissions and the need to accelerate action on tackling climate change, the development and adoption of a joint or aligned climate change strategy has been identified as an opportunity to establish common ambitions and priorities, foster collaboration, and resource sharing, and provide consistency in delivery.

7.2 Council District-wide Service Plan Actions 2021/22

The Council District-wide actions to reduce carbon emissions across South Derbyshire are aligned to the main carbon emission sources (shown in Fig 4) and the DCC strategy categories detailed above.

In a similar way to the Council In-house actions, they are a combination of 'hard' and 'soft' measures. The individual District-wide Service Plan actions are detailed in Appendix 4 and a summary is shown below.

Table 7. Council District-wide Annual Service Plan Action Summary 2022/23.

The 18 District-wide actions aligned to individual Council Services as part of their Service Plans for 2022/23 to support South Derbyshire achieve carbon neutrality by 2050.

Action Ref.	Decarbonisation Actions	Total Indicative Ecots of Action	DE carbon Ecots of Action	Hours	Current tCO2e	tCO2e Reduction	Start	Finish	Co-benefit
	Energy decarbonisation								
DSP1	SDDC Healthy homes assistance funding programme for private domestic housing energy efficiency and supporting fuel poverty reduction	£200k	0	2000	Tbc	Heating decarbonisation	2021	2023	Reduce energy
DSP2	Energy efficiency regulations – effective enforcement programme across private rented housing.	0	0	500 pa	Tbc	Heating decarbonisation	2021	2023	Reduce energy
DSP3	Identify opportunities to support the development of renewable energy sources and track large scale renewable developments across South Derbyshire	0	0	100 pa	Tbc	Renewable energy source	2022	2023	Eliminate energy costs
DSP4	Green Home Grant/LAD funding delivery of retrofit measures to private and tenanted houses.	£2.5m	0	1,500	Tbc	Renewable energy sources	2021	2023	Eliminate energy costs
DSP19	Creating and developing a forum for energy consumption reduction advice for South Derbyshire residents	0	0	200pa	tbc	Heating decarbonisation	2022	2023	Reducing energy costs
	Transport decarbonisation								
DSP5	EV funding and infrastructure programme for South Derbyshire	£200k	0	200	Tbc	Transport decarbonisation	2021	2024	Reducing motoring costs
DSP6	Develop a feasibility study to support the transition of South Derbyshire private taxi service to low carbon emission vehicles	0	0	200 pa	Tbc	Transport decarbonisation	2022	2023	Reduce fuel costs

DSP7	Review of hydrogen fuel production and infrastructure across South Derbyshire	0	0	500	Tbc	Renewable energy source	2022	2023	Share hydrogen refuelling costs
	Biodiversity and Environment								
DSP8	Utilise Free Tree Schemes	0	0	100 pa	Tbc	Carbon sequestration	2021	2023	Tree canopy, flood resilience
DSP10	Supporting the promotion of green tourism throughout South Derbyshire	0	0	100	Tbc	Carbon sequestration	2022	2050	Increase tourism economy
	Climate Adaption								
DSP9	Review and detail the climate adaption actions (tree planting and flood resilience) that SDDC are taking across the District	0	0	300 pa	Tbc	Adaption	2022	2023	Future proofing
	Green Economic Growth								
DSP11	Work in partnership with Derbyshire CC to create a collaborative pathway to carbon zero across Derbyshire	£10k	£0	500 pa	Tbc	Reduce all emission sources	2022	2023	Share costs
DSP12	Partner with Derbyshire CC to engage with UK Government for resource, funding, and relevant powers to deliver Climate and Environment Plans.	0	0	100 pa	Tbc	n/a	2022	2023	Collaboration of resource
DSP13	Create and promote a Sustainable Travel to work Plan for job creation	0	0	100	Tbc	Transport decarbonisation	2021	2025	Improve economy
DSP14	Freeport Plan influencing, promoting, and partnering with local business to deliver green innovation and technology	0	0	200	Tbc	Transport decarbonisation	2020	2025	Improve economy
	Community Engagement								
DSP15	Develop a business engagement programme to support decarbonisation projects.	0	0	200 pa	Tbc	n/a	2021	2030	Improve economy
DSP16	Create a community engagement programme around Climate Change	£20k	£20k	500	Tbc	Carbon footprint reduction	2021	2030	Community pride
DSP17	Support the implementation of the community engagement programme (SD18)	tbc	tbc	tbc	Tbc	Carbon footprint reduction	2021	2030	Community pride
DSP18	Embed Active Travel in Swadlincote town centre access plan.	0	0	tbc	Tbc	Transport decarbonisation	2021	2025	Active travel

The decarbonisation costs associated with all District-wide Service Plan actions have a net indicative cost to the Council of £20k and 7,000 employee hours.

Collectively the 18 proposed District-wide Service Plan actions have a total cost of £1.346 million, with all but £53.1k of these funded from government bids. They have an indicative employee time resource of 7,000 hours.

Currently 12 of these district-wide Service Plan actions are committed, with the majority funded from central government funding (indicative Council cost of £43.1k required) and 6,200 employee hours required to deliver.

8. Project Management of Climate and Environment Action Plan

The Project Management of the performance of the Climate and Environment Action Plan is aligned and part of the Council's ISO14001 audited programme.

The Climate and Environment Action Plan and Project Management programme was part of the Councils overall ISO14001 audit in 2021 with commendation. The recommendations of the Audit form part of the Annual Review of the Climate and Environment Action Plan.

Table 8. Climate and Emergency Action Plan Summary.

Actions	Number of actions.	Carbon reduction (tCO2e)	Decarbonisation cost (£)	tCO2e reduction per £k	Employee hours
Transformation Plans	6*	2,020	£5.6m - £6.8m	0.36 tCO2e/£1k	0
In-house Service Plans	30	722	£743k	0.97 tCO2e/£1k	4,780
District-wide Service Plans.	18	tbc	£20k	tbc	7,000

*excludes the Council Housing Stock decarbonisation programme.

