

**NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL
CORPORATE SCRUTINY COMMITTEE
TUESDAY 11 JULY 2023**

ZERO CARBON REPORT

APPENDIX ONE – Summary of Year Three activity

Buildings			
1	Social Housing	Implement the asset management plan, including the zero carbon commitments to drive energy efficiency improvements and emission reduction in tenants' homes. Explore grant funding including Social Housing Decarbonisation Fund (SHDF) and Energy Company Obligation (ECO)	<p>Housing Asset Management Plan (2022-2024) was approved by Cabinet in July 2022 and has a specific section and actions relating to net zero and decarbonisation.</p> <p>It is a three year plan; year 1 focus was on data, data accuracy, team structure and identify and address high risk areas including zero carbon and build technical skills across the team, including retrofit training. In year 2 the focus is on completing a full stock condition survey of all HRA assets and this will inform the Council of its spend over the next 30 years. It will also seek to address poor performing assets, explore options for assets where it will be difficult to achieve an EPC C rating and optimise asset utilisation. In Year 3 the Asset Management Strategy for the next 30 years will be drafted, with a detailed plan for years 1-5.</p> <p>In terms of grant funding, a bid application for SHDF funding in Q3 2022 was unfortunately unsuccessful. A partnership with EON has been secured to attract further funding from the ECO4. Initial surveys have been completed on a number of archetypes to confirm what measures are best suited to the Council's properties to maximise ECO4 funding over 4 years. This work will continue into next year.</p>
		Fit LED lighting and explore EV charging opportunities across the HRA estate.	<p>This work is a specific action in the Housing Asset Management Plan. LED works have commenced at one sheltered housing scheme and one general needs scheme. The work includes upgrading internal and external lights to the appropriate LUX levels. Further assessments are underway to shape future activity.</p> <p>With regard to EV charging, initial work is underway to assess HRA land for community EV charging hubs. This work will continue into next year.</p>
		Develop reporting to demonstrate emission benefits from property improvements	A new intelligent energy performance management software (SAVA) has been implemented and updated with housing stock data. This will enable a full analysis of the housing stock to be completed and assess the current housing stock that is below an EPC of C with the worst energy performing assets identified as high priority. This will consider areas of deprivation and fuel poverty to ensure resources are targeted appropriately. The data will inform the Housing Asset Management Strategy which will be developed next year.
2	Property	Develop a property portfolio energy efficiency action plan and address commercial F&G EPC ratings	An energy efficiency report has been completed on the commercial property portfolio. The worst performing properties are being addressed as priority. Specific plans are being developed and implemented for each property including switching to LED lighting and improving insulation. EPC information is also being used to engage with some tenants to promote greater energy efficiency and awareness of actions they can take. This work will continue into next year.
		Explore options for retrofitting of technology that will generate power at a lower carbon cost, including the Accommodation project	Activity is on-going with particular interest in power storage which is likely to bring biggest benefit to the Council including Whitwick Business Centre and some industrial units. This activity will feed into the Council's capital programme.
		Build better understanding capacity of the infrastructure networks around our buildings to support a switch to lower carbon power sources and EV charging.	The main activity has been to explore landlord power supplies which will enable the delivery of EV charging. Property Services is engaging with National Grid, the power provider, to understand capacity around selected sites. This activity will feed into the Council's capital programme.
		Regeneration activity will consider zero carbon implications within all projects.	As part of both Marlborough Centre and Memorial toilets refurbishments in Coalville, energy usage reduction has been designed in - including high levels of insulation, maximisation of use of daylight, LED lighting, natural ventilation and high efficiency heating. As part of Kegworth public realm, for the market square, EV infrastructure is being considered and a new combined walking and cycle route is planned.

No.	Sector	Action Plan Overview	Updates
	Buildings		
2	Property	Develop reporting to demonstrate emission benefits from property improvements	<p>EPCs have been updated across the whole commercial property portfolio and are shaping the next stage actions. The 94 properties collectively equate to an estimated 1257.03t CO_{2e}. Certificates will be refreshed after significant improvements.</p> <p>Nine commercial properties have recently had new EPC certificates which report an estimated change in emissions from 50.0 tCO_{2e} to 18.2 tCO_{2e}, a saving of 31.8 tCO_{2e}.</p>
3	Leisure Centres	Together with Everyone Active, develop action plan to drive a reduction in emissions at the Leisure Centres.	<p>The Council's leisure partner, Everyone Active, continues to work with and support Zero Carbon Roadmap through delivery of their Energy Management Plan 2022/23. Utility consumption for the year has seen an overall reduction at both Whitwick and Coalville Leisure Centre (WCLC), electricity 25% below target; gas 4% over target (due to a building snagging issue) and Ashby Leisure Centre and Lido (ALCL), electricity 38% below target, gas 32% below target).</p> <p>Activity at ALCL includes the installation of a new building management system (BMS), replacement of lights with LEDs, reduction of air temperatures in activity rooms, and a behavioural change training programme for staff. At WCLC, the EV charging points are operational, air conditioning units have been fitted with timers and together with air handling units are ramped down overnight, and there is close monitoring of the solar panels to allow for the savings made to be maximised and optimising the BMS system. In addition, there have been promotions encouraging customers to use alternative forms of transport.</p> <p>ALCL energy certificate estimates emissions of 549 tCO_{2e}; for WCLC, 696 tCO_{2e}.</p> <p>This workstream will continue into next year. Future initiatives include solar panels, further LEDs conversions and optimising BMS.</p>
4	Private Sector	Together with Leicestershire Authorities partnership, deliver the Sustainable Warmth programme to increase the energy performance of homes across the district improve the efficiency of some of the worst energy efficient homes in the district.	<p>The grant funding is via Midland Net Zero Hub from Dept. of Energy Security and Net Zero (DESNZ, formerly BEIS) and is split into two elements HUG1 (off-gas) and LAD3 (on-gas) domestic properties. The project is being delivered by Green Living Leicestershire partnership, led by the Warm Homes team with the support of district councils. The HUG1 scheme is now complete and it has proven challenging nationally to spend the funding in the 12 month timescale. The Council had the largest allocation, £304,167, and has performed the best of all six Leicestershire districts involved spending 50% of the funding allocated. The LAD3 on-gas scheme is on-going until September although closed to new referrals. Both schemes have qualifying requirements for both properties and residents as well as complex spend caps.</p>
New		Further funding to increase the energy performance of homes across the district improve the efficiency of some of the worst energy efficient homes in the district which are off-gas.	<p>The Council has been awarded £1,490,000 via Midlands Net Zero Hub from DESNZ for HUG2 (off-gas) funding to improve the efficiency of some of the worst energy efficient homes in the district. This funding follows the HUG1 scheme and the learnings will be built into this project. It will continue to run under the Green Living Leicestershire partnership and will help to tackle fuel poverty as well as contribute to the Council's carbon reduction ambitions.</p>
	Power		
5	Utilities	<p>Develop a utilities strategy.</p> <p>Review usage data/property EPCs to identify opportunities to reduce consumption at council owned and operated buildings.</p>	<p>To ensure efficient procurement with maximum recognition of Zero Carbon Roadmap, the Council is putting corporate utility contracts in place with providers who support our objectives. The Council is still procuring 100% green electricity; the gas contract is currently under review.</p> <p>The Council's re-location to Whitwick Business Centre and the closure of the former council offices, together with refurbishment of Stenson House will deliver future energy savings. The new offices have sensor LED lighting and are well insulated.</p> <p>The display energy certificate (DEC) for the former Council offices together with Stenson House, last assessed in 2022, estimates the emissions as 256 tCO_{2e}. Whitwick Business Centre in comparison, last assessed in 2019, is listed as 78 tCO_{2e}. The wider commercial portfolio is under review.</p>
6	LED lighting	Convert all the lighting in NWLDC car parks to LED and review HRA lighting.	<p>Lighting in sixteen public carparks has now been upgraded from sodium to LED with works completed in May. The investment was £70,000 and this will reduce energy costs and maintenance by an estimated £6,000 per year and carbon emissions by 57%. Project learnings will be shared with HRA teams.</p>

