



Notice of a public

Decision Session - Executive Member for Environment and Climate Change

To: Councillor Widdowson (Executive Member)

Date: Wednesday, 10 November 2021

Time: 3.00 pm

Venue: The Snow Room - Ground Floor, West Offices (G035)

AGENDA

Notice to Members – Post Decision Calling In:

Members are reminded that, should they wish to call in any item* on this agenda, notice must be given to Democratic Services by **4:00 pm on 12 November 2021**.

*With the exception of matters that have been the subject of a previous call in, require Full Council approval or are urgent, which are not subject to the call-in provisions. Any called in items will be considered by the Customer and Corporate Services Scrutiny Management Committee.

Written representations in respect of items on this agenda should be submitted to Democratic Services by **5.00 pm on 8 November 2021**.

1. **Declarations of Interest**

At this point in the meeting, the Executive Member is asked to declare:

- any personal interests not included on the Register of Interests
- any prejudicial interests or
- any disclosable pecuniary interests

which he might have in respect of business on this agenda.

2. **Minutes**

To approve and sign the minutes of the Decision Session held on 6 October 2021.

3. **Public Participation**

At this point in the meeting members of the public who have registered to speak can do so. Members of the public may speak on agenda items or on matters within the remit of the committee.

Please note that our registration deadlines have changed to 2 working days before the meeting, in order to facilitate the management of public participation at remote meetings. The deadline for registering at this meeting is **5:00pm on 8 November 2021**.

To register to speak please visit www.york.gov.uk/AttendCouncilMeetings to fill out an online registration form. If you have any questions about the registration form or the meeting, please contact the relevant Democracy Officer, on the details at the foot of the agenda.

Webcasting of Public Meetings

Please note that, subject to available resources, this public meeting will be webcast including any registered public speakers who have given their permission. The public meeting can be viewed live and on demand at www.york.gov.uk/webcasts.

During coronavirus, we've made some changes to how we're running council meetings. See our coronavirus updates (www.york.gov.uk/COVIDDemocracy) for more information on meetings and decisions.

- 4. Corporate Emissions Report** (Pages 3 - 40)
The Executive Member will consider a report which monitors progress against City of York Council's target to reduce carbon emissions from corporate activity to net-zero by 2030.
- 5. York City-wide Emissions Inventory** (Pages 41 - 54)
This report presents the Emissions Inventory for the city of York. This data will be used to monitor progress against the City of York Council ambition to achieve net zero carbon emissions for the city by 2030.
- 6. Air Quality – Annual Status Report** (Pages 55 - 74)
This report details the latest air quality monitoring results for York and progress on achieving measures in York's third Air Quality Action Plan (AQAP3) to deliver further improvements.
- 7. Urgent Business**
Any other business which the Executive Member considers urgent under the Local Government Act 1972.

Democracy Officer: Joseph Kennally
Telephone No- 01904 551573
Email- joseph.kennally@york.gov.uk

For more information about any of the following please contact the Democratic Services Officer responsible for servicing this meeting:

- Registering to speak
- Business of the meeting
- Any special arrangements
- Copies of reports and
- For receiving reports in other formats

Contact details are set out above.

This information can be provided in your own language.

我們也用您們的語言提供這個信息 (Cantonese)

এই তথ্য আপনার নিজের ভাষায় দেয়া যেতে পারে। (Bengali)

Ta informacja może być dostarczona w twoim własnym języku. (Polish)

Bu bilgiyi kendi dilinizde almanız mümkündür. (Turkish)

یہ معلومات آپ کی اپنی زبان (بولی) میں بھی مہیا کی جاسکتی ہیں۔ (Urdu)

 (01904) 551550

Coronavirus protocols for attending Committee Meetings at West Offices

If you are attending a meeting in West Offices, you must observe the following protocols.

Good ventilation is a key control point, therefore, all windows must remain open within the meeting room.

If you're displaying possible coronavirus symptoms (or anyone in your household is displaying symptoms), you should follow government guidance. You are advised not to attend your meeting at West Offices.

Testing

The Council encourages regular testing of all Officers and Members and also any members of the public in attendance at a Committee Meeting. Any members of the public attending a meeting are advised to take a test within 24 hours of attending a meeting, the result of the test should be negative, in order to attend. Test kits can be obtained by clicking on either link: [Find where to get rapid lateral flow tests - NHS \(testand-trace.nhs.uk\)](https://testand-trace.nhs.uk), or, [Order coronavirus \(COVID-19\) rapid lateral flow tests - GOV.UK \(www.gov.uk\)](https://www.gov.uk). Alternatively, if you call 119 between the hours of 7am and 11pm, you can order a testing kit over the telephone.

Guidelines for attending Meetings at West Offices

- Please do not arrive more than 10 minutes before the meeting is due to start.
- You may wish to wear a face covering to help protect those also attending.
- You should wear a face covering when entering West Offices.
- Visitors to enter West Offices by the customer entrance and Officers/Councillors to enter using the staff entrance only.
- Ensure your ID / visitors pass is clearly visible at all time.
- Regular handwashing is recommended.
- Use the touchless hand sanitiser units on entry and exit to the building and hand sanitiser within the Meeting room.
- Bring your own drink if required.
- Only use the designated toilets next to the Meeting room.

Developing symptoms whilst in West Offices

If you develop coronavirus symptoms during a Meeting, you should:

- Make your way home immediately
- Avoid the use of public transport where possible
- Follow government guidance in relation to self-isolation.

You should also:

- Advise the Meeting organiser so they can arrange to assess and carry out additional cleaning
- Do not remain in the building any longer than necessary
- Do not visit any other areas of the building before you leave

If you receive a positive test result, or if you develop any symptoms before the meeting is due to take place, **you should not attend the meeting.**

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10th November 2021

**Decision Session – Executive Member for
Environment and Climate Change**

Report of the Assistant Director of Policy and Strategy

City of York Council Corporate Emissions Report 2021

1. Summary

- 1.1 City of York Council (CYC) has set a target to reduce carbon emissions from corporate activity to net zero by 2030. An Annual Carbon Emissions Report will be produced every year to monitor progress against this target and identify areas of improvement.
- 1.2 The data collected covers the council's scope 1 and 2 emissions for 2020/21. The council's corporate emissions account for 3.8% of city-wide greenhouse gas emissions (using city-wide SCATTER data from 2018).
- 1.3 While 2020/21 represents the first year of reporting carbon emissions from our own buildings and operations, in some areas, we have data going back to 2015/16 that can be used for historical comparison.
- 1.4 The Covid-19 pandemic has caused significant changes in the way we work and this is reflected in the emissions data.
- 1.5 Based on the current available data, our fleet and gas consumption account for the majority (98.7%) of our corporate emissions.
- 1.6 Since April 2020, we now purchase 100% renewable electricity, reducing our emissions by approximately 3,800tCO₂/yr. Electricity consumption, however, still accounts for significant cost and

opportunities to reduce demand should still be considered for financial benefits.

- 1.7 The focus of our reporting is Scope 1 and 2 emissions. The reason for this is that scope 1 and 2 emissions are more directly under the control of the council, and because the carbon accounting and management options for these emissions are better developed.

2. Recommendations

2.1 The Executive Member is asked to:

- i. Approve the City of York Council Corporate Emissions Report and note the council's contribution to city-wide emissions

Reason: This report fulfils the commitment in the Council Plan to report on City of York Council's corporate emissions, using the standardised and transparent SCATTER methodology.

- ii. Approve the recommended actions in this report

Reason: Progress towards City of York Council becoming net zero carbon by 2030.