The overall delivery of the Transformative and Annual Service Plan actions will be part of a Project Management Programme to ensure progress is made, decarbonisation plans are on track and both the Councils in-house and District-wide carbon emissions reduce and the aspirations of SDDC Climate and Environment Strategy are met.

The performance management process for each element of the Action Plan will be specific:

8.1 Service Plan Actions 2022/23.

- All Service Plan Actions have been discussed with the Council's Heads of Service prior to the sign off process for this Climate and Environment Action Plan.
- All Service Plan Actions have been allocated a SDDC Head of Service who is responsible for the implementation and delivery of their Annual Service Plan actions.
- Environmental Services as overall custodian of the Climate and Environment Action Plan will implement and manage a structured quarterly project management review with each Head of Service to determine the progress and challenges of each individual action.
- The Service Plan Actions have a yearly timeframe and on their annual review will be completed, renewed, or replaced as part of the normal Service Plan process.

8.2 Transformative Action Plans 2021/30.

- Each individual Transformative Action will be developed as a stand-alone corporate project to be included in the Corporate Transformation Plan. This will ensure that each of the Transformative Actions is supported by a clear project management framework with direct reporting line through to the Senior Leadership Team.
- The Project Management and delivery progress of the Transformation Actions will be part of the quarterly project management review.

8.3 Overall Climate and Environment Action Plan 2021 – 2030

The Climate and Environment Action Plan is intended as a working document that will evolve from 2021 through to the carbon neutral date of 2030. The ongoing upkeep and maintenance of the overall Action Plan will be managed by Environmental Health Service with an updated version produced annually.

- Corporate carbon emissions data will be updated on a quarterly and annual basis as part of the Annual Carbon Reduction Progress Report.
- All Transformation actions, Annual Service action and the Council's carbon emission Route Map to Carbon Zero will be updated as part of the Annual Review of the Climate and Environment Action Plan 2021-30.
- Any progress, drift or divergence on Service Plan or Transformative Actions will be recorded as part of the quarterly Corporate Plan progress report to Environmental and Development Services Committee (EDS).
- An Annual report to EDS will be completed that will detail progress of the overall Climate and Environment Action Plan to reflect local and national changes.
- All Project Management, Annual Reports and Committee Reports on the Climate and Environment Action Plan will all form part of the ISO14001 governance.

8.4 Corporate Climate and Environment Strategy 2021 – 2030.

- Performance Indicators measured and monitored by Organisational Development and Performance Management.

9. Version Control

Version	Changes	Date
1	Interim Action Plan	07/01/2019
2	Version 1 Climate and Environment Action Plan 2021 – 30	17/05/2021
3	Version 2 Climate and Environment Action Plan 2021 -30	30/7/2022

APPENDICIES

SDDC

Climate and Environment Action Plan 2021-30

Appendix 1

a) Table 4 - Actions Completed in 2019/20.

Theme	Actions already started.
Heat	Accessing and administering Green Home Grants to support retrofitting private homes. Delivering an on-line low carbon homes event to engage businesses with retrofit opportunities. Ongoing limited retrofit of Council owned commercial property on tenancy renewal.
Transport	EV charging points (18) – funding and implementing in public car parks. Implementing a Staff Travel Plan to change behaviour and reduce grey mileage. Providing technology for mobile/home working for Council employees. Promoting Environment week (2019) to promote walking/cycling to work. Securing a low emission pool car partnership with NHS Derbyshire. Purchasing and Electric utility vehicle for Rosliston. Implementing a Fleet tracker on new HGV waste vehicles to reduce fuel consumption. Delivering a Sustainable Delph day (2019) – open event to promote electric bikes and EV's.
Electricity	Securing a Corporate Green Tariff across all Council buildings (excepting Leisure Centres). Fitting LED's at Greenbank and Etwell Leisure Centres. Implementing behavioural change measures to reduce energy (heating, electricity, and water). Installing a Biomass and Thermal Solar plant at Rosliston.
Natural Environment.	Delivering a Carbon awareness briefing to Councillors. Delivering Environmental training for all Council employees (mandated) and offered to Councillors. Promoting Biodiversity week – actively engaging employees' involvement in nature, biodiversity, and environmental sustainability. Promoting World environment day (2020) - Social media campaign to raise awareness of environmental sustainability. Delivering Community Tree Planting – free tree scheme to grow native species. Implementing a wildflower planting pilot at four locations across the District. <u>Engaging local energy partnerships to support climate change action for parish councils.</u>
Others	Installing a water filtration system to reduce 'other' emissions at Greenbank Leisure Centre. Consolidating water suppliers to negotiate usage reduction and efficiency data. Developing a Waste hub initiative in Civic Offices to reduce waste and increase recycling awareness.

b) Table 4 - Actions completed in 2020/21

Actions	Completed
ISP1 – Housing Stock Efficiency Impact Assessments	Completed by Nottingham City Council and used in the successful SHDF Wave 1 bid for a fabric first retrofit programme.
ISP17 – HRA to be part of the decarbonisation funding	HRA has been modelled as part of the funding for the delivery of retrofitting a fabric first programme for the Housing Stock.
DSP9 – Creation of a SDDC Action Plan for nature	An SDDC Action Plan for Nature has been developed and approved to maximise biodiversity and carbon sequestration across South Derbyshire
DSP6 – Promote rollout of broadband across South Derbyshire	SDDC has supported the promotion of broadband, in 2021/22 South Derbyshire is showing a 97.8% superfast fibre coverage which is above the UK average and second highest coverage in the Derbyshire CC area.
ISP23 – Review and quantify all SDDC Scope 3 emissions	SDDC Scope 3 emissions have been quantified and reported on in the Annual Carbon Review 2021/22
ISP6 – Commissioning of fleet mileage optimisation software	Operational fleet has the software installed
ISP13 – Implement a green lease void programme for housing stock	As part of the void process, the energy supplies are switched to Scottish Power tariffs which are 100% renewable
ISP26 – Create a hybrid/flexible employee working model post Covid	Hybrid working model has been created that aims to be relevant, effective, productive and will lead to carbon emission reductions
ISP28 – Waste collection review	Waste collection service review to increase recycling rates and reduce landfill waste disposal.