No.	Sector	Action Plan Overview	Updates
	Power		
7	Planning	Build the Council's zero carbon ambition into the substantive review of the Local Plan including renewable energy and energy efficiency standards for new homes.	Responses to consultation on emerging Local Plan considered by Local Plan Committee on 16 March 2023. It was agreed to: <ul style="list-style-type: none"> - Adopt carbon emissions targets in line with changes to the Building Regulations; - Include a policy to support the provision of standalone renewable energy proposals; - Include a policy to require new development to follow the fabric first principles (i.e. reduce energy use through 'smart' heating, then better insulation, then energy production from renewables and use of low carbon energy generation) - Set a water efficiency target of 110litres per day; - Develop a checklist to ensure proposed developments minimise lifecycle carbon emissions
		Reflect the Council's zero carbon ambitions in the Good Design Supplementary Planning Guidance	Work is underway to update the existing Good Design Supplementary Planning Guidance. This will include a new section on Design Code setting out the expected parameters for new developments covering all the elements within the National Design Guide which include Lifespan, Resources and Nature, which address various matters relating to climate change such as overheating, mitigating flood risk, energy efficiency and helping to meet zero carbon targets. This work will be published next year.
		Explore carbon offset options including opportunities for the Council to be a biodiversity and carbon offset provider	Biodiversity and carbon offsetting options will be explored in 2023/24.
8	Solar Together	Support the delivery of the Solar Together group buying scheme to assist householders and small businesses to install solar PV and battery storage	Solar Together scheme one took place in Summer 2022 with installations through until June 2023. 42 installations have been completed to date in NWL, 397 across Leicestershire, with 100 underway. This will save 589 tonnes of CO ₂ and will produce 1,100kW of solar power per year across the county. <p>The second scheme launches in June 2023, with all Leicestershire districts taking part, this time promoted under the Green Living Leicestershire banner. It is open to residents and small and medium businesses.</p>
9	Mine Water	Continue to explore mine water feasibility - this technology could provide low carbon, low cost heat from water from dis-used mines underneath Coalville with the potential to feed the new Leisure Centre, Stephenson College and the council offices.	Mine water could provide low carbon, low cost heat from water from dis-used mines underneath Coalville with the potential to feed the new Leisure Centre, Stephenson College and the council offices. Officers have engaged with the Coal Authority and through initial discussions determined that the current licence does not expire until May 2024. Work will continue to explore the feasibility in partnership with the Coal Authority.
	Waste		
10	Recycle more	Refresh the Recycle more strategy.	In 2022/23 the current Recycle more Plan supported the reduction of 2,005 tonnes of residual (black bin) household waste, compared to 2021/22 – a reduction of 8%. <p>Defra confirmed the recycling rate for 2021/22 was 46.6%, an increase of 4.1 percentage points compared to 2020/21. This was the eighteenth highest increase of all local authorities in England, the highest rate in Leicestershire and only 0.1% below the best ever performance.</p> <p>In 2022/23, the Council worked closely with Leicestershire County Council, along with the other Districts on the Leicestershire Resources and Waste Strategy 2022-2050 which will influence the Recycle more Plan.</p> <p>During 2023/24, a review will be carried out of the waste service by an independent sustainability consultant. The review will contain two main elements – firstly a review of the collection regime and approach (the what) and a review of the collections delivered (the how). The review will be instrumental in shaping the future development of the waste service, and will support the extension of Recycle More until 2030.</p>
		Develop reporting to reflect landfill kgs per person and estimate emission savings through diverting waste from landfill.	A carbon calculator has been developed between Waste Services, the Climate Change Programme Manager and an environmental consultant. It is designed to measure the emissions impacts of all waste and recycling materials collected and transported by the Council's Waste Services team.
11	Food Waste	Continue to develop the business case and explore government funding to expand to provide a cross-district service.	The food waste collection trial for 4,000 households is continuing until further confirmation is received from the Government and Defra regarding funding arrangements for councils to provide district-wide collections of food waste from households. <p>As part of the current food waste collection trial, during 2022/23, 204 tonnes of food waste was collected, equating to a carbon saving of 153 tonnes / tCO₂e.</p>