3. Annual Emissions 2020/2021

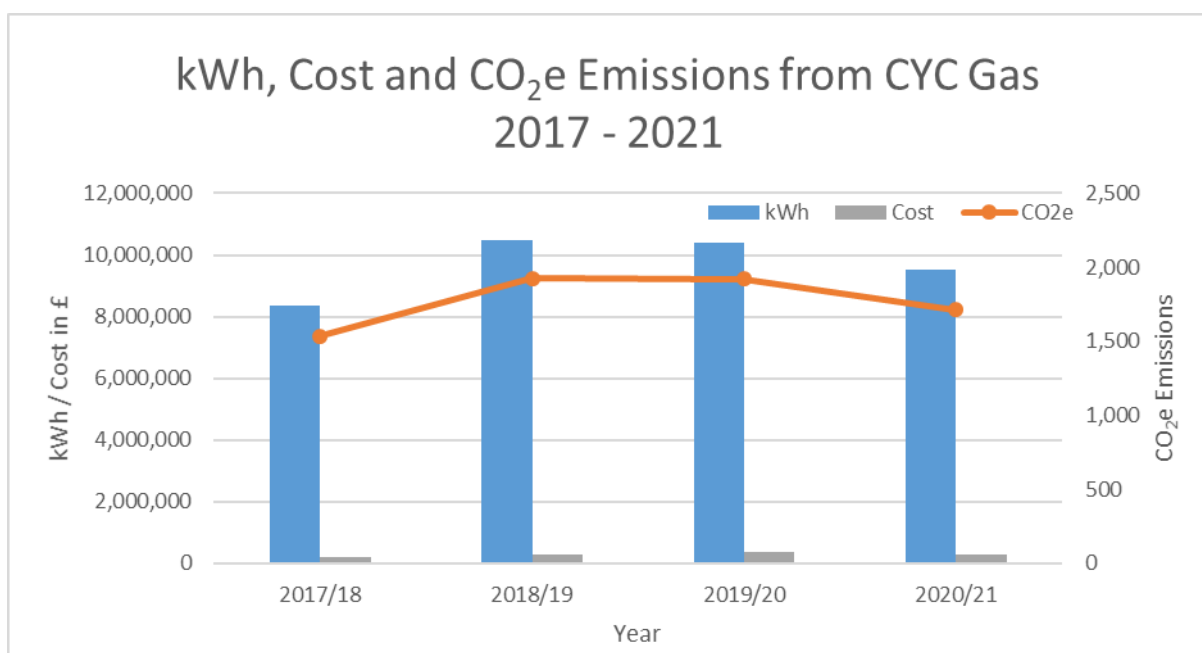
Source	Unit	Total	CO ₂ e	Cost (£)
CYC buildings – Electricity	kWh	5,407,807	-	£816,283
Street lighting – Electricity	kWh	6,011,316	-	£894,947
CYC buildings - Gas	kWh	9,518,654	1,713	£289,918
CYC buildings - Water	m ³	54,559	23	£110,957
Corporate Waste	tonnes	222	5	
Recycling		31	1	
CYC Fleet (total)		710,511	1,904	
Gasoil	ltrs	38,476	103	£699,148
Diesel		672,036	1,801	

Business travel (Total)		NA	12	
Flights		-	-	
Trains		NA	1	
Hotels		NA	2	
Car Club (total)	miles	38,750	10	£166,584
Diesel		749	0	
Unleaded		25,734	8	
Hybrid		12,066	2	
Electric		201	0	
Land use	Trees	230	-22	
Total			3,635	£2,977,837

4. Corporate Buildings

Gas

4.1 Gas use from corporate buildings are responsible for almost half (47%) of total CO₂e emissions and accounts for annual expenditure of £289,918.

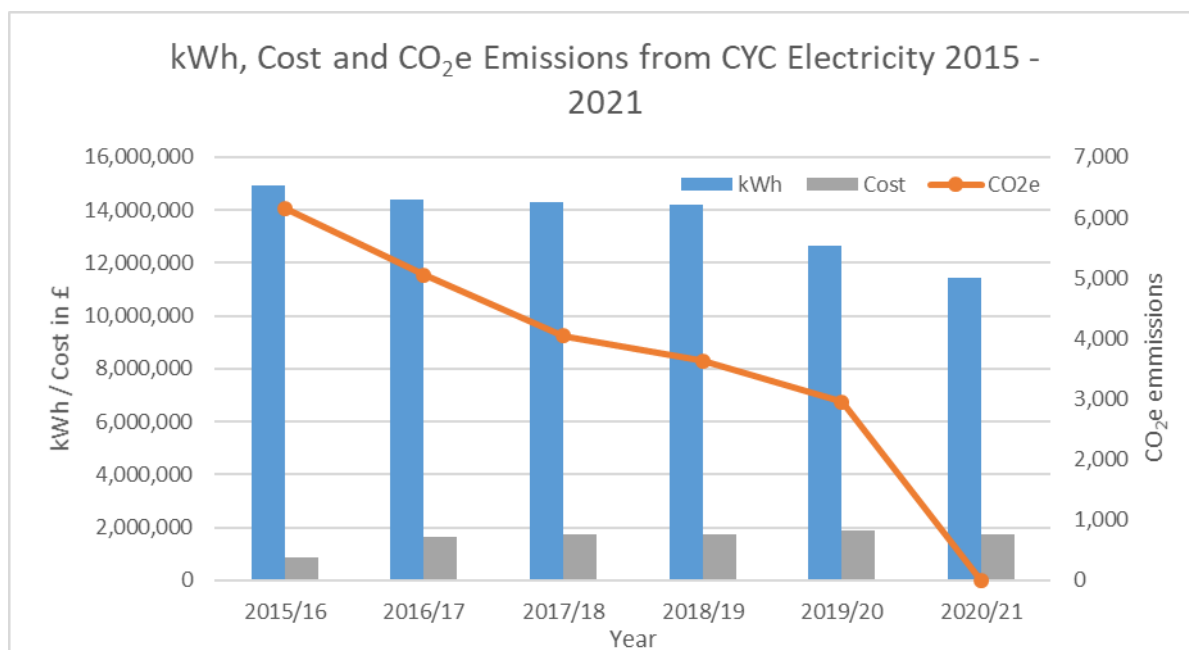


- 3.2 West Offices has consistently been the highest contributor, being responsible for 13% of total gas usage for 2020/21 at a cost of £28,631.87. A biomass boiler system is installed which can be used to generate heat and power for the building; however, this experienced faults in the previous year.
- 4.2 Although most staff were working from home during 2020/21 due to the Covid-19 pandemic, West Office had an increase in gas use (18%) from the previous year. Gas CHP has been used to replace the biomass system when this system had a fault. This has now been repaired and therefore we would expect to see gas usage reduce in the next reporting year.
- 4.3 Most other sites saw a reduction or similar levels of gas use from the previous year. Work carried out by the consultancy WSP (Annex A) has indicated that remote working has a net-positive impact on energy usage and carbon emissions but there is a seasonal variation. In some instances, remote working during the winter can increase emissions if more staff are heating their entire homes during working hours. To overcome this, an internal awareness campaign will encourage hybrid and remote workers to reduce their own emissions through simple behaviour change actions.
- 4.4 Gas usage, emissions and cost can be reduced through building efficiency improvements and transitioning to electrical heating. Asset decarbonisation plans for our highest consuming sites, and a policy of assessing low carbon solutions for all heating replacement schemes, will identify opportunities to reduce emissions.
- 4.5 Public funding is available to support decarbonisation plans and capital works that are installing low carbon solutions in public buildings. We have submitted an application to the Low Carbon Skills Fund to develop a decarbonisation plan for 8 of our corporate sites and 9 of our school sites.

Electricity

3.5 Since 2020, electricity purchased by City of York Council is from 100% renewable sources and therefore does not contribute to our annual emissions. However, electricity usage in our buildings costs £816,283.37.

4.6 Electricity consumption from buildings has decreased by 2,808,906 kWh (44%) since 2015/16. Some of this reduction is attributed to transferring Museums away from CYC to the Museums Trust, reducing the number of assets CYC is responsible for.



3.7 West Offices accounts for our highest share of our building electricity usage (29%). In 2020/21, electricity consumption at West Offices reduced by 26% on the previous year (leading to a cost decrease of 25%) likely due to fewer staff in the building as a result of Covid restrictions.

