

CABINET 19TH DECEMBER 2019 UPDATE ON CARBON FOOTPRINT BASELINE

Cabinet Member(s): Cllr Simon Clist and Cllr Luke Taylor.

Responsible Officer: Andrew Busby, Group Manager for Corporate Property and Commercial Assets.

Reason for Report: To provide Members with the results of the Carbon Footprint exercise for the Council's operational activities. To provide an overview of areas that we can control and guide, this will assist the Council to become carbon neutral by 2030.

RECOMMENDATION: To note a Carbon Emissions Baseline figure and to consider options provided to reduce the councils Carbon Footprint and to forward to the Environmental PDG to follow up.

Financial Implications: The direct financial implication associated with this report are the costs associated with engaging the expertise of the University of Exeter, at an initial cost of circa £6k, a further £8k per annum to become a member of the South West Energy and Environment Group (SWEEG), and for future emission calculations. There will also be costs associated with the options to reduce our carbon footprint.

Legal Implications: None directly arising, but there will be implications arising from projects, plans and decisions brought forward to deliver progress on cutting our carbon footprint. Those implications will be considered at that time.

Risk Assessment: If the Council does not establish its baseline it will not be in a position to measure its progress towards being carbon-neutral by the target date of 2030.

Equality Impact Assessment: There are no equality implications associated with this report. The options provided will need an Equality Impact assessment however this will be considered in a future reports.

Relationship to Corporate Plan: Environment – Reducing our carbon footprint.

Impact on Climate Change: Full council declared a Climate Emergency and as part of that commitment the Council agreed to produce a carbon footprint baseline. The advice that we have used to determine our carbon footprint is the Environmental reporting guidelines published by Chapter 3, HM Government in March 2019. The 2018 UK Government GHG Conversion Factors for Company Reporting (Version 1.01) were used in these calculations. This report links to a background paper that lists some of the Energy Saving Measures (ECM's) already implemented by the Council to help reduce its carbon footprint, reduce dependency on fossil fuels and utilise renewable energy sources where sustainable. In order for the Council to achieve being Carbon Neutral by 2030 further measures will need to be taken.

1 Introduction:

Following the Council's Declaration of a Climate Emergency and the commitment to produce an accurate carbon footprint for the Council's activities, this report outlines the results of the Carbon Baseline work. This was a complex piece of work that and it was vital that it be performed accurately as it will create a baseline against which the Council will be measuring our journey towards carbon neutrality. The Council engaged with other local authorities to establish a joined up approach and Exeter University have been commissioned to assist us with this piece of work.

- 1.1 The Council has declared a climate emergency and aims to become carbon neutral by 2030. Carbon neutrality is a term used to describe the actions that organisations, businesses and individuals can take to remove as much carbon dioxide from the atmosphere as each puts in to it. The overall goal of carbon neutrality is to achieve a zero carbon footprint. To become carbon neutral we needed to accurately measure our carbon footprint and create a baseline against which future changes can be measured. The assessment needs to establish a baseline from which to measure the reductions that we plan to make, and make informed recommendations to members.
- 1.2 Following the recent climate change declaration by councils across Devon, there are now two emerging work streams; an internal organisation focus on reducing CO2 emissions to (net) zero; and the wider agenda looking at reducing emissions across the whole Mid Devon area. Clearly, the first of these is much more of a process that a) we can manage/monitor/influence; and b) that we can control to a significant degree, as it relates to our own assets and operational base. For the wider piece linked to the whole of the Mid Devon area achieving net zero emissions, this is work that DCC will be initiating linked to baselining work being undertaken for the whole county.
- 1.3 The definition of a carbon footprint is the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization, or community. A carbon footprint is measured in tonnes of carbon dioxide equivalent (tCO₂e) and CO₂e is calculated by multiplying the emissions of each of the greenhouse gases (GHG) by its 100 year global warming potential (GWP).
- 1.4 Having a net zero carbon footprint, refers to achieving net zero carbon dioxide emissions by balancing carbon emissions with carbon removal (often through carbon offsetting) or simply eliminating carbon emissions altogether (the transition to a post-carbon economy). It is used in the context of carbon dioxide-releasing processes associated with transportation, energy production, agriculture and commercial/industrial processes.
- 1.5 The Council was recently recognised at a South West Energy Efficiency Awards event; the award press release is attached as Annex A.
- 1.6 The Council has an existing Energy Saving Performance contract and in the first five years, the improvements implemented for Mid Devon generated substantial energy and carbon savings - 3,975,431 Kilowatt-hours (kWh) in electricity and a 1,854,450 kWh saving in gas, providing an impressive total of 5,829,881 kWh saved. This has seen the council save a third on its annual energy expenditure -

approximately £95,000. The council has also benefitted from a reduction in maintenance costs and the cost associated with replacing ageing equipment, helping to free up budgets.