No.	Sector	Action Plan Overview	Updates
	Transport		
12	Fleet	Continue to roll out the Fleet Management Strategy, including fleet replacement, infrastructure and housing trials.	<p>The Fleet Management Strategy continues to progress. A three year procurement plan was approved by Cabinet in November 2022. The first two electric vans were delivered in March with further cars and vans on order for Enforcement teams and pool cars. These vehicles will be charged at Whitwick Business Centre where all the charging underground infrastructure is in place and the equipment installation is in hand. Electric vehicle solutions have been identified for replacement Parks tipper vehicles. Housing electric vans are also on order to support the planned trial and home charging solutions are being finalised. As the market is changing rapidly, there is a commitment to explore new technologies as part of each vehicle replacement decision.</p> <p>Hydrotreated vegetable oil (HVO) fuel was used throughout the last financial year. Based on litres used, diesel would have equated to 965.35 tCO_{2e}; HVO only 13.43 tCO_{2e}, a saving of 951.92 tCO_{2e}.</p>
13	Cycling & Walking	Complete action plan Q3 and develop local infrastructure plans and priorities to build connectivity improvements.	The draft NWL Local Cycling and Walking Infrastructure Plan (LCWIP) was developed by Sustrans in Q3. The plan highlights potential feasible routes between the key locations in the district that were highlighted by stakeholders as part of the consultation undertaken for the NWL Cycling and Walking Strategy (CaWS). It also prioritises routes based on the cost of implementing them and the likelihood of the impact they will have as evidenced by a Propensity to Cycle tool. Engagement on the LCWIP has been undertaken with stakeholders and the action plan is in the process of being refined into a final version. Once completed both the LCWIP and the CaWS will be presented to Scrutiny and Cabinet for adoption in order for the Council to then be in a position to be able to access external funding streams to deliver the actions within it.
14	EV charging	<p>Install EV charging at Peggs Close in Measham and Whitwick Business Centre.</p> <p>Plan EV charging at Money Hill car park.</p> <p>Support the Flex-D solar hub project with Leicestershire Authorities to develop a business case and seek funding</p> <p>Explore further EV opportunities across the Council's portfolio, including HRA.</p>	<p>Peggs Close, Measham is the sixth council car park location to benefit from having electric vehicle charging points installed, bringing the total to 24 charging points. The Council has been successful in receiving at total of over £96,000 of grant funding from Office for Zero Emission Vehicles (OZEV) to support this activity. 1.8 tCO_{2e} saved from this project alone from June 2022 to March 2023. Further usage data is reported in Appendix Two.</p> <p>Pod Point is the Council's approved and preferred EV charging supplier. Contact has been made between Bloor Homes and the Council for electric vehicle charging points to be included within the Money Hill car park scheme.</p> <p>This project is now funded after receiving £1.1 million of match funding from the LEVI grant fund alongside earlier funding from the business rates pool. Twelve EV charging points and a solar hub will be located on the Council's London Road car park site. The project is led by Harborough DC, under the Green Living Leicestershire Partnership, supported by Midland Net Zero Hub and the Leicestershire District Councils.</p> <p>A further grant application bid to Office for Zero Emission Vehicles (OZEV) was successful in March 2023 for £26,000. This will support four more charging bays in the Council's seventh council car park at High Street, Ibstock.</p> <p>In addition, Leicestershire County Council is leading a project to trial installing EV charging points in on-street locations across all districts, funded by a LEVI grant. The Council is engaged with this project.</p>
15	Employee Travel	Conclude the review of employee travel and travel expense policy to encourage staff to consider their carbon footprint.	A salary sacrifice scheme launched in August 2022 to support employees wanting to buy electric cars - two have been ordered so far. 30% of staff live within 3 miles of Whitwick Business Centre (WBC); the staff guide encourages employees to consider how they get to work, including buses, walking or cycling. EV charging will be available in the near future at WBC. Policy discussions will continue into next year.
	Other		
16	Finance	Investment strategy - review treasury guidelines for use next financial year.	<p>The Council aims to be a responsible investor and will consider environmental, social and governance (ESG) issues when investing. Where practical when making investment decisions ESG will be considered and counterparties with integrated ESG policies and commitments to net zero carbon by 2050 will be favoured by the Council.</p> <p>As at 31 March 2023, the Council had £43 million invested. £32m/74% is in the Department Account and Deposit Facility (DMADF), a central government department. Central Government has a commitment to be carbon neutral by 2050 and have many environmental policies as well as being the driving force behind societal change in this regard. £4.1m/9.5% is in various Money Market Funds (MMFs) – all MMRs and banks have integrated Environment, Social and Governance policies that set out their commitment to be carbon neutral by 2050. £5m/11% is a Local Authority investment with Birmingham City Council. This is also considered a positive environmental investment due to having 2050 net zero targets and environmental policies.</p>

	Other		
16	Finance	Explore how to reflect and embed zero carbon impact in financial decision making	<p>Capital Strategy and Treasury Management Strategy were presented to Council on 23 February 2023. The Capital Strategy and Investment Group will oversee the capital programme and bring schemes forward for promotion to the Approved Programme through Cabinet/Council in line with the Constitution.</p> <p>One of the four investment principles is "investing for sustainable, inclusive, economic growth. The Council will expand its capacity to grow the economy in an inclusive manner, whilst delivering whole system solutions to demographic, social and environmental challenges sustainably." Zero carbon impact will be included in the business case template.</p>
17	Reporting	Establish approach to explore Scope 3 emissions (indirect, supply chain) reporting, to shape the Council's procurement policies and influence	This workstream has been impacted by delayed the finance system roll out and procurement strategy activity. To get the value from any assessment, finance and procurement support and commitment is required. This work will continue into next year.
18	Air Quality	Continue delivering air quality action plan	Work on Defra solid fuel burning grant project continues. The data from the first air quality survey was analysed from the 24 respondents and shared with Defra in the March update. The second survey took place across April/May 2023. The Zephyr monitors are continuing to monitor air quality. All of the data gathered will be inputted into a final update to Defra later in 2023.
19	Business	Continue to promote zero carbon related activity to local businesses	A business network has been established to provide support and promote Zero Carbon activity, including events, engagement activity and directing businesses towards funding opportunities. In addition, the team provides support with specific projects, such as the National Forest delivery plan 2023-25, as well as internal projects, such as business recycling.
20	Biodiversity	Continue free tree scheme, planting trees and support communities with grants	The Green Shoots grant scheme in September provided a 50% grant towards to costs of bulbs to community groups to brighten up their areas in spring. The Free Tree scheme in November was over-subscribed with over 1000 trees and 30,000 hedging plants given away. Zero Carbon grants continue to support local groups - examples include supporting energy efficiency measures in community buildings (insulation, LED lighting, sensors) and a children's forest experience area.
21	Engagement	Consider LCC net zero consultation and use feedback to shape district engagement plan.	An outcome of the LCC net zero consultation was to establish a Green Living Leicestershire communities group to help support net zero messaging across Leicestershire, to collaborate and share best practice. Whilst the group is relatively new, priorities have been identified with a initial focus on parish and town councils. This work will continue into 2023/24 and will see the launch of a net zero toolkit..
New			The Council was one of the first organisations to sign up to the Leicestershire Climate & Nature Pact in March. The pact recognises the need to act quickly to reduce carbon emissions to net zero, adapt to the impacts of climate change and halt ecological decline. The core requirements are science and urgency, mitigation, adaptation, nature, finance and collaboration
New			Carbon Literacy and Net Zero training was rolled out across the Council in March and will form part of Members induction.

APPENDIX TWO

Members have requested that officers consider how they could report the impact of action taken on carbon emissions. This Appendix provides an update on the work undertaken to date.

1. EMISSIONS MEASUREMENT

Measuring emissions is highly complex. At a simple level, usage data can be converted to emissions by applying UK Government Department for Energy Security and Net Zero (DESNZ) carbon emission factors.

Greenhouse gas emissions are divided into difference scopes:

- Scope 1 – the emissions that the council makes directly
 - e.g. running boilers and vehicles
- Scope 2 – the emissions that the council makes indirectly
 - e.g. electricity to heat or power buildings
- Scope 3 – the most complex, the emissions that the council is indirectly responsible for up and down its value chain
 - e.g. leased assets, buying products from its suppliers

Greenhouse gas emissions are usually reported in the unit of “CO_{2e}” which is an abbreviation for “carbon dioxide equivalent”. It is recognised as the standard unit to measure and compare emissions from greenhouse gases based on how severely they contribute to global warming. Metrics for CO_{2e} show how much a gas would contribute to global warming if it were carbon dioxide, which is estimated to account for 80% of emissions on average in recent years.