Appendix 2 - Transformative Actions

Transformation Actions 2022/23 - IT and Business Change

	Action Ref: T1	Embed decarbonisation in Civic Hub Project	
Timeframe	2021 - 2023	2024 - 2027	2028 - 2030
Action	Continued evolving review of the two decarbonisation options - New build or Retrofit of existing Civic Office.	Decision made on option and planning completed	Implement decision. New build or existing retrofit established with carbon neutral footprint.
Reduction	8-10% reduction in total emissions.	0	208 tCO ₂ e (carbon neutral)
Indicative Total Cost	200 hours	200 hours	Retrofit £2m - £3m. New build £6m - £8m
Decarbonisation Costs	0	0	Retrofit: £1.2m – £1.8m (60% of total cost) New build: £2.4m - £3.2m (40% of total cost).

	Action Ref: T2	Greenbank Leisure Centre decarbonisation
Timeframe	2021 -2023	2024 - 2030
Action	<ol style="list-style-type: none"> Current ongoing interim actions to reduce emissions. Feasibility study of renewable energy source options. Decision made on emission reduction plan. 	Transition from natural gas to renewable source for heating and electricity consumption.
Reduction	Interim actions = 8-10% emission reduction	Heating renewable source= 439 tCO ₂ e (100% reduction) F Gas reduction = 148 tCO ₂ e (64.5% reduction) Heating and electricity renewable source = 589 tCO ₂ e (100% reduction)
Indicative Total Cost	500 hours	£750k
Decarbonisation Costs	0	£750k

	Action Ref: T3	Etwall Leisure Centre decarbonisation
Timeframe	2021 -2023	2024 - 2030
Action	<ol style="list-style-type: none"> Current Interim actions on reducing emissions. Feasibility study of renewable energy source options. Decision made on emission reduction plan. 	Transition from natural gas to renewable source for heating. Or transition to renewable source for heating and electricity.
Reduction	Current emissions = 383 tCO ₂ e Reduction of Interim actions = 31 tCO ₂ e (8 -10%)	Current heating and electricity emissions = 228 tCO ₂ e F Gas reduction = 155 tCO ₂ e
Indicative Total Cost	500 hours	£280k plus
Decarbonisation Costs	0	£280k plus
Note	1. John Port School own Etwall Leisure Centre, so partnership approach.	

	Action Ref: T4A	Decarbonisation of Waste Vehicle Fleet.	
Timeframe	2021 - 2023	2024 - 2027	2028 - 2030
Action	Phased transition replacement of depot light vehicles (cars, vans, etc).	Hydrogen Fuel mix conversion for refuse trucks = £45k/truck	Full electrification or 100% Hydrogen for refuse trucks + electrification of depot vehicles.
Reduction	100% reduction of depot vehicle emissions only.	40% reduction of current refuse truck emissions only.	100% reduction of fleet emissions (588 tCO ₂ e)

Total Indicative Cost	38 EV vans = £1.22m EV charging points = £80k Total cost = £1.3m	13 x truck conversion = £585k Hydrogen filling station = £120k? Total cost = £705k	13 x EV/Hydrogen trucks = £5.2m EV charge point = £50k Total cost = £5.2m
Decarbonisation Cost	£325k	£705k	£2.7m
Note	EV infrastructure required.	Depot Hydrogen refilling station	Full EV or Hydrogen infrastructure.

Action Ref:	T4B - Decarbonisation of Housing vehicle fleet.
Emission Source	Carbon emissions from Housing fleet fuel = 134 tCO2e
Owned by	Head of Housing
Dates	Start: 2021 Finish: 2030
Emission Impact	Complete electrification or hydrogen fuelled housing vehicle fleet = carbon neutral
Notes	EV infrastructure needed for home charging. Or change in work behaviour and EV's 'return to grid' infrastructure' requiring overnight parking. Partner with DCC on 'on-street parking'.
Indicative Total Costs	13 x small EV vans = £422k + 10 x Charge points = £22k Total costs = £444k
Decarbonisation Costs	EV vans = £110.5 + charge points = £22k Decarbonisation costs = £132.5k

Action Ref:	T4C – Decarbonisation of EH vehicle fleet.
Emission Source	Carbon emissions from other fleet (Environmental Health)
Owned by	Head of Environmental Health
Dates	Start: 2021 Finish: 2030
Emission Impact	Complete electrification or hydrogen fuelled small fleet by 2030.
Notes	Electric infrastructures need for Civic Way Offices and Roslistion – awaiting decision on One public estate 2021/22
Indicative Total Costs	6 x EV vans = £204k + 2 x Charge point = £5k Total costs = £209k
Decarbonisation Costs	EV vans = £51k + charge points = £5k Decarbonisation costs = £56k

	Action Ref: T5	Boardman Depot
Timeframe	2021 -2023	2024 - 2030
Action	Current Interim actions on reducing emissions. Feasibility study of renewable energy source options. Decision made on emission reduction plan. Feasibility study of Hydrogen/Electric fuelling station &/or Depot relocation.	Transition from natural gas to renewable source for heating and electricity. Installation of low carbon fuelling infrastructure (Hydrogen &/or EV) Potential Depot relocation.
Reduction	Interim actions = 8-10% emission reduction	Heating and electricity renewable source = 42 tCO2e (100% reduction) Installation of low carbon fuelling infrastructure Depot relocation – carbon neutral
Total Indicative Costs	500 hours	£200k renewable energy source £120k plus for Hydrogen/EV fuelling station. £? Relocate depot
Decarbonisation Costs	0	100% of total costs and dependant on option