Project results

- A range of energy efficiency measures installed across different sites
- 5,829,881 kWh saved in the first five years
- Approximately £95,000 saved on energy bills per year

2.0 Operational scopes – Annex B

The baseline exercise details three scopes of reporting (Scope 1, 2 and 3 emissions)

- Scope 1 (Direct emissions): Emissions from activities owned or controlled (as previously defined in organisational boundary) by our organisation that release emissions into the atmosphere.
- Scope 2 (Energy indirect): Emissions released into the atmosphere associated with our consumption of purchased electricity, heat, steam and cooling.
- Scope 3 (Other indirect): Emissions that are a consequence of our actions, which occur at sources which we do not own or control and which are not classed as scope 2 emissions.

3.0 Establishing the Baseline:

In order to accurately establish the baseline, the Council commissioned expert advice and assistance from the University of Exeter. Researchers are familiar with the national guidelines and the Council have joined other District Councils to have a consistent approach on the scopes where possible, the scope of work includes but is not limited to.

- Defining boundaries and what is in/out of scope
- Gathering data
- Analysing data
- Spreadsheet creation
- Report writing

Note: We were the first of the group to establish our baseline data.

To establish the carbon footprint we have followed five stages:

3.1 Stage 1 - Defining the boundaries:

Scope 1 & 2 emissions: We are clear on what is in and out of scope and our assumptions will therefore need to be clearly stated.

3.2 Stage 2 - Gathering data:

This is data that we are collecting; we need to identify and collate, much of which will involve identifying our property portfolio, the energy consumption

from these premises, plus business mileage etc. Gathering data for scope 3 emissions is more complex and time consuming. The University has guided us on the data requirements and the appropriateness of any assumptions that we have to make.

3.3 Stage 3 - Analysing data:

This stage will involve the use of data conversion factors to ensure that we have our data in the correct format to publish in tonnes of CO₂ equivalent. The University has produced tables and graphs using the data collected that is detailed within this report.

3.4 Stage 4 - Spreadsheet creation:

The University has created and formatted a spreadsheet used with other authorities for capturing our carbon emissions and calculate the conversion factors that are relevant to each type of emissions and in detail measured in tCO₂e are shown in the inventory below. The full Annex C can be found electronically.

3.5 Stage 5 - Report writing:

The report is stage 5 where we can start to interpret the data and identify where we can have the greatest impact. We can consider phasing mitigations and adaptations to enable discussions on what we can do to aim for carbon neutrality by 2030.

4.0 The results of Scope 1:

Scope 1 includes four emission categories. The assumptions made for each of these were as follows:

4.1 Stationary Combustion: Emissions associated with the combustion of fuels in stationary equipment (typically boilers in buildings). This includes all owned buildings including leased out buildings as these are on an Operating Lease. Calculations were undertaken following an information hierarchy with consumption or metered data (in some cases extrapolated to give 12 months of data) being used first, or if this was unknown to use area based benchmark data. The emissions from Council Owned housing has been taken to be a Scope 1/2 emission as it is assumed they are let on an "operating lease". The Council owned housing makes up 38.8% of our overall Carbon Baseline. Emissions were calculated based on main heating fuel together with national average energy consumption per dwelling.

4.2 Owned Transport: Emissions associated with mobile equipment, typically transport equipment. The calculation is based on provided fuel consumption (litres of diesel) for a range of departments, and also for pool cars (based on amount spent on fuel and average annual fuel prices) taken as being owned transport.

- 4.3 Process Emissions Waste collection is part of the Council's obligations – those emissions are included within transport based emissions (Owned Transport). Waste processing is a function of upper tier authorities and so are out of scope for second tier authorities. There are no other process emissions.
- 4.4 Fugitive Emissions: Emissions associated with refrigerant leaks from cooling equipment. MDDC state that this is minimal, and so has this been taken as zero in the footprint. Property services confirm that this has been minimal calculations. The results are shown in the Table below.