3.8 Efficiency improvements to our buildings will not impact our CO₂e emissions reporting; however, the potential for cost savings are significant. We will continue to investigate solutions such as LED

lighting, voltage optimisation, renewable generation and efficient appliances in our largest consuming sites.

- 3.9 Staff will be encouraged to reduce electricity consumption. It is anticipated that an internal behaviour change campaign could reduce electricity costs by around 10%.

5. Street Lighting

- 5.1 Street lighting accounted for 53% of total electricity use in 2020/21. The nature of street lighting means this consumption is unmetered and is estimated by our supplier based on the total number of street lamps in use.
- 5.2 Since 2015/16 estimated consumption has decreased by 11%, however costs have increased 46% to £894,946.59. Emissions associated with street lighting reduced to zero in 2020 when we switched our electricity supply to purchase 100% renewable.
- 5.3 Over the last 8 years, CYC has been working on upgrading street lighting to more efficient LED lighting. To date, around 12,000 of 19,000 lamps have been converted to LED which should lead to a reduction in consumption and cost.
- 5.4 We will confirm the information held by our electricity supplier on our unmetered street lighting supply and asset stock and request our unmetered billing is updated accordingly.

6. Water

- 5.1 Water consumption at our sites is generally low and accounts for only 0.6% of our total corporate emissions.
- 5.2 Across our corporate sites, Hazel Court, Rowntree Park and West Offices account for almost 30% of water usage.
- 5.3 Options for reducing our water use, including reclaimed grey water (water primarily from rain collection) for watering parks and flushing

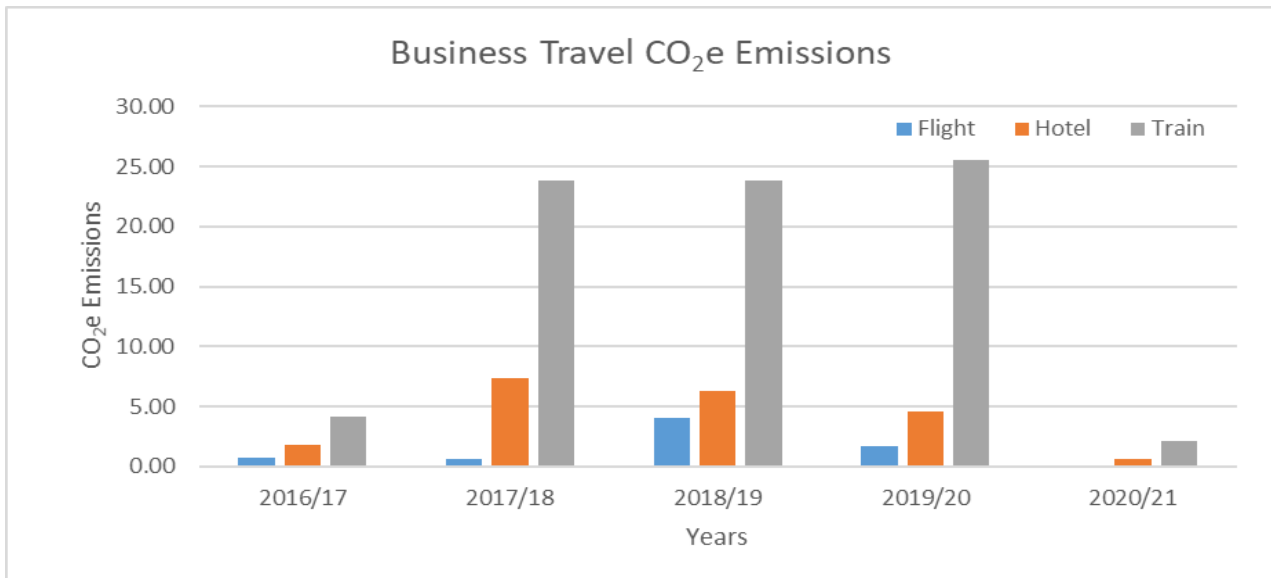
toilets, rather than fresh water are being explored. We will also continue to encourage reduced water use and education across our sites.

7. Fleet

- 6.1 The corporate fleet accounts for over half (52%) of emissions in 2020/2021.
- 6.2 In 2020, CYC developed a 4-year fleet replacement programme. As part of this plan, all combustion engine vehicles up to 3.5t will be replaced by electric vehicles. Once complete, emissions associated with our fleet are expected to reduce by around 800tCO₂e.
- 6.3 As part of the replacement programme, CYC recently obtained a new fleet for waste collection which included 2 electric vehicles and 10 vehicles with Euro 6 standard engines.
- 6.4 We are also reducing emissions and fuel costs by increasing vehicle efficiency through route planning and driver training.

8. Business Travel

- 7.1 Business travel data measures emissions linked to CYC's use of hotels, flights, and trains is also reported. There was significantly less travel around the country and abroad in 2020/21 due to Covid restrictions. Staff have been working and attending meetings remotely with technology making it possible to participate in local, national and international events without the requirement to travel.



7.2 Pre-pandemic, emissions linked to business travel, including flights and hotels has varied year on year, but accounted for an average of 32.6tCO₂/yr.

7.3 It is expected that emissions associated with business travel will increase again next year; however, the remote way of working that has been adopted shows travel is not always necessary. While recognising the benefits of in-person attendance in some situations, we will continue to promote remote event attendance where possible.

7.4 While flights are uncommon for business travel, they significantly increase corporate emissions. We will update the Business Travel Policy with more information about carbon reduction, including prioritising sustainable travel, including trains over flights, wherever possible.

9. Car Club

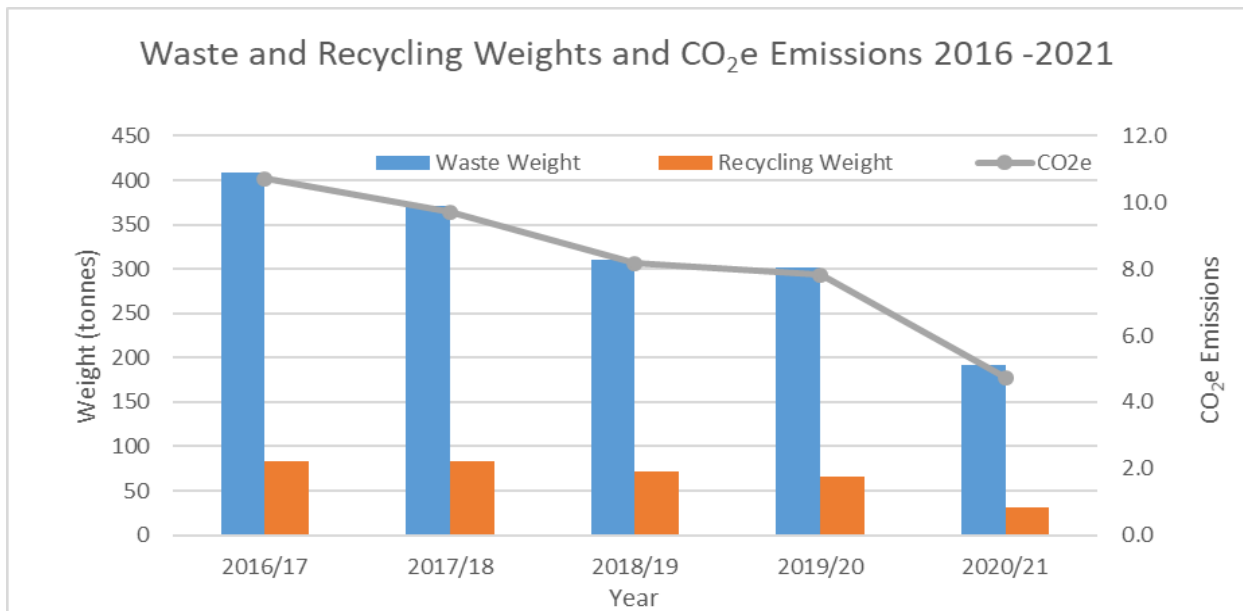
8.1 From 2013, CYC began using Enterprise Car Club pool vehicles. The fleet consists of vehicles that run on unleaded petrol, diesel, hybrid electric and full electric.