	Action Ref: T6	Roslistion (Visitor Centre and Enterprise building
Timeframe	2021 -2023	2024 - 2030



Action	Current Interim actions on reducing emissions. Feasibility study of renewable energy source options. Decision made on emission reduction plan.	Biomass repair Renewable energy infrastructure for complete Rosliston site (holiday homes, visitor centre, etc) Creation of Rosliston Exemplar
Reduction	Interim actions = 8-10% emission reduction	Heating and electricity renewable source = 136 tCO2e (100% reduction)
Total indicative Costs	200 hours	Repair of Biomass boiler = £117k Renewable energy source (solar pv or heat source pumps) = £100k

Action Details	T7 – Develop a programme to decarbonise the SDDC housing stock through Government Funding and the Housing Revenue Account.
Emissions Source	Council owned housing stock
Owned by	Head of Housing
Dates	Start: 2021 Finish: 2050
Emission Impact	TBD
Cost	£43m (based on £15k each for 3,000 properties)

Action Details	T8 – Develop a specific programme to decarbonise the worst performing SDDC housing stock
Emissions Source	200 of the worst performing Council owned housing stock
Owned by	Head of Housing
Dates	Start: 2021 Finish: 2050
Emission Impact	TBD
Cost	£3m (based on £15k each property)

Appendix 3 -Service Plan Actions by Service.

Key:

Committed Actions	Uncommitted Actions
H = Hard actions	S = Soft actions
Types of proposed carbon neutral actions:	
<ul style="list-style-type: none"> • T – Transformation Actions • ISP – In-house Service Plan Actions • DSP – District-wide Service Plan Actions 	

All Services – Service Plan Actions 2021/22.

These two actions are common to all Service areas.

Action Details	ISP4 – Ongoing annual delivery of Sustainable Travel Plan and annual travel questionnaire
Emissions Source	Employee vehicle commuting fuel emissions at all SDDC locations = 26 tCO ₂ e
Owned by	All Heads of Service
Dates	Start: 2021 Finish: 2024
Emission Impact	Targeted reduction of H1 carbon emissions = 7% (1.8 tCO ₂ e)
Cost	£40,000 & 300 hours

Action Details	ISP24 – Ongoing quarterly monitoring and preparation of annual reporting of all carbon emission sources from Council in-house controlled activities
Emissions Source	All carbon emission sources: Heat, Refrigerant, Vehicle fuel and Electricity = 2,500 tCO ₂ e
Owned by	All Heads of Service
Dates	Start: April 2021 Finish: Ongoing
Emissions Impact	Estimated reduction of all carbon emissions = 5% (125 tCO ₂ e)
Cost	300 hours

Corporate Property - Service Plan Actions 2022/23

In-house actions

Action Details	ISP2 – Embed decarbonisation of public buildings in the Corporate Asset Management strategy
Emissions source	Heat and electricity emissions from all Public and SDDC owned Commercial buildings.
Owned by	Head of Corporate Property
Dates	Start: April 2021 Finish: April 2030
Emission Impact	Reduction of Public Buildings emissions (152 tCO ₂ e) to achieve carbon neutral
Cost	£300k – additional costs in addition to the ongoing maintenance programme.

Action Details	ISP9 – Commissioning SMART metering for electricity use across all public buildings.
Emissions Source	Electricity emissions from all Council buildings
Owned by	Head of Corporate Property
Dates	Start: April 2021 Finish: April 2025
Emission Impact	Up to 10% reductions in energy use through accurate emission reporting, increased awareness, and accountability for carbon emissions from Council energy activities
Cost	£5K

Action Details	ISP11 – Align ongoing maintenance plan to reducing current carbon emissions at Leisure Centres from the Lifecycle Analysis (existing plant, retrofit measures and investment requirements to reduce emissions).
Emissions Source	Energy/heat/electricity at Greenbank and Etwell Leisure Centres = £1202 tCO ₂ e

Owned by	Head of Cultural and Community Services
Dates	Start: April 2021 Finish: April 2023
Emissions Impact	Reduction of current energy emissions of 120 tCO ₂ e (10%)
Cost	50 hours, Maintenance, retrofit, and investment requirements need to be costed as part of the plan.

Action Details	ISP12 – F Gas ongoing maintenance, update and replacement programme.
Emissions Source	Refrigerant emissions at Leisure Centres, Civic Way and Boardman Road depot.
Owned by	Head of Corporate Property
Dates	Start: 2021 Finish: 2030
Emission Impact	242 tCO ₂ e based on a 50% reduction in total F gas emissions
Cost	To Be Confirmed

District-wide actions

Action Details	DSP18 – Feasibility plan to embed Active Travel (walk/cycle pathways, EV infrastructure and public transport connectivity) into Swadlincote town centre access plans.
Emissions Source	Transport
Owned by	Head of Corporate Property/Head of Environmental Services
Dates	Start: 2022 Finish: 2023
Emission Impact	Transport reduction and increasing walking and cycling.
Cost	£40k & 100 hours

Cultural and Community Services - Service Plan Actions 2022/23

In-house actions

Action Details	ISP10 – Manage ongoing energy reduction actions plans for the Leisure Centres through Active Nations.
Emissions Source	Heat and electricity at Greenbank and Etwall Leisure Centres = 1,202 tCO ₂ e
Owned by	Head of Cultural and Community Services
Dates	Start: June 2021 Finish: April 2023
Emissions Impact	Behavioural change heat and electricity emissions reductions of 120 tCO ₂ e (10%)
Cost	50 hours