Table 1:

No.	Category	2018/19
SCOPE 1: Direct GHG emissions and removals		6493.3
1. Stationary combustion		5624.8
1	Letting Units	10.6
1	HRA shops (let out)	0.0
1	Residential lettings	4.1
1	Miscellaneous (let out)	17.8
1	Sports and Leisure Centres	453.4
1	Industrial Units (let out)	37.2
1	Public Conveniences	0.0
1	Council Offices/Buildings	91.0
1	Cemeterys/Chapels	3.2
1	Council Houses	5007.5
2. Owned transport		868.5
2	District Officer	8.8
2	Grounds Maintenance	62.8
2	Property Services	10.3
2	Recycling	210.2
2	Refuse	454.0
2	Street	70.4
2	Trade Waste	46.1
2	From fuel use unallocated to department	3.5
2	Pool Cars	2.5
3. Process emissions		0.0
3	Not applicable	0.0
4. Fugitive emissions		0.0
4	Not applicable	0.0

results of Scope 2:

- 5.1 Scope 2 includes one emission category, the emissions associated with purchased electricity. This includes all owned buildings including leased out buildings as these are on an Operating Lease. Calculations undertaken using the same principles as for Stationary Combustion. The results are shown on Table 2.

Table 2

No.	Category	2018/19
6.0	SCOPE 2: Energy GHG indirect emissions	3542.9
	<i>5. Electricity</i>	<i>3542.9</i>
5	Letting Units	262.3
5	HRA shops (letted out)	27.4
5	Residential lettings	5.0
5	Miscellaneous (letted out)	23.0
5	Sports and Leisure Centres	255.8
5	Industrial Units (letted out)	38.1
5	Public Conveniences	12.6
5	Council Offices/Buildings	15.0
5	Cemeterys/Chapels	0.1
5	Council Houses	2903.6

The

results of Scope 3

Scope 3 includes five emission categories.

- 6.1 Purchased material and fuel: Embedded emissions of all purchased materials and fuels. Emissions from bought goods were estimated by examining total procurement spends by the Council and allocating each line of spends to a sector within the economy (comprised mainly of goods and services). These were then multiplied by emission factors. It should be noted that these factors are from 2009 and so result in a large area of uncertainty. The government have acknowledged they are 10 years out of date; however they do not have any immediate plans to update them.
- 6.2 Transport related activities: Emissions from grey fleet, business travel and commuting. Grey fleet emissions were calculated based on mileage claims with the assumption that journeys were in an average car with unknown fuel. Business travel (road/rail/air) emissions were estimated for rail journeys based on known spend on rail travel and a generic cost per km factor. Commuting emissions were estimated based on number of staff and national annual average commuting distances, with the assumption that journeys were in an average car with unknown fuel.
- 6.3 Waste disposal: Emissions associated with disposal of the Council's own waste e.g. from its offices (as opposed to waste produced by residents). Emissions have been calculated based on the known annual waste produced by the Council at each of its sites.
- 6.4 Leased assets and franchising, outsourcing: Embedded emissions of all purchased services.
- 6.5 Sold goods and services: MDDC state that no additional sold goods or services have been identified. The results are shown in Table 3 below.

Table 3

No.	Category	2018/19
SCOPE 3: Other indirect GHG emissions		10335.7
6. Purchased material and fuel		7565.8
6	Procured Goods - Bought goods as estimated by Procurement	5594.6
6	Well to Tank Emissions fuels	1971.2
7. Transport related activities		431.7
7	Grey Fleet (business travel in own cars)	45.7
7	Business travel train	0.9
7	Commuting	385.0
8. Waste disposal		2.1
8	Recycled waste	0.6
8	Residual waste	1.5
9. Leased assets and franchising, outsourcing		2336.1
9	Procured Services - The spend on services as apposed to goods	2336.1
10. Sold Goods and Services		0.0
10	Not applicable	0.0

7.0 Net Footprint

As well as the headline gross footprint figure of 20,390 tCO₂e, the net footprint can be reported as a secondary output. This can include reductions in GHG emissions associated with the generation of renewable energy, and the purchase of carbon offsets. Neither of these was present for the period considered

8.0 Next Steps:

- 8.1 Now our Carbon Footprint Baseline is established we can begin to refine our ambitions through an Action Plan and begin to predict with some accuracy the costs associated with our plans and the period over which we will be reducing our greenhouse gas emissions and hence our carbon footprint.
- 8.2 We also need to consider a more formal structure for contributing towards the considerable workload of becoming a carbon neutral Council.
- 8.3 All Council business service plans will need to reflect climate change as a new corporate priority and should include coverage of what each service are doing to progress the climate change agenda in their area of responsibility.