- 8.2 Between 2016/17 and 2019/20 unleaded petrol cars did the most miles each year out of all vehicles in the car club. The mileage by unleaded cars has decreased each year, coinciding with an increase in miles driven by hybrid cars. Hybrid cars emit lower levels of CO₂e emissions per mile and is therefore the preferable option over pure fossil fuel powered vehicles.
- 8.3 2020/21 saw a reduction in total miles driven, and also in emissions from all 4 types of vehicles, leading to a 70% decrease in miles and 67% decrease in CO₂e emissions from car club cars compared to 2019/2020.
- 8.4 Short journeys that were 5 miles or less accounted for over 28,000 miles driven between 2016 and 2021. CYC will continue to encourage shorter journeys that do not require a vehicle to be walked, cycled or commuted via public transport instead, if possible.
- 8.5 To reduce emissions from the fleet, we will look to increase the proportion of hybrid and electric vehicles in the car club fleet, and encourage staff to use electric and hybrid vehicles rather than petrol or diesel.

10. Waste/Recycling

- 9.1 Waste from our corporate buildings accounted for 4.7tCO₂e in 2020/21. Both waste and recycling in CYC buildings are lower than the previous 4 years due to fewer people being in offices.
- 9.2 Pre-pandemic, recycling was consistently low year-on-year with an average of 18% and dropping to its lowest in 5 years at 14% for 2020/21. Both waste and recycling weights have reduced each year between 2016/17 and 2020/21. This overall reduction in waste is positive and disposal has improved (energy is reclaimed from general waste rather than being deposited in landfill).

9.3 In the short term, promoting recycling is important but auditing the type of waste that is produced over the long term can help the council reduce waste and emissions associated with waste.



11. Procurement

10.1 Emissions associated with procured goods and services is not included in this report. However, we are working with the York & North Yorkshire LEP to calculate our Scope 3 emissions.

10.2 As part of this work, a template sustainable procurement policy has been produced (Annex B – Section 4.3). This template will be considered in the next review of our procurement policy.

12. Actions

11.1 This report provides several actions for reducing our corporate emissions. The Carbon Reduction team will work across the council and with other service areas to:

- Produce a decarbonisation plan for our largest emitting sites to identify improvements in heat generation, building fabric and energy efficiency and renewable generation

- Adopt a policy to consider low carbon heating solutions for all system replacements
- Develop and promote a behaviour change campaign to reduce emissions associated with staff activity
- Promote remote event attendance where possible
- Update the Business Travel Policy with more information about carbon reduction, including prioritising sustainable travel including trains over flights, wherever possible
- Increase the proportion of hybrid and electric vehicles in the car club fleet and encourage staff to use electric and hybrid vehicles
- Review the corporate waste contract and undertake a waste audit
- Incorporate sustainable procurement and circular economy principles into our purchasing decisions
- Work with YNY LEP to develop a methodology to calculate Scope 3 emissions associated with council activity

13. Council Plan

12.1 This report satisfies the commitment within The Council Plan to record data on CO₂ emissions from council buildings and operations as part of the “greener and cleaner city” priority outcome.

14. Implications

- **Financial** - *The report identifies a number of actions that the carbon reduction team propose to undertake over the coming year. The majority require officer time and can be contained within agreed budgets. There may be occasions where there may need to be a trade-off between cost and emissions. For example the cost of low carbon heating systems tend to be more expensive than traditional systems. It will be important to consider whole life costing to ensure that savings in running costs are included in the evaluation but it is likely that initial capital costs will be higher. This would need to be incorporated into capital budget setting.*
- **Human Resources (HR)** *To be added*

- **Equalities** – *no equalities implications have been identified*
- **Legal** - *no legal implications have been identified*
- **Crime and Disorder** – *no crime and disorder implications have been identified*
- **Information Technology (IT)** - *our server estate is subject the impacts of rationalisation where possible. Our move, like most, to use cloud based services where we can, will reduce our local rates of consumption*
- **Property** - *reduction of carbon emissions will have significant implications for the Council's property portfolio. Some of them are outlined in this report. Consideration of carbon emission data will be a significant factor when it comes to future rationalisation of property assets.*

Carbon reduction is already in the process of being considered where items of plant and machinery are coming up for replacement in our operational and commercial properties, particularly in respect of gas fired boilers, where consideration is being given to their replacement with, biomass, electric or heat source pumps where it is practical to do so.

- **Other**

Fleet – the agreed fleet replacement programme will make a positive impact on carbon emissions over the next 4 years. Any further emissions reductions to our fleet over 3.5t will be challenging and would require additional resource

Contact Details

Author:

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Tel No. 07923 222971

Officer Responsible for the report:

Claire Foale
Assistant Director for Policy and Strategy

Report **Date** 27/10/2021
Approved

Wards Affected:

All

For further information please contact the author of the report

Background papers

None

Annexes

Annex A – WSP Remote Working Carbon Assessment

Annex B – Proposed Sustainable Procurement Policy Template

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Home - v - office working in the UK. How does it rate from a carbon perspective?

	Total Annual Carbon Emissions all employees (tonnesCO ₂ /yr)	Total Annual Carbon Emissions per employee (kgCO ₂ /yr) - 2019	Previous figure reported in 2007	Notes on changes in 2019
200 staff working from office	286.7	1.4	1.7	Minor adjustments on energy use profile, decrease due to electricity emission factor 25% lower
200 staff working from home, heating their whole house	505.9	2.5	2.4	Minor adjustments on energy use profile, decrease due to electricity emission factor 25% lower
200 staff working from home, and heating just their "home office"	123.9	0.6	0.9	Minor adjustments on energy use profile, decrease due to electricity emission factor 25% lower

© WSP Environmental 2019

Our study has reviewed the carbon emissions of 200 staff, either working from a home office or from an office over the course of 12 months. It is based on current, UK data.

The calculations used in this study have been prepared using good faith. The boundaries of the study include:

The electricity and gas used by staff in offices
Staff travel to and from the office
Electricity and gas used by staff in their homes during the working day

The study excludes:

The embedded energy of the buildings
Conditions outside 'average' UK businesses
The decisions made by staff in the course of their work
Other indirect impacts, such as whether a car at home is used by others, whether staff live further away if they telecommute for part of the week,
Other, beneficial sustainability impacts of home or of office working

Originally by	David Symons - UK Director of Sustainability WSP House 70 Chancery Lane London WC2A 1AF David.symons@wsp.com 44 207 314 5725
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Updated by	Calculation update/QA by Sabbir Sidat/Andy Marsh-Patrick - June 2019 Emission factors update provided by Mike Hardisty - June 2019
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Carbon Calculations

Scenario A - 200 staff work from office in the UK

Travel	Percentage of employees travelling by mode*	Total No. of employees	Average No. of Miles travelled per round trip (miles)*	Total No. of Miles travelled by all employees (miles)	Total No. of trips made per year per employee (travel days)**	Emissions per km (2019 BEIS emissions factors) kgCO ₂ e per mile	Carbon emissions per day (all employees) kgCO ₂ ****	Total Annual Carbon emissions per year (all employees) (kgCO ₂ /yr)	Total Annual Carbon emission per year per employee (kgCO ₂ /yr)
Car*	65%	130	19.5	2539	231	0.27901	708.3	163622.3	818.11
Bus**	9%	17	10.6	184		0.16851	31.1	7176.1	35.88
Rail***	11%	21	34.2	718		0.06622	47.5	10981.2	54.91
Walking	12%	23	1.8	42		0	0.0	0.0	0.00
Bicycle	4%	8	6.6	53		0	0.0	0.0	0.00
Office Environment	Treated floor area (m ²)*****	Energy (kWh/m ²)	Total Energy (kWh/year)	Total Carbon (kgCO ₂ /yr)	Total Carbon per employee (kgCO ₂ /yr)				
Total Gas	1800	97	174600	32100	160.5				
Total Electricity	1800	128	230400	72802	364.0				