It should be noted that in the future, emissions reporting may expand to report on more categories which may result in an increase in reported emissions at total level but actually reflect an improvement on prior year on a like-for-like basis.

At the Council, an example would be that the Council’s property portfolio could change through acquisition or sale impacting utility usage; but a reduction in usage could also be due to the change to a more efficient, lower carbon heating system.

The aim is to increase awareness of our greenhouse gas emissions, to use data to help influence decision making and to improve emissions reporting.

As data collection is improved, Scope 3 emissions need to be further considered.

Scope 1	Scope 2	Scope 3
Fuel combustion Company vehicles Fugitive emissions	Purchased electricity, heat and steam	Purchased goods and services Business travel Employee commuting Waste disposal Use of sold products Transportation and distribution (up- and downstream) Investments Leased assets and franchises

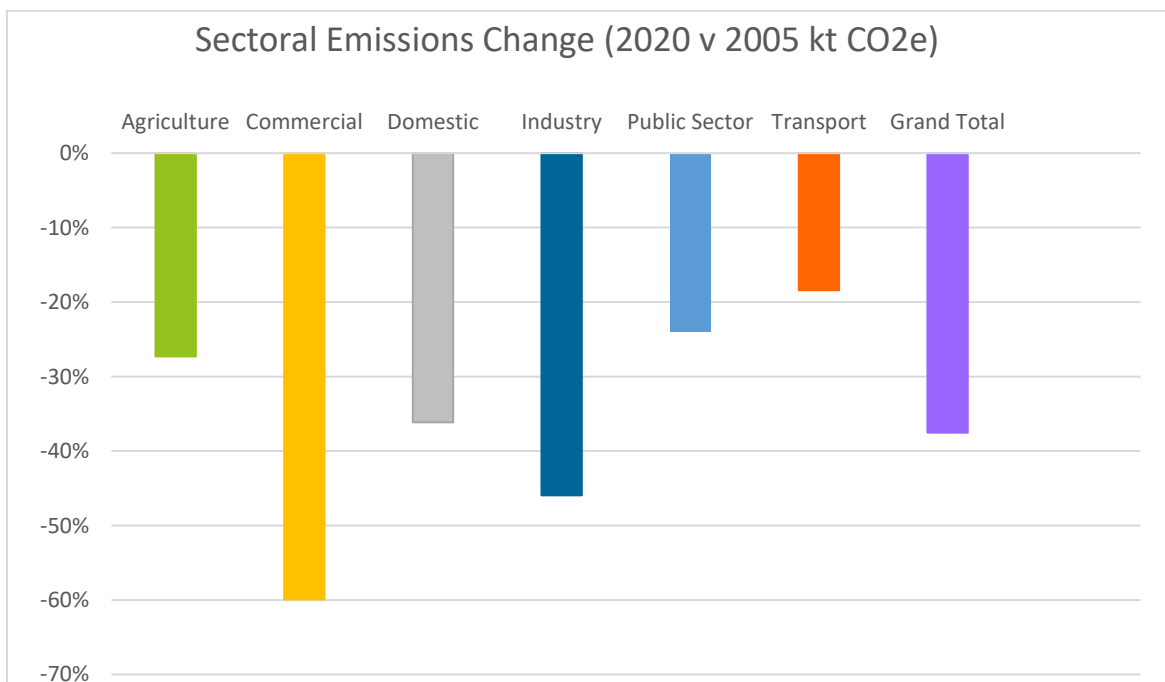
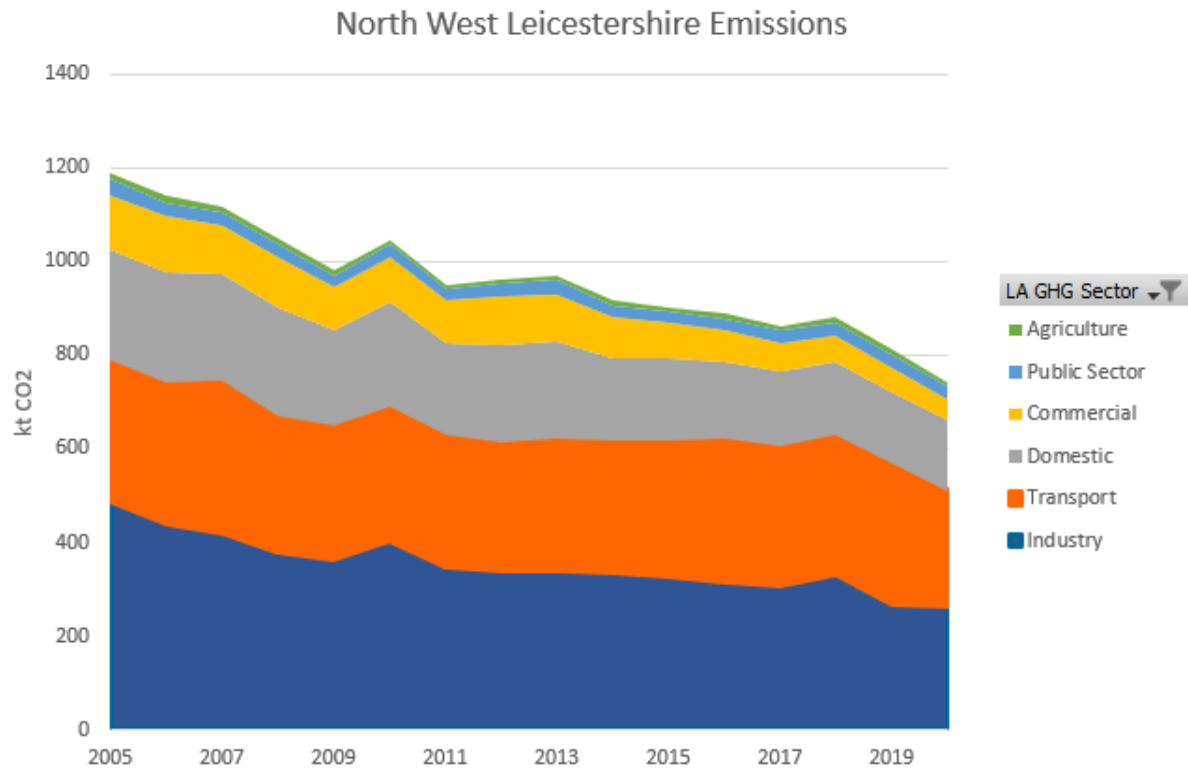
2. DISTRICT EMISSIONS

The Department for Energy Security and Net Zero (DESNZ, formerly BEIS) produces local authority territorial carbon emission estimates data released annually each summer. This data is produced two years in arrears, for example, 2021 carbon data will be published in 2023, and is based on territorial CO₂ emissions, those that occur within the district's borders.