Action Details	ISP20 – Rosliston Exemplar - promote Rosliston Forestry Centre as a pioneer of environmental sustainability education which includes renewable energy sources, low carbon emission technology, carbon sequestration, biodiversity and natural capital improvement.
Emissions Source	Heat and electricity sources plus tree and plant carbon sequestration.
Owned by	Head of Cultural and Community Services
Dates	Start: April 2021 Finish: April 2023
Emission Impact	To make Rosliston nett carbon positive
Cost	500 hours

Action Details	ISP21 – Ongoing planning and delivery of alteration to grounds maintenance practices to maximise biodiversity
Emissions Source	Carbon sequestration from all sectors across South Derbyshire
Owned by	Head of Cultural and Community Services/ Head of Operational Services
Dates	Start: April 2021 Finish: April 2023
Emission Impact	Improves biodiversity, which increase soil ability to sequester carbon.
Cost	50 hours

Action Details	ISP26 – Monitoring Biodiversity net gain – mapping all green spaces owned by SDDC
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Emissions Source	Carbon sequestration
Owned by	Head of Culture and Community Services
Dates	Start: 2022 Finish: 2023
Emission Impact	Carbon sequestration
Cost	500 hours

Action Details	ISP28 – Create and develop a methodology to estimate the carbon sequestration of council owned green areas across South Derbyshire
Emissions Source	Carbon sequestration
Owned by	Head of Environmental Health Services/ Cultural and Community Services
Dates	Start: October 2022 Finish: October 2023
Emission Impact	TBD
Cost	300 hours

District-wide Actions

Action Details	DSP8 – Utilise all Free Tree planting schemes across the District and monitor tree planting increases.
Emissions Source	Carbon sequestration from all sectors across South Derbyshire
Owned by	Head of Cultural and Community Services
Dates	Start: 2021 Finish: 2023
Emissions Impact	Estimated 6.2 tCO ₂ e per year per hectare sequestered
Cost	100 hours

Economic Development and Growth Services - Service Plan Action 2021/22

In-house actions

Action Details	ISP19 Embed carbon emission reduction into the new Economic Development Plan
Emissions Source	All In-house and District-wide emissions
Owned by	Head of Economic Development & Growth/Head of Env Health
Dates	Start: April 2022 Finish: April 2025
Emissions Impact	Engage public and private sector expertise to help deliver SDDC emissions reductions
Cost	300 hours

District-wide actions

Action Details	DSP10 – Support the promotion of Green Tourism throughout South Derbyshire and specifically National Forest as an exemplar sustainable environment
Emissions Source	None
Owned by	Head of Economic Development
Dates	Start: 2021 Finish: Ongoing
Emission Impact	Increasing carbon offsetting across South Derbyshire.
Cost	100 hours

Action Details	DSP13 – Promote sustainable travel to work plans (public transport) for job creation/growth development areas across South Derbyshire.
Emissions Source	Vehicle
Owned by	Head of Economic Development and Head of Strategic Planning
Dates	Start: 2021 Finish: 2025
Emission Impact	Reduce vehicle mileage and promote public transport
Cost	100 hours

Action Details	DSP14 – Influencing, promoting, and partnering with local business to embed green innovation and technology at the East Midlands Inter-Modal Park 'Freeport'.
Emissions Source	Road and Rail transport
Owned by	Head of Economic Development/Head of Planning and Strategic Housing Services
Dates	Start: 2021 Finish: 2025
Emission Impact	Creation of green technology hubs to reduce emissions
Cost	TBD
Action Details	DSP15 – Support local businesses across South Derbyshire in their development of energy efficiency and decarbonisation projects and the identification of suitable green funding.
Emissions Source	All carbon sources
Owned by	Head of Economic Development /Head of Environmental Health
Dates	Start: 2021 Finish: Ongoing
Emission Impact	All sources across South Derbyshire
Cost	100 hours

Environmental Health Services - Service Plan Actions 2022/23

In-house Actions.

Action Details	ISP6 – Create and develop a Low Carbon Homes Team that supports household decarbonisation across the whole of South Derbyshire
Emissions Source	Household heating
Owned by	Head of Environmental Health Services/Housing Services
Dates	Start: 2022 Finish: 2023
Emission Impact	Reduction household heat emissions
Cost	4000 hours

Action Details	ISP7 - Commissioning vehicle optimisation software for fleet vehicles across Environmental Services.
Emissions Source	Council vehicle fleet (petrol and diesel) = 722 tCO ₂ e
Owned by	Head of Operational Services (supported by Head of Housing Services, Head of Environmental Services, Cultural Services and Corporate Services)
Dates	Start: April 2022 Finish: April 2023
Emission Impact	Reduction in Council fleet fuel emissions through driver behaviour = 72 tCO ₂ e (10%)?
Cost	£150 per year

Action Details	ISP14 – Quarterly monitoring of the SDDC tender process to establish carbon neutral supplier questions and carbon neutral scoring/awarding criteria
Emissions Source	All
Owned by	Head of Environmental Services
Dates	Start: April 2022 Finish: April 2023
Emissions Impact	Increase the importance of carbon accounting and reduce carbon emissions through future procurement decisions and supplier selection.
Cost	30 hours

Action Details	ISP18 – Ongoing environmental training (Climate and Biodiversity) for Councillors, Parish Councils and SDDC employees.
Emissions source	All
Owned by	Head of Environmental Services
Dates	Start: April 2021 Finish: Ongoing
Emissions Impact	Higher awareness for all staff of the importance of reducing personal and corporate carbon impact and carbon footprint
Cost	400 hours

Action Details	ISP22 – Continuous identification of funding and grants, identifying carbon reduction opportunities for the Council and Partners.
Emissions source	All
Owned by	Head of Environmental Services
Dates	Start: April 2021 Finish: Ongoing
Emissions Impact	Funding decarbonisation actions
Cost	£1,000 and 100 hours