9.0 Action Plan

The Council will need to show leadership in delivering a net carbon-neutral estate and to ensure visual influence.

9.1 Areas we can directly control and guide:

- Our governance to strengthen our environmental assessments in all decision making and reporting the Council has introduced an impact on climate change section within all committee reports.

- Development of carbon accounting and a carbon budget
- Carbon and wider environmental reporting embedded in our operating data/ performance management
- Minimum carbon standards on our properties
- New build & retrofit of Council housing
- Increase biodiversity and tree cover on our owned land
- Review of our fleet with our contractor partner
- LED lighting to be installed in our corporate stock
- Recycling containment in Council owned buildings
- Strategy, policy and vision alignment to ensure coherence with climate change challenge
- Carbon literacy programmes within the organisation
- Environmental commitments embedded in values/ cultural language
- Office space strategy and green travel plan
- Digitising processes (reducing paper usage) and any processes requiring internal/ paper mail
- Drive wider emissions reduction through green procurement approaches to support delivery of low carbon services (e.g. Waste and bus contracts)
- Embed carbon statements in the information we provide to suppliers
- Procurement strategies to reduce multi-deliveries
- Financial models/ incentives/ disincentives
- Appropriate taxation/ levies/incentives/subsidies/penalties
- Designing as a package, rather than individual interventions

9.2 Areas we can enable through funding

- Capital 'Investment' Programme
- Councillors' Community Chest Funds
- Services revenue budgets/ small scale contracts
- Reserves

9.3 Areas we can enable through policy:

- Facilitate move towards zero-carbon homes
- Facilitate new zero carbon generation
- Support Education and Skills Pipeline
- Closing Waste Loops – promote a Circular Economy

9.4 Areas we can influence locally:

- Town & Parish Councils
- Voluntary & Community sector groups across communities
- Businesses
- Other major organisations - Govt Agencies, NHS, Police etc.
- Safety Partnerships, Pathfinder projects
- External funding bodies
- Culture & Heritage

9.5 Areas we can influence or ask for nationally:

- Increase access to climate finance
- Social, technical, ecological programmes
- Legislation & regulation of utilities
- Transport and energy infrastructure
- Local support of supply chains
- Major skills programme
- Planning Policy & Building Regulations
- Energy/Resilient Innovation Zones
- Coalitions to address owned fleet and estate
- Mass Retrofit
- Scrappage scheme
- Electrification of rail network
- Climate levy

10.0 Conclusion

10.1 Establishing a carbon footprint is not an end in itself, it is the start of being able to identify and deliver carbon reductions. The areas that we can control and guide require review by the Environmental PDG working group to start establishing an action plan that can be brought back to Cabinet in a future meeting.

10.2 Actions can be referred to the Environmental PDG working group for prioritisation.

Contact for more Information: Andrew Busby, Group Manager for Corporate Property and Commercial Assets.

Circulation of the Report: Cllr Luke Taylor, Cllr Simon Clist, Councillor Barry Warren.

Background papers: Previous report Environment PDG 'Update on Climate Emergency Declaration' dated 6th August 2019 & 26th November 2019

ANNEX A

Mid Devon District Council ‘Commended’ in SWEE Awards

Duncan Banks, CEO of IU Energy



Mid Devon District Council were nominated by IU Energy for ‘Local Authority Body of the Year, 2019’, in recognition of their sustained energy efficiency drive into their housing stock, for which they have been recognised with a ‘Commendation’ in the 2019 South West Energy Efficiency Awards.

In previous years, the Council ordered over 1,200 Solar PV systems to be fitted to their housing stock. The income they receive from the scheme is being used to fund energy efficiency projects specifically aimed at providing renewables and reducing the carbon output from the Council’s stock of 3,000 residential properties.