TOTALS FOR SCENARIO A

Total Annual Carbon Emissions per employee (kgCO ₂ /yr)	Total Annual Carbon Emissions all employees (kgCO ₂ /yr)	Total Annual Carbon Emissions for Average office per Employee (kgCO ₂ /yr)
Travel by Car	286681.5	1433
Travel by Bus		
Travel by Rail		
Walk to work		
Cycle to work		

* National Travel survey NTS0412 26 July 2018
 ** National Statistics, 2006 and Transwatch UK, 2004
 *** Total No. of trips made per year per employee 231 (This figure is calculated based on no of weekdays in a year, taking into account employee annual leave)
 **** Carbon conversion factor for petrol = 2.30kgCO₂/litre
 *****Total Floor Space 2000m² (10m² per employee), assumed treated area 90% = 1800m², total floor area Assumed best practice

Scenario B - 200 staff work from home in the UK, and heat just their home office - not the whole house

Working Environment	Area of home office space (m ²)*	Energy (kWh/yr)****	Annual Carbon (kgCO ₂ /yr)
Gas**	20	2000	367.70
Electric**		500	157.99
PC***		288	91.00
Small power (printers etc)*****		9.6	3.03

TOTALS FOR SCENARIO B

Total Annual Carbon Emissions per employee (kgCO ₂ /yr)	Total Annual Carbon Emissions all employees (kgCO ₂ /yr)
619.7	123945

* Figures based on 80m² flat however this is reduced to 25m² to compensate for area utilised during the working day
 **Gas and Electricity figure include heating and lighting (Gas figures based on 80 kWh/m² and Electric figures based on 25 kWh/m²)
 ***PC Energy consumption 150W
 ****Hours of operation 1920 hrs/yr (5 days per week, 10 hour days, 48 weeks (Taking account of employee annual leave and public holidays) and a diversity factor of 0.8)
 *****Allow 5W/m² for small



Office Carbon Calculations: Summary Sheet for UK business

Scenario A - 200 staff work from office in the UK

Building Type	Office type 3 Air-conditioned Standard (CIBSE, 2000)						
Floor Area	Total 2000m ²		Assumed treated[1] area 1800m²				
Gas Consumption	97	kWh/m ²	CIBSE Guide F (Good Practice)				
Electricity Consumption	128	kWh/m ²	CIBSE Guide F (Good Practice)				
Gas/CO ₂ Conversion factor	0.18385	kgCO ₂ /kWh	GHG Reporting Factors 2019				
Electricity/CO ₂ Conversion	0.31598	kgCO ₂ /kWh	GHG Reporting Factors 2019 (elec + T&D + WTT)				
Petrol/CO ₂ Conversion	2.20904	kgCO ₂ /litre	GHG Reporting Factors 2019				
Travel modes	Car	Car - passenger	Bus	Rail	Underground	Walking	Bicycle
No. of trips per person per year	159	21	24	20	9	32	11
Share of trips	58%	8%	9%	7%	3%	12%	4%
No. of miles per commuting journey	10	7.7	5.3	20.4	9.7	0.9	3.3
No. of miles per commuting journey(return)	20	15.4	10.6	40.8	19.4	1.8	6.6
Weighted	19.46333333			34.15862069			

[1] The treated floor area is the gross areas less plant rooms and other areas (e.g. stores, covered car parking, and roof spaces) not directly heated, cooled or lighted.

The Building

The calculations used in this study have drawn upon accepted energy demand benchmarks set out in the Energy Consumption Guide: Energy use in Offices[1] a document produced by the Chartered Institution of Building Services Engineers (from this point onwards this document will be referred to as ECON, 19). This guide sets energy consumption benchmark figures in relation to four generic types of offices. These range from naturally ventilated cellular offices to prestige air-conditioned spaces. For the purposes of this study the 'air-conditioned, standard' office type was chosen which is managed using good practice. Good practice means that the energy consumption is being managed well however there is still scope for further cost-effective savings.

ECON 19 provides the best snapshot of the energy requirements of a typical air-conditioned building. These figures take into consideration energy demand for heating, cooling, fans, pumps, humidification, lighting, office equipment, and catering therefore providing an accurate estimation of the total annual energy demand per square meter.

Staff Travel

These figures represent national average commuting figures as compiled by National Statistics and the Department for Transport, 2003[1]. The average miles per gallon figures were taken from studies produced by the Department for Transport and National Statistics[2]. In the absence of actual data national average data represents the most accurate way of modelling the travel carbon emissions. The total number of travel days made annually per employee was calculated to be 231. This figure takes into consideration weekends, annual leave and public holidays.

Finally the carbon dioxide figures, in relation employee travel were also calculated using DEFRA 2005[3] figures

[1] National Statistics and Department for Transport. Travel to Work in GB Available at <http://www.dft.gov.uk/>

[2] National Statistics and Department for Transport (2006). Energy and the Environment. Available at <http://www.dft.gov.uk/>

[3] The Department for Environment, Food and Rural Affairs (2005) Guidelines for Company Reporting on Green House Gas Emissions. Available at <http://www.defra.gov.uk>

Scenario B - 200 staff work from home in the UK, and heat just their home office - not the whole house

Building Type	2 bed flat, with two external walls	
Floor Area	80m ² average flat size	25m ² space occupied during the working day[1]
Gas Consumption	100	kWh/m ²
Electricity Consumption	25	kWh/m ²
Gas/CO ₂ Conversion factor	0.18385	kgCO ₂ /kWh
Electricity/CO ₂ Conversion	0.31598	kgCO ₂ /kWh
PC Energy consumption	150	W
Small Power Energy Consumption	5	W
Hours of Operation	1920	hours per annum

(Calculated based on a 5 day working week, 10 hour working day, 48 working weeks per year)

The floor area, gas and electricity consumption figures are based on best practice guidelines. Best practice consumption guidelines give outline annual energy consumption figures. These figures, which are taken from large studies, reflect summer and winter conditions.

The floor area under consideration was reduced from 80m² to 25m² to reflect the area for the home actually used during the working day. This is important as considering the whole flat area would inflate the carbon dioxide figures therefore reducing the accuracy of the study. The number of operational hours was calculated based on employees working 48 weeks per year, 5 days per week and 10 hour days, to reflect employee annual leave and public holidays. PC and small power energy consumption figure are based on benchmark values calculated by the Chartered Institution of Building Services Engineers. Gas and Electricity conversion factors are the same as those utilised in the Scenario A

Scenario C - 200 staff work from home, and heat their whole house in winter

Building Type	2 bed flat, with two external walls	
Floor Area	80m ² average flat size	
Gas Consumption	100	kWh/m ²
Electricity Consumption	25	kWh/m ²
Gas/CO ₂ Conversion factor	0.18385	kgCO ₂ /kWh
Electricity/CO ₂ Conversion	0.31598	kgCO ₂ /kWh
PC Energy consumption	150	W
Small Power Energy Consumption	5	W
Hours of Operation	1920	hours per annum

This scenario uses the same input data and assumptions as Scenario B. The only difference is the entire floor area (80m²) of the two bedroom flat is assumed to be 'treated' (i.e. total floor area which is cooled, heated and lighted). Scenario C therefore represents the CO₂ footprint of homeworking employees who heat and light their entire flat during their working day and not just the rooms in which they occupy.

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Procurement Strategy Review & Refresh

City of York Council

Alex Forrest
Emma Fletcher
Will Shanks
Martine Kurth

12th March 2021

Report for City of York Council

Prepared by Emma Fletcher, William Shanks

Approved by



Alex Forrest
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Disclaimer

Eunomia Research & Consulting has taken due care in the preparation of this report to ensure that all facts and analysis presented are as accurate as possible within the scope of the project. However no guarantee is provided in respect of the information presented, and Eunomia Research & Consulting is not responsible for decisions or actions taken on the basis of the content of this report.