Action Details	ISP23 – Annual review of SDDC 'Scope 3' Supply Chain emissions, quantify their carbon impact and develop an appropriate draft supply chain guidance for approval.
Emissions Source	All sources.
Owned by	Head of Environmental Services
Dates	Start: April 2022 Finish: April 2023
Emissions Impact	Identify emission reduction opportunities with contractors and suppliers
Cost	200 hours

Action Details	ISP25 - Review all internal SDDC policies and strategies to embed carbon neutral considerations into them at their next review
Emissions source	All
Owned by	Head of Environmental Services
Dates	Start: April 2021 Finish: Ongoing
Emissions Impact	Align corporate strategies, policies, and actions with carbon neutral target.
Cost	50 hours

Action Details	ISP27 - Annual review of SDDC Climate and Environment Action Plan (2021/30) to update and verify in line with ISO accreditation and other audits.
Emissions source	All
Owned by	Head of Environmental Health and all Heads of service
Dates	Start: July 2022 Finish: ongoing on an annual basis.
Emissions Impact	Ongoing support of reduction of all emissions from in-house and district-wide emissions
Cost	50 hours

Action Details	ISP28 – Create and develop a methodology to estimate the carbon sequestration of council owned green areas across South Derbyshire
Emissions Source	Carbon sequestration
Owned by	Head of Environmental Health Services/ Cultural and Community Services
Dates	Start: October 2022 Finish: October 2023
Emission Impact	TBD
Cost	300 hours

District-wide Actions

Action Details	DSP1 – SDDC Healthy Homes Assistance Fund for private and tenant housing energy efficiency and supporting fuel poverty reduction.
Emissions Source	Domestic heating for private and tenanted houses
Owned by	Head of Environmental Services
Dates	Start: March 2021 Finish: March 2023
Emissions Impact	TBD
Cost	£200k

Action Details	DSP2 – Effective enforcement of the Energy Efficiency Regulations
Emissions Source	Private rented housing stock
Owned by	Head of Environmental Services
Dates	Start: 2020 Finish: Ongoing
Emissions Impact	TBD
Cost	300 hours officer time

Action Details	DSP3 – Develop a database of existing and approved renewable energy sources across South Derbyshire which can be used in future policy considerations to support decision making around sustainable renewable energy developments within the planning policy. Thereafter track the overall renewable energy production capacity of South Derbyshire. Secondly identify opportunities to support local businesses to develop their own renewable energy sources.
Emissions Source	Energy Sources
Owned by	Head of Environmental Health Services/Head of Planning and Strategic Housing
Dates	Start: 2022 Finish: 2023
Emission Impact	Reduction of carbon emission through renewable energy sources
Cost	200 hours

Action Details	DSP4 – Green Homes Grant/LAD funding delivery of retrofit measures to private and tenant houses.
Emissions Source	Domestic heating for private and tenanted houses
Owned by	Head of Environmental Services
Dates	Start: 2021 Finish: Ongoing
Emissions Impact	TBD
Cost	Phase 1b=£568k, Phase 2 = £425k

Action Details	DSP5 – Public EV infrastructure expansion – Planning and Implementing of EV charging points across the District, through OZEV and partnership funding
Emissions Source	Non-HGV transport
Owned by	Head of Environmental Services
Dates	Start: 2021 Finish: 2024
Emissions Impact	TBD
Cost	£100k (depending on successful bid for external funding) & 200 hours

Action Details	DSP7 – A review of Hydrogen fuel usage, production and distribution infrastructure development proposals across South Derbyshire.
Emissions Source	Transport
Owned by	Head of Environmental Services
Dates	Start: 2022 Finish: 2023
Emission Impact	Reduction in fleet carbon emissions
Cost	200 hours

Action Details	DSP9 – Review and detail the climate adaption actions (tree planting and flood resilience plus others) that SDDC are taking across the District.
Emissions Source	Carbon sequestration from all sectors across South Derbyshire
Owned by	Head of Environmental Health Services
Dates	Start: 2022 Finish: 2023
Emissions Impact	TBD
Cost	200 hours

Action Details	DSP11 Work in partnership with Derbyshire County Council to create a collaborative pathway to carbon zero across Derbyshire
Emissions Source	All
Owned by	Head of Environmental Services
Dates	Start: 2021 Finish: Ongoing
Emissions Impact	Unknown
Cost	100 hours

Action Details	DSP12- Partner with Derbyshire County Council to engage with UK Government for resource, funding and relevant powers to deliver Climate and Environment Plans
Emissions Source	All
Owned by	Head of Environmental Services
Dates	Start: 2021 Finish: Ongoing

Emissions Impact	Unknown
Cost	100 hours
Action Details	DSP19 Creating and developing a communication/signposting channel for engaging with South Derbyshire households to support reduction of energy consumption advice promotion.
Emissions Source	All households
Owned by	Head of Environmental Health Services
Dates	Start: 2022 Finish: 2023
Emissions Impact	TBD
Cost	200 hours

Finance - Service Plan Actions 2022/23

In-house actions.

Action Details	ISP15 – Review of Council finance and investments to embed in carbon neutrality
Emissions Source	De-investment in fossil fuel sector
Owned by	Head of Finance
Dates	Start: April 2021 Finish: April 2023
Emission Impact	Investment in green economy
Cost	50 hours plus a potential improved return on investment.

Action Details	ISP16 – Ongoing review of costing/finance of Climate and Environment Transformative actions to establish/verify current and future funding sources to implement these actions.
Emissions Source	All high emission sources and locations identified.
Owned by	Head of Finance /Head of Environmental Health
Dates	Start: 2021 Finish: 2024
Emission Impact	All high emission sources.
Cost	500 hours

Housing Services - Service Plan Actions 2022/23

In-house actions.