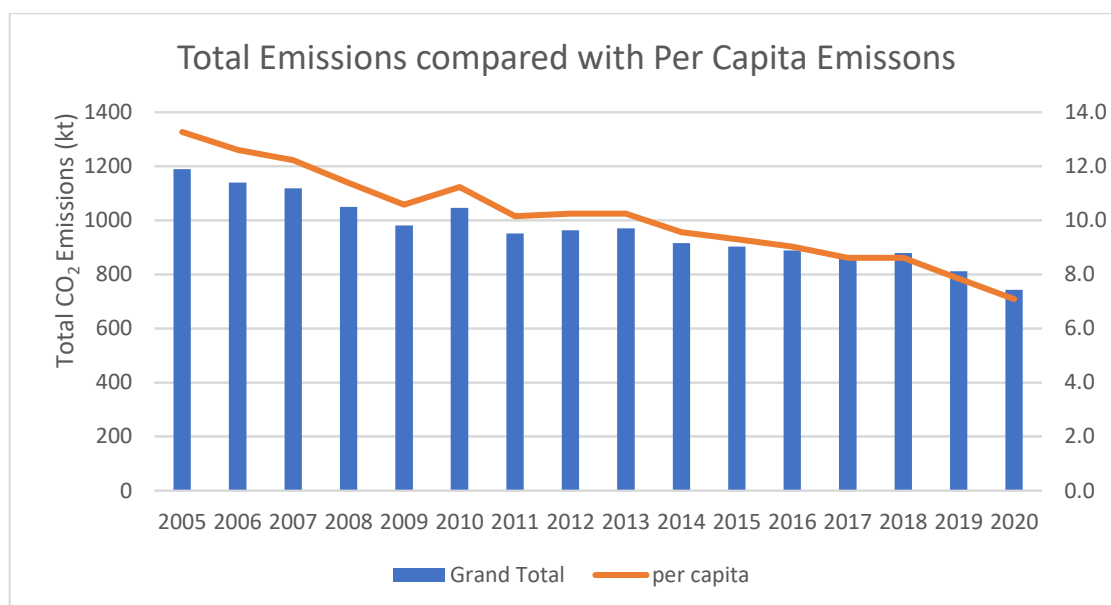
These statistics provide the most reliable and consistent breakdown of CO_{2e} emissions across the country using nationally available datasets going back to 2005. (Source: [UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2020 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2020)).

Each year, the intention is that North West Leicestershire district emissions will be assessed against our 2050 target to assess whether carbon reduction is 'on track' using the dataset that DESNZ publishes of emissions within the scope of Local Authorities. The data used excludes emissions that Local Authorities do not have direct influence over – for example, transport motorway emissions are removed.

The data is split by sector and the charts below illustrates the changes between 2005-2020.



Adding in population data indicates that the reduction per capita is improving at a similar rate over recent years.



A key driver of the reduction is the decrease in use of coal for electricity generation.

3. COUNCIL EMISSIONS

3.1. Overview

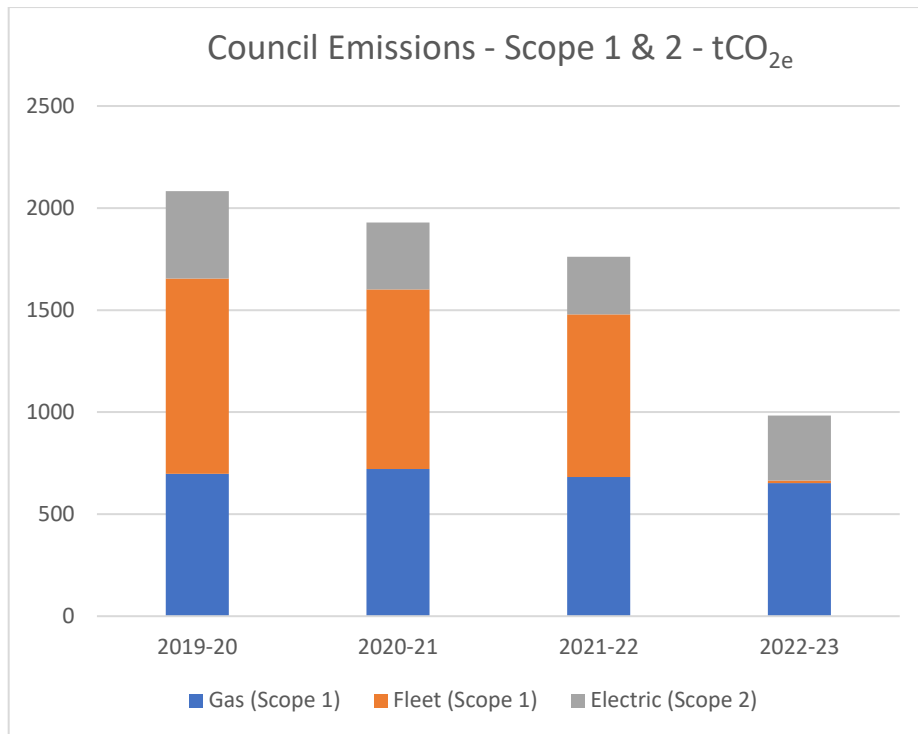
Local Partnerships has developed a greenhouse gas accounting tool to help councils report emissions, based on the DESNZ conversion factors. It is the tool that the Council has selected to report. The Council's reporting has been completed for the main scope 1 (gas, fleet fuel) and scope 2 (electricity) elements over the last four financial years.

Usage data for utilities has been sourced from the Council's invoices and fleet data has been sourced from fuel systems. Leisure Centre (LC) usage has been excluded from this data as Hermitage LC and Ashby LC & Lido moved to Everyone Active during 2019. Hermitage LC closed in 2022 and Whitwick and Coalville Leisure Centre opened. This reporting will be a future development under Scope 3.

Summary of emissions status:

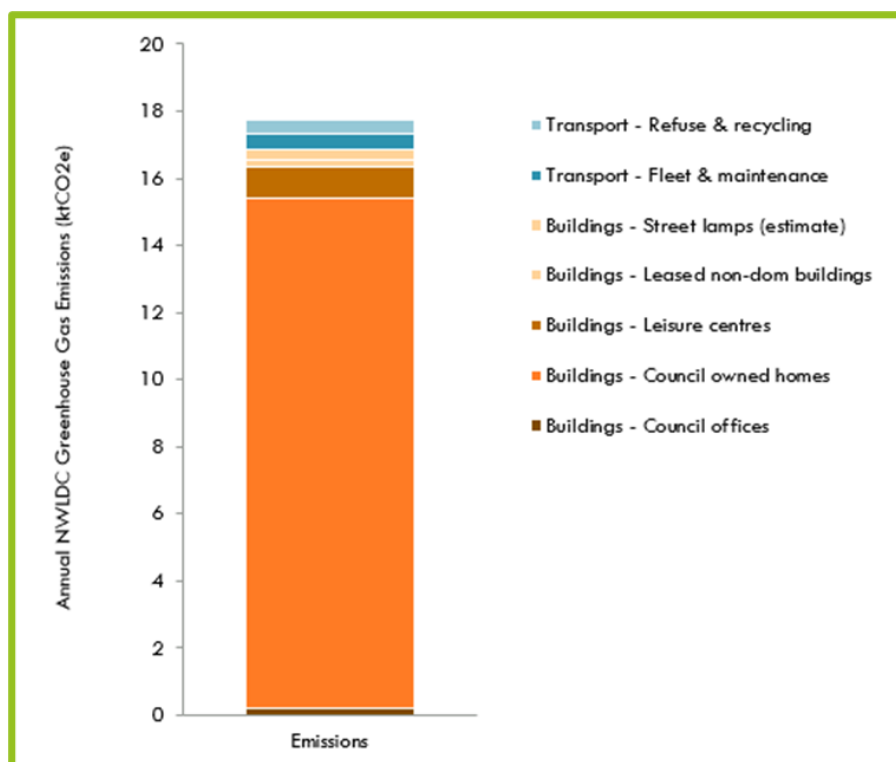
GHG emissions tCO2e	Sector	2022-23	2021-22	% Change 22/23 v 21/22	2020-21	% Change 21/22 v 20/21	2019-20	% Change 20/21 v 19/20	% Change 22/23 v 19/20	Difference tCO2e 22/23 v 19/20
Scope 1 - Direct Emissions										
Gas	Buildings	651.52	681.4	-4.4%	720.5	-5.4%	698.1	3.2%	-6.7%	-46.6
Diesel, HVO*	Fleet vehicles	13.4	797.7	-98.3%	880.8	-9.4%	955.8	-7.8%	-98.6%	-942.3
Scope 2 - Energy indirect										
Purchased electricity	Buildings	317.6	282.0	12.6%	327.2	-13.8%	429.6	-23.8%	-26.1%	-112.0
Total Emissions		982.6	1761.2	-44.2%	1928.4	-8.7%	2083.5	-7.4%	-52.8%	-1100.9

It is recognised that Covid will have impacted usage both positively and negatively during 2020/21 and 2021/22.



3.2. Buildings

The Council's zero carbon roadmap clearly identifies the importance of buildings. The chart below reflects the impact of emissions and shows the scale of the impact of housing (scope 3 emissions: the council owns the buildings but does not operate them).



Source: Zero Carbon Roadmap, Etude, Baseline year 2016

3.2.1. Energy Performance Certificate (EPC)

Buildings are rated on their energy performance and are issued an “energy performance certificate”, or “EPC”. Behind an EPC grading is a “SAP” rating, a “standard assessment procedure”.



EPC calculations consider the amount of energy used by tracing potential sources of energy loss – for example, to get a good rating, the floors, walls and roof should have good insulation so the heat remains within the building.

The SAP methodology is used by government to assess and compare the energy and environmental performance of buildings. The SAP framework was updated in summer 2022 to reflect the updated Building Regulations Part L and incorporated various changes to the methodology including updated CO_{2e} emissions. This will impact the estimated emissions when some buildings are re-assessed. As EPC are valid for ten years, there will be some lag in the data.

As the energy efficiency ratings of the Council’s own property portfolio improves, there will be emissions saving, however, this will vary on the type of works undertaken and the specific building, This will be impacted by how the occupant of the building operates, and the Council only has access to the data for the buildings it occupies.

The Council can, however, report an estimated before/after status on any improvement works, based on the EPC rating of each building,

Further work is required, together with Property Services and Asset Management, to report on the energy efficiency of the Council’s entire building portfolio across both social housing and commercial operation.

3.2.2. Commercial Properties

Below is a summary of the current commercial property portfolio EPCs. These are a mix of ages and were completed under both the regulatory criteria at the time of the assessment.

EPC	Number of EPCs	Annual estimated tCO _{2e}
-	7	78.0
B	4	64.4
C	17	148.8
D	36	454.1
E	20	283.4
F	4	7.2
G	5	221.1
tbc	1	
Grand Total	94	1257.0

Nine commercial properties have recently had new EPC certificates which report an estimated change in emissions from 50.0 tCO₂e to 18.2 tCO₂e, a saving of 31.8 tCO₂e under the new assessment criteria.

The Council's offices and Stenson House are classified as public buildings and together fall under a single display energy certificate (DEC) rating of D with an estimated per year of 256 tCO₂e.

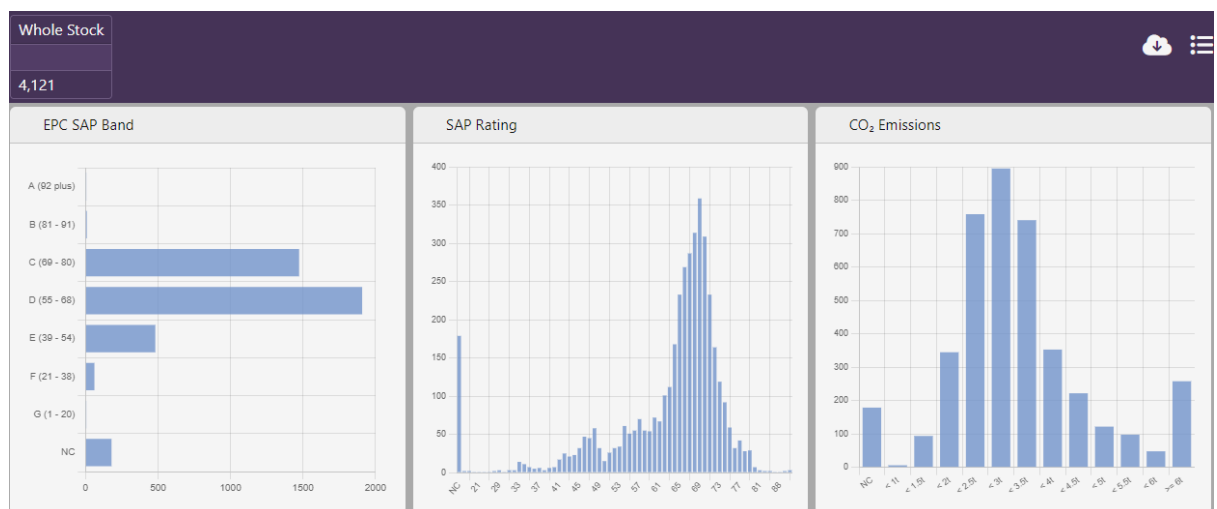
In terms of former sites, when Hermitage Leisure Centre was demolished - 95% of the waste was recycled versus the industry standard 80%.