1.0 Introduction

Eunomia has been commissioned by North Yorkshire County Council, on behalf of 14 local authorities in York, North Yorkshire and West Yorkshire, to review existing procurement strategies, with a view to providing guidance and recommendations as to how these can be refreshed to reflect climate emergency commitments and goals, and regional circular economy priorities. The review includes providing guidance on the development of methodologies that build carbon reduction and circular economy principles into the procurement processes.

The overarching aim of this project is to support the reduction of greenhouse gas emissions derived from the procured goods, works and services, through the mechanism of a Low Carbon Procurement Toolkit. This will drive low carbon outcomes in procurement exercises, sending clear signals to the supply chain that reduced emissions are valued and ‘rewarded’. Project deliverables include:

- **Task 1** – a review of local authority procurement strategies, to understand current positions on the climate emergency, low carbon or sustainable/circular procurement;
- **Task 2** – guidance in the form of model wording and recommendations, to support local authorities to strengthen and align individual strategies against specific climate commitments and goals, and sustainable/circular procurement priorities.

The following report sections, prepared for City of York Council (‘the Council’), set out a summary of the research methodology, the findings of the strategy review, and guidance and recommendations to support a refresh of existing strategies against the aforementioned policy commitments.

2.0 Task 1 Methodology: Procurement Strategy Gap Analysis

Eunomia used a gap analysis matrix to rapidly review the procurement strategy and climate emergency targets submitted by each individual local authority.

Eunomia allocated a score to each strategy consideration (such as reference to climate emergency), with 0 = no reference, 1 = some reference, 2 = fully addressed.

Recommendations were then noted and are provided in a Table 3-1 in Section 3.0 below. A template ‘Sustainable Procurement Strategy’ has also been provided in Section 4.0 to further support the roll-out of these recommendations.

3.0 Results of Task 1: Summary of Gap Analysis

A desk-based review of the Council’s Procurement Strategy was carried out against a pre-defined set of 20 criteria (detailed in Table 4-1 in Appendix A.2.0), agreed with the project steering group. The criteria considered how effectively the Council’s current Procurement Strategy reflected the corporate climate emergency and carbon reduction goals, along with other factors such as inclusion of social value.

The initial 20 criteria assessed have been collated and summarised in 7 summary criteria and presented in Table 3-1 below. The table shows the summary RAG (Red – 0, no reference; Amber – 1, some reference; Green – 2, fully addressed) rating based on the initial assessment, together with recommended actions to fully embed and reflect the appropriate climate emergency and sustainability goals within the Procurement Strategy.

Table 3-1 Summary review of the Procurement Strategy

Summary category	Score	Comments
Procurement Strategy identifies and links to corporate goals on carbon reduction, sustainability, circular economy	2	The Procurement Strategy makes clear commitments to carbon reduction and sustainable procurement, and these commitments are supported by a link to the overall Council aim of being a 'One Planet Council'. However, there is no commitment to the circular economy. Note: the Strategy is out of date (being for the period 2017-19) and it should be noted that the commentary and recommendations are based on this expired strategy content). Recommendation: recognise the need to move to a more circular economy, with lower resource use, in the Procurement Strategy.
Social value addressed in strategy	2	There is a clear commitment to delivering social value in the Procurement Strategy. Recommendation: draw a link in the Strategy between environmental benefit and delivering social value.
Environmental impact from procurement / climate emergency referenced and date included	1	While the Strategy clearly recognises that environmental impacts of procurement can be reduced, neither the climate emergency generally, nor the Council's Net Zero target date of 2030, are mentioned explicitly in the Strategy.

Summary category	Score	Comments
		<p>Recommendation: make an explicit declaration of the Council's aim to achieve Net Zero emissions by 2030, and produce an action plan to reduce procurement emissions in line with this target.</p>
<p>Strategy aligned to wider external goals/documents</p>	0	<p>Recommendation: link the Procurement Strategy and its goals to those of the York and North Yorkshire 'Circular Yorkshire' plan.</p>
<p>Scope 3 work undertaken in procurement</p>	0	<p>Recommendation: undertake a carbon audit of the Council's Scope 3 emissions (as part of a wider organisational carbon audit if necessary), and include detail on how these Scope 3 emissions can be reduced in the Procurement Strategy.</p>
<p>Steps in place for reducing carbon impacts of procurement</p>	1	<p>There are some loose references to reducing the carbon impacts of procurement in the Procurement Strategy, however no clear approaches to doing so were identified.</p> <p>Recommendation: develop a set of low carbon tender specifications, as well as an Action Plan that identifies the procurement actions required to help deliver corporate targets and Net Zero goals, together with team members' responsibilities and deadlines. For example, consider categories approaches or upcoming relevant tenders to target carbon reduction.</p>
<p>Action Plan in place</p>	0	<p>There is no specific set of actions outlined to reduce the carbon emissions from procurement.</p> <p>Recommendation: develop a Procurement Action Plan with short, medium and long term goals and clear dates and owners, which includes specific carbon reduction actions and targets.</p>

The recommendations in the table have been based upon documentation supplied during the course of this project, and hence may not reflect any other existing operational practises or policies that relate to the procurement function. Therefore, the recommendations should be used as a guide to implement and reflect climate emergency and sustainability/circular priorities and principles within the Council's Procurement Strategy. To aid with this process, a template 'Sustainable Procurement Strategy' is provided in Section 4.0 in the form of guidance, to help demonstrate (through example model wording) how corporate goals relating to environmental targets and commitments can be embedded within the councils' procurement objectives. This includes an accompanying draft action plan.

4.0 Model Wording

4.1 Explanation

The proposed model wording in this section of the document follows good practice, 'exemplar' procurement and commissioning strategy structures, or related guidance (e.g. CIPS or UK, Scottish or Welsh Government guidance) and recognises the Council's desire to build low carbon value into procurement exercises. Section 3.0 above provides outputs of the RAG analysis relevant to the model wording detailed in this section.

Model wording has been drafted in the form of a '**Sustainable Procurement Strategy**' to reflect the shift in strategic importance of actions carried out by the Council linked to procurement. The Procurement Strategy, by its very nature, should reflect the key drivers of the Council and aid the delivery of those objectives. It therefore serves well to demonstrate the strategic focus on 'delivering sustainably' and recognising the role of the Procurement Strategy as an overarching policy document. Having one such key document (rather than a procurement strategy followed by several individual strategies on topics such as climate emergency, fair work and social value) enables a rounded approach to consideration and delivery of key objectives, whilst also ensuring that a coherent, systematic annual review and update of relevant documents can be achieved.

4.2 Use of the Model Clauses

The model clauses have been structured as a complete Sustainable Procurement Strategy to demonstrate the importance of linking the drivers and actions of procurement activity with overarching corporate goals (creating a 'golden thread' through the organisation).

The Council can elect to use the template in its entirety, or to adopt selected elements of relevant template text. Text in **red** should be amended to reflect the Council.

Note: all references to corporate and procurement themes, commitments and objectives, categories and council service areas are for example only, for the purpose of this model wording. The Council should align the template to their specific objectives, goals and structure .

4.3 Template Sustainable Procurement Strategy

4.3.1 Introduction

This Sustainable Procurement Strategy (the 'Strategy') is for the period [2021-2025].

The Strategy combines the [Council's] strategic priorities and core sustainable procurement principles to ensure the Procurement department can support and enable delivery of these priorities and principles. [The strategy should set out the context to which its content relates at organisational, regional and national levels].

The Strategy has been adopted following consultation with [X], and following review of progress against previously defined actions and the revised core priorities of the Council

provided in **corporate plan [X]**. The strategy has been approved by the Council's **[senior leadership group]**.

The Council continues to make progress towards further embedding and delivering on its sustainability goals, including its commitment to be **carbon neutral / Net Zero by 20XX**. To support this, and to deliver our duties under **[relevant national legislation¹]**, we commit that, to the furthest extent possible, our procurement activities will be sustainable, ethical and fair.

The Strategy will demonstrate how the Council will commit to climate and circular economy principles in its procurement activity and report ongoing progress against these commitments.