Action Details	ISP1 – Improve the data content, quality and quantity of the Social Housing Stock Condition Survey data.
Emissions Source	Heat and electricity - this is outside of the SDDC's controlled emissions and not part of the 2030 carbon neutral target.
Owned by	Head of Housing Services
Dates	Start: 2022 Finish: July 2028
Emission Impact	Current heat and electricity emission estimate is 9,200 – 13,200 tCO ₂ e
Cost	500 hours

Action Details	ISP7 – Feasibility of housing dynamic scheduling software to support fleet mileage optimisation and reduction
Emissions Source	Council vehicle fleet (petrol and diesel) = 722 tCO ₂ e
Owned by	Head of Operational Services (supported by Head of Housing Services and Head of Environmental Services)
Dates	Start: April 2022 Finish: April 2023
Emission Impact	Reduction in Council fleet fuel emissions through driver behaviour = 72 tCO ₂ e (10%)?
Cost	£150 per year

Action Details	ISP13 – Create and develop a programme to educate and inform residents/public on using low carbon heating sources effectively
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Emissions Source	Household heating
Owned by	Head of Housing
Dates	Start: April 2022 Finish: April 2023
Emissions Impact	Reduction in electricity emissions as National Grid decarbonises to 2030.
Cost	50 hours to implement.

Operational Services - Service Plan Actions 2022/23

In-house actions.

Action Details	ISP5 - Review of the Fleet Procurement Plan to identify and detail the options, cost, and timeframe to decarbonise the SDDC Waste vehicle fleet (EV's, Hydrogen/diesel mix and Hydrogen). This review will include the infrastructure and storage requirements of decarbonising the fleet.
Emissions Source	Vehicle fuel (diesel) at Boardman Depot = 588 tCO ₂ e
Owned by	Head of Operational Services
Dates	Start: April 2021 Finish: April 2023
Emission Impact	Reduction Operational fleet emissions to carbon neutral = 588 tCO ₂ e
Cost	300 hours

Action Details	ISP7- Commissioning and use of fleet mileage optimisation software for use in all fleet vehicles across Housing and Environmental Services.
Emissions Source	Council vehicle fleet (petrol and diesel) = 722 tCO ₂ e
Owned by	Head of Operational Services (supported by Head of Housing Services and Head of Environmental Services)
Dates	Start: April 2022 Finish: April 2023
Emission Impact	Reduction in Council fleet fuel emissions through driver behaviour = 72 tCO ₂ e (10%)?
Cost	£150 per vehicle = £10k

Action Details	ISP8 – Continued phased replacement of grounds maintenance machinery (105 x mowers, grass-cutters, etc) with electric alternatives.
Emissions Source	Fuel at Boardman Road depot
Owned by	Head of Operational Services
Dates	Start: June 2021 Finish: April 2023
Emission Impact	Reduction of carbon emissions = 10 tonne CO ₂ e (estimated)
Cost	£250,000 for completed replacement (indicative).

Action Details	ISP30 – Ongoing waste collection service review to support the reduction in waste and increase in recycling rates and composted rates
Emissions Source	Waste collection
Owned by	Head of Operational Services
Dates	Start: April 2022 Finish: April 2023
Emission Impact	Reduction in waste emissions
Cost	100 hours

Organisational Development and Performance - Service Plan Actions 2022/23

In-house actions.

Action Details	ISP17 – Develop a full equality, diversity and inclusion impact assessment of SDDC's Climate and Environment Action Plan
Emissions Source	All
Owned by	Head of Organisational Development and Performance
Dates	Start: April 2022 Finish: April 2023
Emission Impact	All
Cost	500 hours

Action Details	ISP29 – Develop and create a Climate and Environment Communication Plan to inform, educate and make all stakeholders aware of Environmental Sustainability, Climate Change, Carbon emission sources, decarbonisation measures and carbon neutral journey. Stakeholders – SDDC employees, Councillors, Residents (climate activists, pragmatists, and deniers), specific demographics, Businesses, other Local Authorities, and third-party organisations
Emissions source	All
Owned by	Head of Organisational Development and Performance/Head of Environmental Health
Dates	Start: 2021 Finish: Annual ongoing
Emissions Impact	Ongoing support of reduction of all emissions from in-house and district-wide emissions
Cost	200 hours staff time per year

District-wide Actions

Action Details	DSP16 – Create a community engagement program for Climate Change across South Derbyshire that will engage and consult with different sectors and communities with the SDDC's carbon neutral journey and the specific actions that are required to deliver the 2030 target.
Emissions Source	All sources across South Derbyshire
Owned by	Head of Organisational Development and Performance
Dates	Start: 2021 Finish: 2030
Emission Impact	Encouraging carbon footprint reduction
Cost	£20k + additional 0.5 FTE

Action Details	DSP17 – Support the development of the community engagement program (DSP16) for Climate and Biodiversity Change across South Derbyshire supporting the decarbonisation of South Derbyshire.
Emissions Source	All sources across South Derbyshire
Owned by	Head of Environmental Health and Organisational Development and Performance
Dates	Start: 2022 Finish: 2023
Emission Impact	Encouraging carbon footprint reduction
Cost	TBD

Planning and Strategic Housing Services – Service Plan Actions 2022/23

In-house actions.

Action Details	ISP3 – Embed carbon neutrality in the new SDDC Local Plan.
Emissions Source	Energy efficiency, Gas, electricity, and water supply from all sources and into all buildings. Includes Heat, electricity, and transport emission sources.
Owned by	Head of Planning and Strategic Housing
Dates	Start: 2021 Finish: 2024
Emission Impact	Reduction in carbon emissions in all new build
Cost	300 hours

District-wide actions.