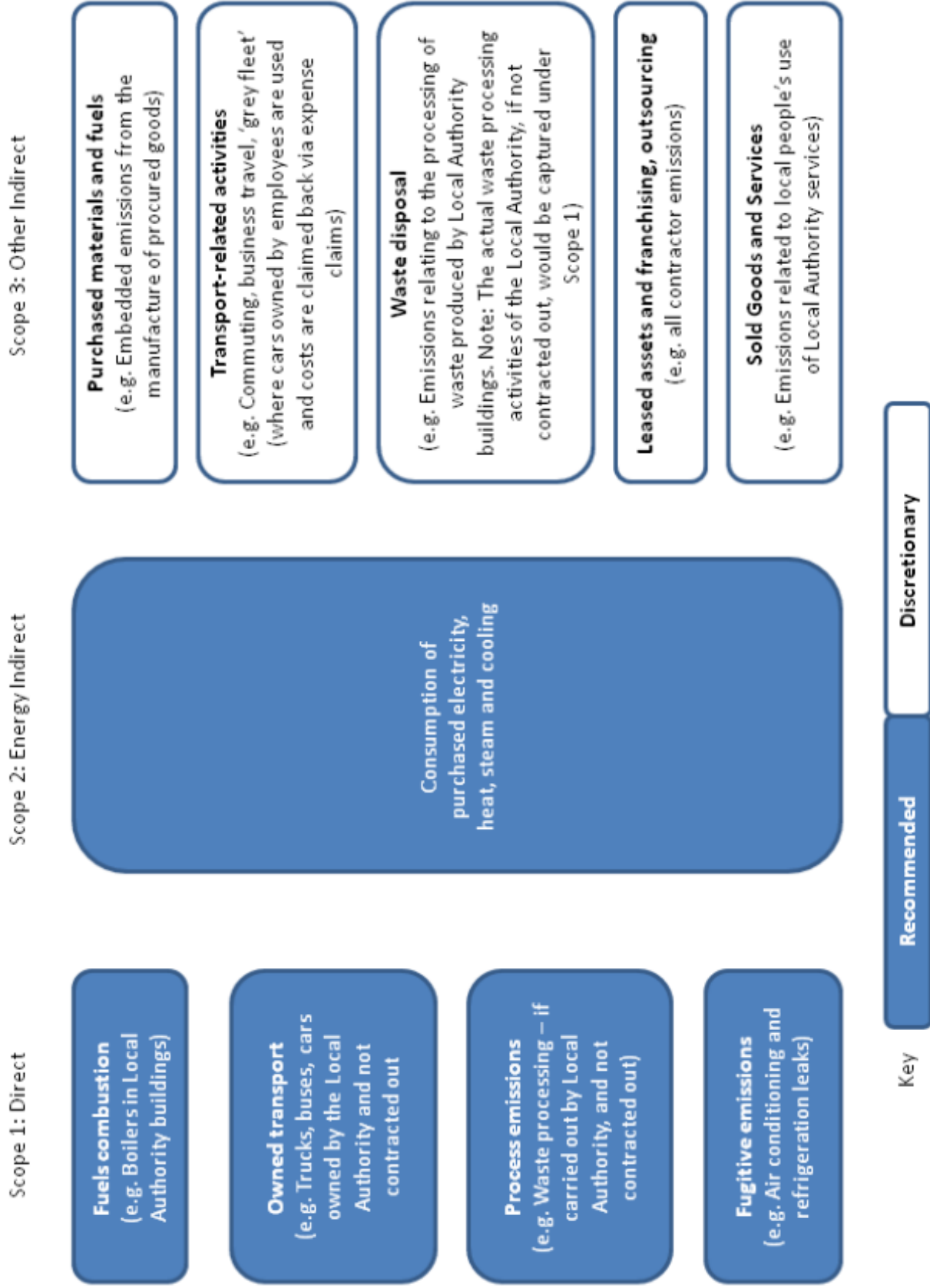
In recent years this fund has contributed to significant improvements across the Council’s estate, upgrading heating, water and insulation, using the most energy efficient methods and where appropriate, renewables. The upgrades include modern gas central heating, quantum heating, air source heat pumps, solar thermal, efficient electric systems, optimmersion, modern gas boilers, loft and cavity wall insulation.

Mid Devon Council have a clear strategy and aggressive targets to reduce energy costs to those who are least able to afford them. They generate an annual income of approximately £160,000 from Government renewable energy incentive schemes and save their tenants approximately £216,000 on their electric bills annually.

Mid Devon District Council works diligently to deliver energy savings and community support for the most vulnerable tenants. It has a clear strategy with strong leadership and effective delivery of solutions.

IU Energy is so impressed by their desire to help those who are least able to afford rising cost that we were proud to nominate them for this prestigious award.