*The Council has signed up to help achieve the commitments set out in the **York and North Yorkshire Local Enterprise Partnership 'Circular Economy Strategy'**, which seeks to have York and North Yorkshire "thriving as a competitive, carbon-neutral circular economy that benefits businesses, society and the environment, by 2030". The CE strategy recognises that "Our current economy is reliant on a 'take-make-dispose' model. This wasteful use of resources results in economic loss, environmental damage, substantial carbon emissions and widening social inequalities."*

As a result, the Council wants to ensure that the **£Million** it spends annually on procurement of goods, services and works contribute to the delivery of these critical priorities. The Strategy identifies and maps the steps that the procurement function will carry out to deliver on a better, low-carbon future for its community.

4.3.2 Vision (or Mission)

We will support departments across the Council by ensuring the requirements for goods, services and works are procured in a way that supports the Council's environmental objectives and maximises the achievement of Best Value.

The Council's procurement vision is:

"To be a leader in delivering value for money services in an innovative and forward-thinking way, by embedding responsible procurement decisions across our activities to support and deliver an ethical and environmentally beneficial service for all."

¹ E.g.: The National Procurement Strategy for Local Government 2018

The Public Services (Social Value) Act 2012 (which requires consideration of the economic, social and environmental benefits of procurement)

The UK Public Contracts Regulations 2015 (which provide the legal framework for expenditure of public funds)

4.3.3 Council Corporate Priorities

The Council’s **Corporate Plan for 20XX – 20XX** sets out three main priorities under the headings ‘Environment’, ‘Economic’ and ‘Social’.

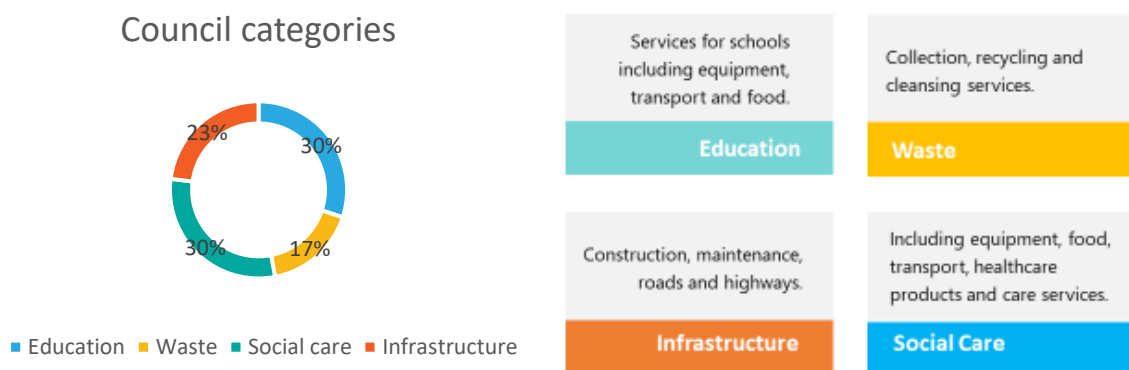


[Example] Corporate Priority	[Example] Key Commitments
Environment	<p>[Env 1] The Council has recognised the climate emergency as a key priority and set out in [document] its approach to delivering net zero by XXXX across its operations.</p> <p>[Env 2] The Council commits to achieving a target of less than X% waste to landfill by XXXX.</p> <p>[Env 3] The Council commits to eliminate all single use plastics within the Council’s direct operations (office and site functions) by XXXX.</p> <p>[Env 4] The Council commits to all fleet vehicles to being either wholly electric, or using alternative, low-carbon fuels by XXXX.</p>
Economic	<p>[Econ 1] The Council will maximise employment opportunities in our area, through increased award of contracts to local businesses, targeting X% spend with local suppliers by 20XX.</p> <p>[Econ 2] The Council will increase local employment through targeted skills development, training and employment programmes and use of relevant Social Value criteria in contracts.</p> <p>[Econ 3] The Council will generate innovative ways to solve pertinent social and environmental issues by working with the local community and businesses.</p> <p>[Econ 4] The Council will ensure budgets are spent ethically, fairly and transparently, securing maximum value for residents.</p>

[Example] Corporate Priority	[Example] Key Commitments
Social	<p>[Soc 1] The Council will increase spend with local SME's and VCSE's by X% by 20XX.</p> <p>[Soc 2] The Council will target delivery of relevant social value through commissioning and contracts, maximising the value that can be achieved for every £1 spent.</p> <p>[Soc 3] The Council will engage with the local community and businesses to identify and reflect local priorities for social engagement, inclusion and development through service provision.</p> <p>[Soc 4] The Council will improve the quality of the lives of those living and working in the local community, by creation of improved economic wellbeing, employment opportunity and healthier communities.</p>

4.3.4 Our Sustainable Procurement Approach

The Council spends circa £XM per year on goods, works and services. All procurement activity is governed by Council Standing Orders [include as a footnote reference] and defined governance procedures to ensure spend is fair, ethical and transparent, as well as fully compliant with relevant legislation.



For the period 20XX – 20XX [or demonstrate year on year progress] we have achieved X% spend with SME's, X% with VCSE's and over X% is spent within the local area.

Through responsible and efficient procurement processes we have achieved savings of X% / £X in the period 2019/20. In addition, we have delivered social value initiatives including:

[LIST any notable social value achievements]

4.3.5 Sustainable Procurement Objectives

The sustainable procurement objectives have been developed to align with and support the overarching corporate themes (Social, Economic and Environmental). The Action Plan details how these objectives will be delivered.

Corporate Theme	Procurement Objective	Applicable Corporate Objective
Environment	<ul style="list-style-type: none"> • Embedding carbon reduction commitments into contracts, through community and market engagement, and embracing innovation. • Taking action to meet the challenges of the climate emergency by procuring and delivering services that work towards the Council goal of net zero by XXXX. • Working with service areas to determine a forward contracting plan and ensure tenders are prepared, so that more sustainable outcomes are embedded. • Working with service areas to identify alternative products to eradicate the need for single use plastics in Council operations. • Building greater circular economy principles into purchasing activity wherever possible. 	<p>Env 1, Env 2</p> <p>Env 1, Env 2</p> <p>Env 4</p> <p>Env 3</p> <p>Env 1, Env 2, Env 3</p>
Economic	<ul style="list-style-type: none"> • Improving access to public sector contracts by SMEs / VCSEs through increased market engagement and events, use of lots within tenders where feasible, and promotion of subcontracting opportunities. • Increasing the volume and value of contracts delivered by local businesses. • Delivering savings whilst achieving efficient, value for money delivery of public services. • Including social value requirements in all relevant tender opportunities to maximise value achieved in contract delivery. • Encouraging innovative service delivery through early market engagement. 	<p>Econ 1, Econ 2, Soc 1</p> <p>Econ 1, Econ 2, Soc 1</p> <p>Econ 4</p> <p>Econ 2, Soc 2</p> <p>Econ 3</p>

Corporate Theme	Procurement Objective	Applicable Corporate Objective
Social	<ul style="list-style-type: none"> • Increasing the impact of social value delivered under contracts by better commissioning and contract management. • Building fair and ethical working conditions into all contracts for procured goods and services delivered by the Council. • Being a Living Wage employer and asking the same of our suppliers. • Drawing on the wealth of skills and knowledge in the community and working in partnership to deliver relevant and innovative solutions. • Encouraging local businesses, SMEs and VCSEs to tender for opportunities through use of tender processes which facilitate access to these organisations. 	<p>Soc 2, Soc 4</p> <p>Soc 4</p> <p>Soc 2, Soc 4</p> <p>Soc 3</p> <p>Soc 1, Soc 3</p>

4.3.5.1 Delivery Plan

The Council has committed to deliver these objectives through the Action Plan below.

4.3.5.2 Monitoring, reviewing and reporting

The Strategy and the Action Plan will be updated annually by reviewing progress against the objectives and monitoring actions defined in the Action Plan.

The annual review will be reported to the **[Senior Management Team]**. The Council will publish an annual procurement report on its procurement activities following the end of each financial year.