Action Details	DSP13 – Create and promote a sustainable travel to work plan (public transport) for job creation/growth areas – East Midlands Freeport
Emissions Source	Vehicle
Owned by	Head of Economic Development and Head of Planning and Strategic Housing
Dates	Start: 2021 Finish: 2025
Emission Impact	Reduce vehicle mileage and promote public transport
Cost	100 hours

Action Details	DSP14 – Plan on Influencing, promoting, and partnering with local business to deliver green innovation and technology at the East Midlands Inter-Modal Park 'Freeport'.
Emissions Source	Road and Rail transport
Owned by	Head of Economic Development/Head of Planning and Strategic Housing Services
Dates	Start: 2021 Finish: 2025
Emission Impact	Creation of green technology hubs to reduce emissions
Cost	TBD

Action Details	DSP3 – Develop a database of existing and approved renewable energy sources across South Derbyshire which can be used in future policy considerations to support decision making around sustainable renewable energy developments within the planning policy. Thereafter track the overall renewable energy production capacity of South Derbyshire. Secondly identify opportunities to support local businesses to develop their own renewable energy sources.
Emissions Source	Energy Sources
Owned by	Head of Environmental Health Services/Head of Planning and Strategic Housing
Dates	Start: 2022 Finish: 2023
Emission Impact	Reduction of carbon emission through renewable energy sources
Cost	200 hours

Legal and Demographic Services

District-wide actions.

Action Details	DSP6 – Develop a feasibility study to support the transition of South Derbyshire private taxi hire service to low carbon emission vehicles
Emissions Source	Reduction in transport sector carbon emissions
Owned by	Head of Legal and Demographic Services
Dates	Start: 2022 Finish: 2023
Emission Impact	Tbc
Cost	100 hours

Appendix 4

Council In-house Carbon Reduction Road Map Calculator - Carbon Neutral by 2030.

Area	Source of Emissions	Key Action	Emissions (tonnes CO2e)				Emission reductions (2021-30)
			Actual emissions (2018/19)	Projected emissions (2021-23)	Projected emissions (2024-27)	Projected emissions (2028-30)	
			Direct & Indirect emissions	Direct & Indirect emissions	Direct & Indirect emissions	Direct & Indirect emissions	% of reduced emissions
Civic Way	Civic Way Offices	Behavioural change programme		-7.0	-4.2	-2.8	
		Retrofit or Civic Hub new build. (100% renewable energy heat + electric)	139.9			-125.9	
		Refrigerant reduction scheme (average 64.5%)	68.4	3.4	3.4	-48.7	
	Total tCo2e.	208.3	204.7	203.9	26.5	-87.3%	
	"Other" Public Buildings, car parks, etc	Behavioural change programme		-3.0	-7.6	-4.6	
		Renewable energy (75% heat + electric)	151.8			-98.7	
Total tCo2e.	151.8	148.7	141.2	37.9	-75.0%		
Overall Council buildings Sub-total tCO2e			360.0	353.43	345.06	64.49	-82.1%
Depot	Boardman Depot Building	Behavioural change programme		-1.3	-1.3		
		Renewable energy (100% heat + electric)	42.7		-40.1		
		Refrigerant reduction scheme (average 64.5%)	32.4	-8.4		-15.5	
	Total tCo2e.	75.1	65.4	24.0	8.5	-88.7%	
Overall Boardman Depot Sub-total tCO2e			75.1	65.42	66.70	8.48	-88.7%
Rosliston	Visitor Centre	Behavioural programme		-4.0	-4.0	-4.0	
		Biomass repair option (10%)				-13.5	
		Renewable energy (100% heat + electric)	134.8			-122.67	
	Total tCo2e.	134.8	130.8	126.7	0.0	-100.0%	
	Enterprise building	Behavioural programme		-0.03	-0.03	-0.03	
		Biomass efficiency	1.11	0.07	0.07	0.07	
Total tCo2e.	1.1	0.03	0.03	0.03	-100.0%		
Overall Rosliston Sub-total tCO2e			135.9	130.79	126.75	0.03	-100.0%
Leisure Centres	Greenbank	Behavioural programme		-17.7	-17.7	-17.7	
		Energy efficiency programme		-29.5	-88.4		
		Renewable energy (100% electric + heat)	589.3			-447.8	
		Refrigerant reduction scheme (average 64.5%)	230.1	-56.5		-112.4	
	Total tCo2e	819.5	715.86	609.78	31.91	-96.1%	



	Etwall (Note: John Port School owns this facility)	Behavioural programme		-6.8	-6.8	-6.8	
		Energy efficiencies			-11.4		
		Renewable energy (100% electric + heat)	228.0		-65.7	-162.3	
		Refrigerant reduction scheme (average 64.5%)	154.5			-100.0	
	Total tCo2e		382.5	375.66	291.76	22.62	-94.1%
Overall Leisure Centres Sub-total tCO2e			1202.0	375.66	280.36	22.62	-98.1%
	Use of fuel for grounds and cleansing	Renewables (e.g.,100% heat + electric)	50.9	0.5	1.5	-53.0	
		Total tCo2e	50.9	51.46	52.99	0.00	-100%
Transportation	Operational Fleet	Route Optimisation programme		-67.1			
		Zero emission Vehicle (Electric and/or hydrogen)	536.6		-164.3	-305.2	
	Housing Fleet	Dynamic Tool System (Phase 2 of Route Optimisation)			-8.4		
		Zero emission Vehicle (Electric and/or hydrogen)	67.1		-23.5	-58.7	
	All other fleet	Zero emission Vehicle (Electric and/or hydrogen)	67.1	-20.1	-23.5	-47.0	
	Total tCo2e		670.7	583.52	410.81	0.00	-100%
Overall Fleet Sub-total tCO2e			721.7	634.98	463.80	0.00	-100%
	Council Emission Source Totals	Direct and indirect Emissions tCO2e	2494.7	1133.2	949.3	73.0	-97.1%
	% emission reduction			-54.6%	-38.1%	-7.7%	