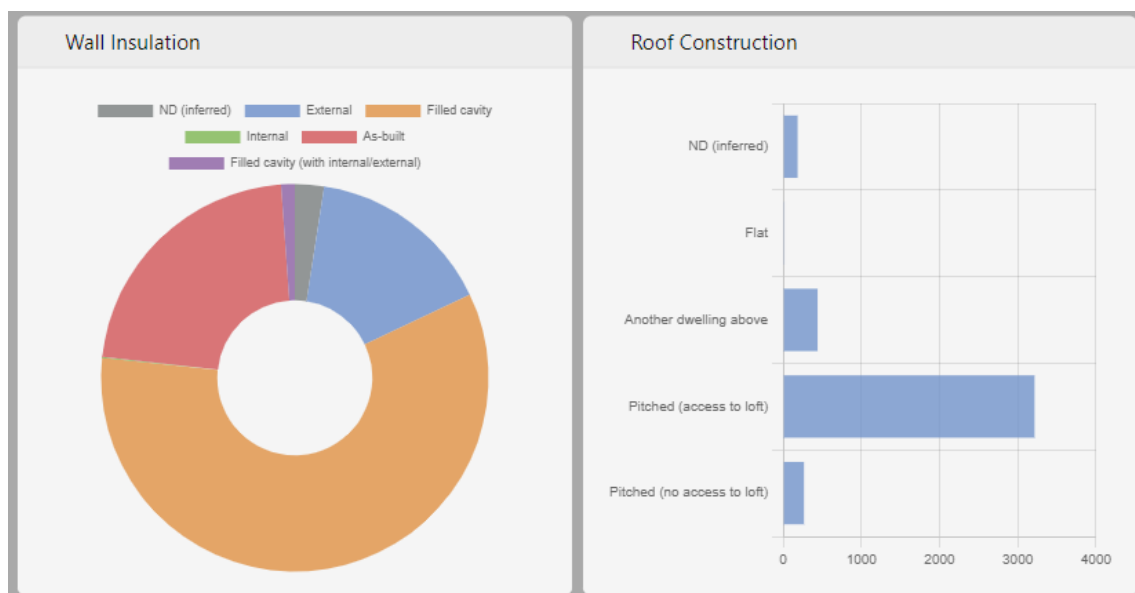
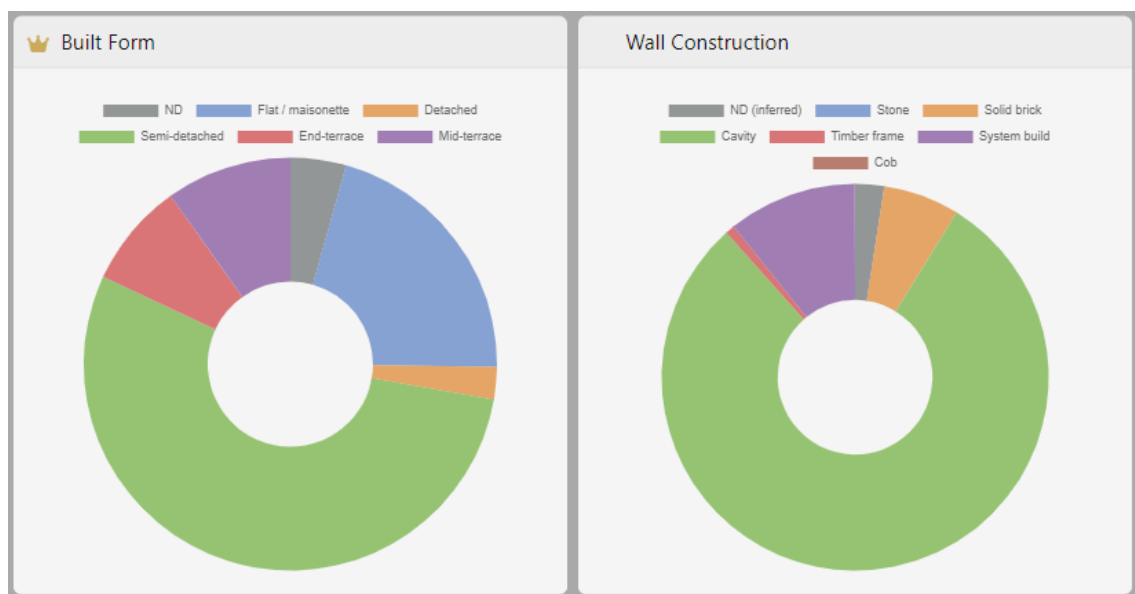
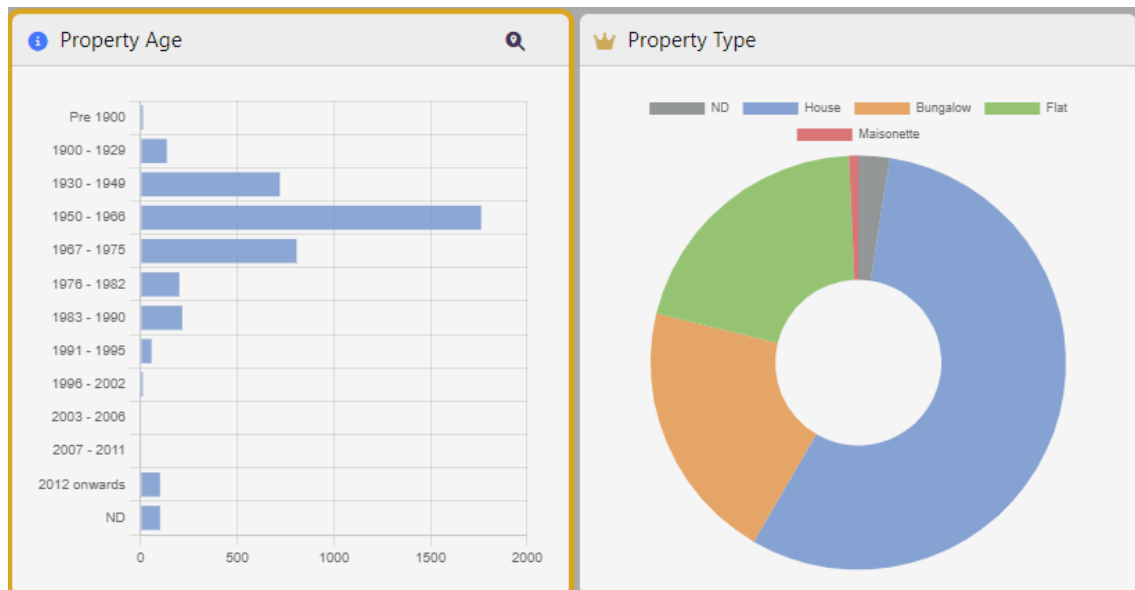
3.2.3. Housing (HRA) Properties