ANNEX B:



ANNEX C

Mid Devon District Council Inventory of GHG Emissions by Scope (tCO2e)

No.	Category	2018/19	2019/20	2020/21	2021/22	2022/23
SCOPE 1: Direct GHG emissions and removals		6493.3	0.0	0.0	0.0	0.0
<i>1. Stationary combustion</i>		<i>5624.8</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
1	Letting Units	10.6	0.0	0.0	0.0	0.0
1	HRA shops (let out)	0.0	0.0	0.0	0.0	0.0
1	Residential lettings	4.1	0.0	0.0	0.0	0.0
1	Miscellaneous (let out)	17.8	0.0	0.0	0.0	0.0
1	Sports and Leisure Centres	453.4	0.0	0.0	0.0	0.0
1	Industrial Units (let out)	37.2	0.0	0.0	0.0	0.0
1	Public Conveniences	0.0	0.0	0.0	0.0	0.0
1	Council Offices/Buildings	91.0	0.0	0.0	0.0	0.0
1	Cemeterys/Chapels	3.2	0.0	0.0	0.0	0.0
1	Council Houses	5007.5	0.0	0.0	0.0	0.0
<i>2. Owned transport</i>		<i>868.5</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
2	District Officer	8.8	0.0	0.0	0.0	0.0
2	Grounds Maintenance	62.8	0.0	0.0	0.0	0.0
2	Property Services	10.3	0.0	0.0	0.0	0.0
2	Recycling	210.2	0.0	0.0	0.0	0.0
2	Refuse	454.0	0.0	0.0	0.0	0.0
2	Street	70.4	0.0	0.0	0.0	0.0
2	Trade Waste	46.1	0.0	0.0	0.0	0.0
2	From fuel use unallocated to department	3.5	0.0	0.0	0.0	0.0
2	Pool Cars	2.5	0.0	0.0	0.0	0.0
<i>3. Process emissions</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
3	Not applicable	0.0	0.0	0.0	0.0	0.0
<i>4. Fugitive emissions</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
4	Not applicable	0.0	0.0	0.0	0.0	0.0
SCOPE 2: Energy GHG indirect emissions		3542.9	0.0	0.0	0.0	0.0
<i>5. Electricity</i>		<i>3542.9</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
5	Letting Units	262.3	0.0	0.0	0.0	0.0
5	HRA shops (letted out)	27.4	0.0	0.0	0.0	0.0
5	Residential lettings	5.0	0.0	0.0	0.0	0.0
5	Miscellaneous (letted out)	23.0	0.0	0.0	0.0	0.0
5	Sports and Leisure Centres	255.8	0.0	0.0	0.0	0.0
5	Industrial Units (letted out)	38.1	0.0	0.0	0.0	0.0
5	Public Conveniences	12.6	0.0	0.0	0.0	0.0
5	Council Offices/Buildings	15.0	0.0	0.0	0.0	0.0
5	Cemeterys/Chapels	0.1	0.0	0.0	0.0	0.0
5	Council Houses	2903.6	0.0	0.0	0.0	0.0
SCOPE 3: Other indirect GHG emissions		10335.7	0.0	0.0	0.0	0.0
<i>6. Purchased material and fuel</i>		<i>7565.8</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
6	Procured Goods - Bought goods as estimated by Procurement	5594.6	0.0	0.0	0.0	0.0
6	Well to Tank Emissions fuels	1971.2	0.0	0.0	0.0	0.0
<i>7. Transport related activities</i>		<i>431.7</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
7	Grey Fleet (business travel in own cars)	45.7	0.0	0.0	0.0	0.0
7	Business travel train	0.9	0.0	0.0	0.0	0.0
7	Commuting	385.0	0.0	0.0	0.0	0.0
<i>8. Waste disposal</i>		<i>2.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
8	Recycled waste	0.6	0.0	0.0	0.0	0.0
8	Residual wate	1.5	0.0	0.0	0.0	0.0
<i>9. Leased assets and franchising, outsourcing</i>		<i>2536.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
9	Procured Services - The spend on services as apposed to goods	2336.1	0.0	0.0	0.0	0.0
<i>10. Sold Goods and Services</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
10	Not applicable	0.0	0.0	0.0	0.0	0.0
TOTAL GROSS FOOTPRINT (SCOPES 1, 2 and 3)		20371.8	0.0	0.0	0.0	0.0
<i>11. Offset Emissions</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
11	Exported renewable energy	0.0	0.0	0.0	0.0	0.0
11	Purchased carbon credits	0.0	0.0	0.0	0.0	0.0
TOTAL NET FOOTPRINT (SCOPES 1, 2 and 3 and Offset)		20371.8	0.0	0.0	0.0	0.0