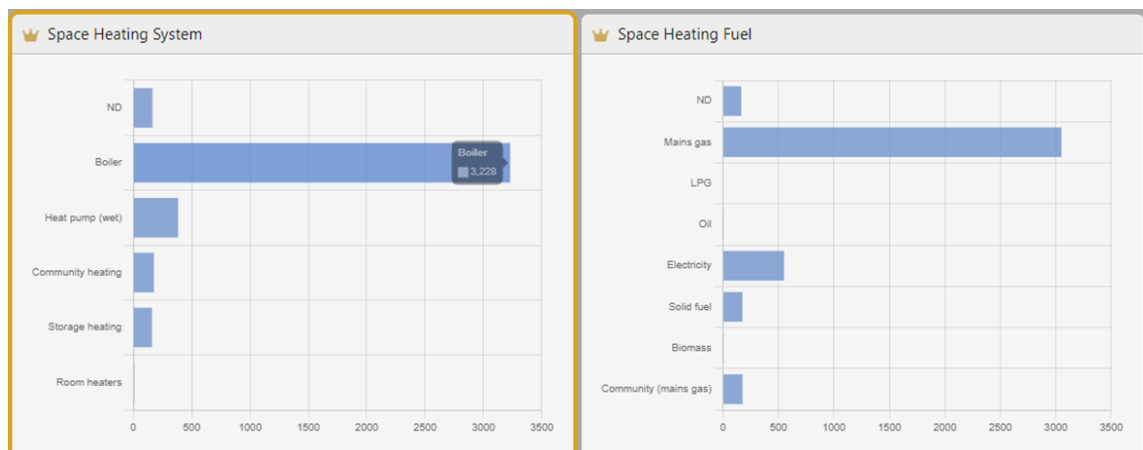
Housing has recently implemented a new intelligent energy performance management software (SAVA). The system will enable a full analysis of the housing stock to be completed and assess the current housing stock that is below an EPC of C, with the worst energy performing assets identified as high priority.

Some examples of the outputs the analysis graphics are shown below, including:

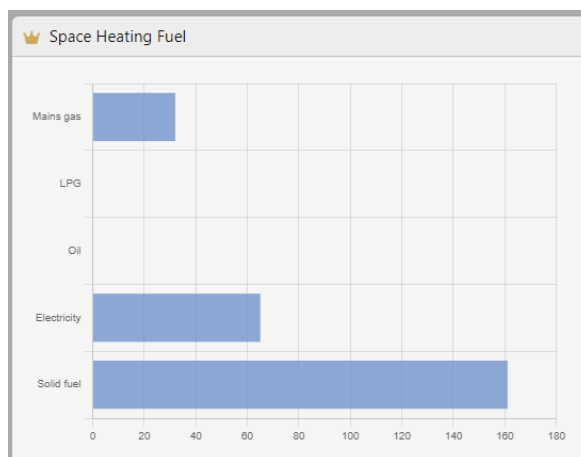
- EPC rating
- SAP rating
- CO₂ emissions
- By property age and type
- By build form, wall construction, wall insulation and roof construction
- By space heating system and space heating fuel







The system has the capability to analyse the results within specific sections, for example, looking at the properties where the CO₂ is greater than six tonnes, replacing solid fuel heating stands out for 160 properties. This software will be invaluable to target and prioritise improvements across the housing portfolio.



3.3. EV Charging Summary

There are now six EV charging points installations across the Council's car parks. Usage has been growing, although since the charging price increase in January 2023, there has been a reduction in usage. This will continue to be monitored.

The data below is a summary from the usage data. The CO_{2e} savings quoted are based on the assumption of standard electricity, not from a renewal source.

Financial Year	No. of Charges	% Change v PY	Sum of kWh Used	% Change v PY	Sum of tCO _{2e} saved	% Change
2019-2020	297		5285		2.96	
2020-2021	141	-53%	2029	-62%	1.14	-62%
2021-2022	1158	721%	16361	706%	9.16	706%
2022-2023	2577	123%	44989	175%	25.19	175%
Grand Total	4173		68664		38.45	

3.4. Recycle more

3.4.1. Recycling

In March 2023, Defra confirmed the council's household recycling rate for 2021-22 was 46.6%, the highest of all councils in Leicestershire, and the eighth highest in the East Midlands region. The increase of the recycling rate compared to 2020-21 was 4.1% percentage points, the eighteenth highest increase in England.

The recycling rate for 2022-2023 and the amount of residual waste collected per household will not be confirmed by Defra until early in 2024. However, referring to internal data held by Waste Services, the recycling rate compared to 2021-22 is predicted to fall to approximately 43.01%. This is largely as a result of 1,828 fewer tonnes of garden waste collected compared to the prior year, due to the extreme heat during summer 2022.

3.4.2. Residual / Black bin waste

In 2022/23, 22,250 tonnes of black bin household waste were collected. Compared to prior year this is a reduction of 2005 tonnes or 8%. At household level, it equates to a reduction of 41.9 kgs from 539 kgs in 2020-21 to 497.1 kgs in 2021-22, the largest decrease amongst all councils in Leicestershire.

The method of waste disposal is changing, moving away from landfill to incineration.

Year	Waste type	Incineration	Landfill	Refuse Derived Fuel *
2022-23	Household residual waste	82.01%	17.99%	0.00%
2021-22	Household residual waste	65.81%	30.08%	4.11%

- Fuel produced from waste including household residual waste, commercial waste or industrial waste used as a fuel in cement kilns, replacing fossil fuels

The carbon impact of disposing of household residual waste at landfill is higher than incineration. Per tonne of household residual waste, landfill disposal has a carbon factor of 451.82 kg CO_{2e}, versus 382.30 kg CO_{2e} when it is incinerated. However, to reduce the emissions associated with the collection and disposal of household residual waste, ultimately less needs to go in the black bin, through both prevention of the waste, and

maximising the opportunities through the recycling of materials, composting of green waste and anaerobic digestion of food waste.

3.4.3. Food Waste

The weekly food waste trial started in November 2019 to 2000 households and was extended in Q3 2020 to a further 2000 households, providing the service to 4,000 households. The food waste is sent to an anaerobic digestion facility in Atherstone, where it is turned into biogas, which is used to generate electricity and heat. It also produces a bio-fertiliser for use in farming.

The tonnages collected are converted to emissions savings based on a conversion rate provided by the recognised body WRAP (Waste and Resources Action Programme).

Financial Year	Tonnage Food Waste	Sum of tCO _{2e} saved	% v PY	Change
Nov 2019- March 2021	138	104		
2021-2022	207	155	50%	
2022-2023	204	153	-1%	
Grand Total	549	412		

In autumn 2022, a communications campaign was undertaken to encourage households to use the service which resulted in increased participation and a 24% increase in tonnage collected.

During 2022-23, feedback via a survey was obtained from residents participating in the food waste collection trial. It found 95% of respondents would continue to recycle their food waste beyond the trial, and 61% respondents saw a reduction in their black bin waste as a result of recycling their food waste.

The food waste collection trial will continue until further confirmation is received from the government and DEFRA regarding funding arrangements, which will be made available to councils to provide district-wide collections of food waste from households.

Food waste collections are in place throughout all Council depots, Whitwick Business Centre and the Customer Centre, ensuring the Council is leading by example, maximising recycling opportunities throughout the organisation.

3.4.4. Carbon Calculator

A carbon calculator has been developed working with an environment consultant, Frith Resource Management. It is designed to measure the greenhouse gas impacts of all waste and recycling materials collected, transported and disposed by the council. This includes all material streams collected from households and commercial premises.

This data is currently being validated and reporting is being developed.

The greenhouse gas impacts will reinforce the importance of recycling, the composting of garden waste, and the aerobic digestion of food waste. All of these collections support the reduction of black bin waste.