A.1.0 Action Plan

Priority	Procurement Objective	Action	Measure of Success	Target Date/Owner
Environmental	Embed carbon reduction commitments into contracts, through community and market engagement, and embracing innovation.	Ensure environmental criteria are appropriately assessed within all tenders, considered fully across all phases of the procurement to maximise impacts across the procurement process and contract management.	Reduce negative environmental impacts of contracts (e.g. track CO ₂ outputs, miles travelled, waste produced, recycling etc).	
	Take action to meet the challenges of the climate emergency by procuring and delivering services that work towards the Council goal of net zero by XXXX .	Ensure suppliers are aware of the Council’s environmental objectives through supplier dialogue events and proactive contract management. Use preliminary market engagement to ensure market readiness for low carbon / circular supply routes.	Increase environmental outcomes from contracts (e.g. more recycled goods, more efficient vehicles, longer life equipment etc).	
	Work with service areas to determine a forward contracting plan and ensure tenders are prepared so that sustainable outcomes are embedded.	Develop service area plans and forward tender plans to facilitate sufficient pre-market engagement and research, stakeholder support and finance structure to enable sustainable outcomes to be successfully embedded.	Produce service area contracting plans to improve environmental outcomes for the ‘high risk’ contracts.	

	Work with service areas to identify alternate supplies to eradicate the need for single use plastics in Council operations.	Identify relevant categories, commodities, contracts and suppliers with high use of single-use plastics.	Zero single use products being purchased.	
		Research which products can be easily / immediately banned or replaced with suitable alternatives. Put in place timed replacement plans through engagement with service areas / contract users and suppliers.		
	Build greater circular economy principles into purchasing activity wherever possible	Carry out category level research to identify the commodity and product areas most relevant to adopt circular principles, in place of linear purchasing.	X contracts switched to a circular model instead of linear.	
Social	Increase the impact of social value delivered under contracts by better commissioning and contract management.	Ensure social value is given [x% / at least x% / appropriate weighting] in all tenders to embed its importance into supplier selection.	All applicable tenders have included social value.	
	Drawing on the wealth of skills and knowledge in the community and	Develop / Measure benefits of social value in contracts using an appropriate tool (e.g. TOMs) so that outcomes can be reported on and compared.	Increase benefits year-on-year by using the appropriate tool.	

working in partnership to deliver relevant and innovative solutions.	Ensure suppliers are aware of the Council's social value objectives to improve the quality of tenders, the services provided by existing suppliers and to promote the benefits of social value in general.	Results of supplier questionnaire demonstrate increased understanding of social value.	
	Ensure social value is followed through in contracts to realise the anticipated from benefits suppliers.	Publish annual social value delivery report.	
	Utilise community and market engagement to generate links between organisations and potential innovative social value solutions.		
Build fair and ethical working conditions into all contracts for procured goods and services delivered by the Council.	Identify categories vulnerable to ethical risks (such as modern slavery), increase use of contractual supply chain transparency requirements, and publish our response to Section 54 of the UK Modern Slavery Act.	High risk categories identified, and strengthened bidder assessment and contract clauses used in re-tender.	
Being a Living Wage employer and asking the same of our suppliers.	Retaining Living Wage accreditation by striving for same standards within our supply chains.		

Economic	Improve access to public sector contracts by SMEs / VCSEs through increased market engagement and events, use of lots within tenders where feasible and promotion of subcontracting opportunities.	Hold supplier engagement days and develop a supplier questionnaire to identify barriers to entry and how these can be addressed.	Year-on-year increase in percentage of spend retained with 'local' suppliers, SMEs and/or VCSEs. [note – some form of definition of “local” is needed]	
	Increase the volume and value of contracts delivered by local businesses.	Attend local SMEs’ business events to meet local suppliers and to promote the Council as an attractive customer.		
	Including social value requirements in all relevant tender opportunities to maximise value achieved in contract delivery.	Produce and regularly update a forward plan of upcoming tenders so that businesses have an opportunity to plan ahead for tenders.		
	Encourage innovative service delivery through early market engagement.	‘Lot’ or ‘Reserve’ tender opportunities for local SMEs or VCSEs where possible.		
		Mandate inclusion of social value in all applicable tenders above £X.		
	Deliver savings whilst achieving efficient, value for money delivery of public services.	Measure and report total non-pay spend, contracted spend and spend influenced by procurement.	No greater than 5% of spend not under contract or influenced by procurement.	

		<p>Measure contract savings (across the life of a contract) and demonstrate the value add of a procurement process</p>	<p>Deliver £x or x% of spend savings by 202x.</p> <p>Reported savings include cost avoidance of purchases not made (avoided) through alternate sourcing models.</p>	
		<p>Work collaboratively with all service areas to move non-contracted spend to contracted spend, and to identify potential collaborative opportunities.</p>	<p>Reduction in non-contracted or maverick spend and increased shared contracts across the Council leads to reduced costs in duplicated efforts and focused contract management.</p>	
		<p>Develop Whole Life Costing (as appropriate) into evaluation of tenders to ensure value-for-money across the expected use of equipment or services is considered, and not just the purchase price.</p>	<p>Key tenders are evaluated on whole life, or life cycle cost basis.</p>	
General	<p>Ensure compliance with all relevant public procurement legislation and regulations.</p>	<p>Ensure procurement staff are appropriately trained in tendering and contract management in order to support these objectives.</p>	<p>No legal challenges to contract awards.</p>	

	Staff literate in sustainable procurement issues and mitigation routes.	Arrange appropriate environmental / sustainability training sessions for procurement teams to support capability development in areas such as carbon literacy, or circular economy principles.	All staff attend training sessions.	
	Review the Councils' procurement tools, templates and procedures to ensure sustainable opportunities are maximised.	Ensure sustainability issues are identified by spend category and threaded through procurement procedures.		

A.2.0 Strategy Review Assessment Criteria

Table 4-1 The criteria used in the procurement strategy review

	Criterion
1	Procurement recognised as having influence on environmental impacts
2	Clear commitment to carbon reduction
3	Clear commitment to sustainable procurement
4	Clear commitment to circular economy
5	Clear commitment to Social Value
5.1	Council recognises environmental benefit that can be delivered through social value
6	Commitment(s) supported in overarching organisational goals
7	Climate emergency recognised/referenced
8	Net Zero commitment with target date
8.1	Target date
9.1	Aligned to York and North Yorkshire Local Enterprise Partnership "Circular Economy Strategy"
9.2	Aligned to West Yorkshire Combined Authority "Tackling the Climate Emergency"
10	Scope 3 emissions detailed as a relevant procurement impact
11	Scope 3 / Carbon baseline completed
12	Carbon reduction included as an outcome in tender strategies
13	Low carbon specifications/tenders in place

	Criterion
14.1	Portfolio analysis for carbon impact completed, OR
14.2	Portfolio analysis for carbon impact planned (date given)
15	Category priorities for carbon reduction identified
16	Procurement Action Plan in place, with clear targets, dates and owners



10th November 2021

**Decision Session – Executive Member for
Environment and Climate Change**

Report of the Assistant Director of Policy and Strategy

York Emissions Inventory Report 2021

1. Summary

- 1.1 This report presents the Emissions Inventory for the city of York. This data will be used to monitor progress against the City of York Council ambition to achieve net zero carbon emissions for the city by 2030.
- 1.2 The emissions inventory was compiled using SCATTER; a tool designed for local authorities to report emissions.
- 1.3 Emissions across the city for the latest reporting year 2018 were 936 kilotonnes Carbon Dioxide equivalent (ktCO₂e) (Scope 1 and 2).
- 1.4 City-wide emissions have reduced by 1.6% (Scope 1 and 2) between 2017 and 2018.
- 1.5 City of York Council Corporate emissions account for roughly 4% of city-wide emissions.
- 1.6 The focus of our reporting is Scope 1 and 2 emissions. The reason for this is that scope 1 and 2 emissions are more directly under the control of actors within the city, and because the carbon accounting and management options for these emissions are better developed.

2. Recommendations

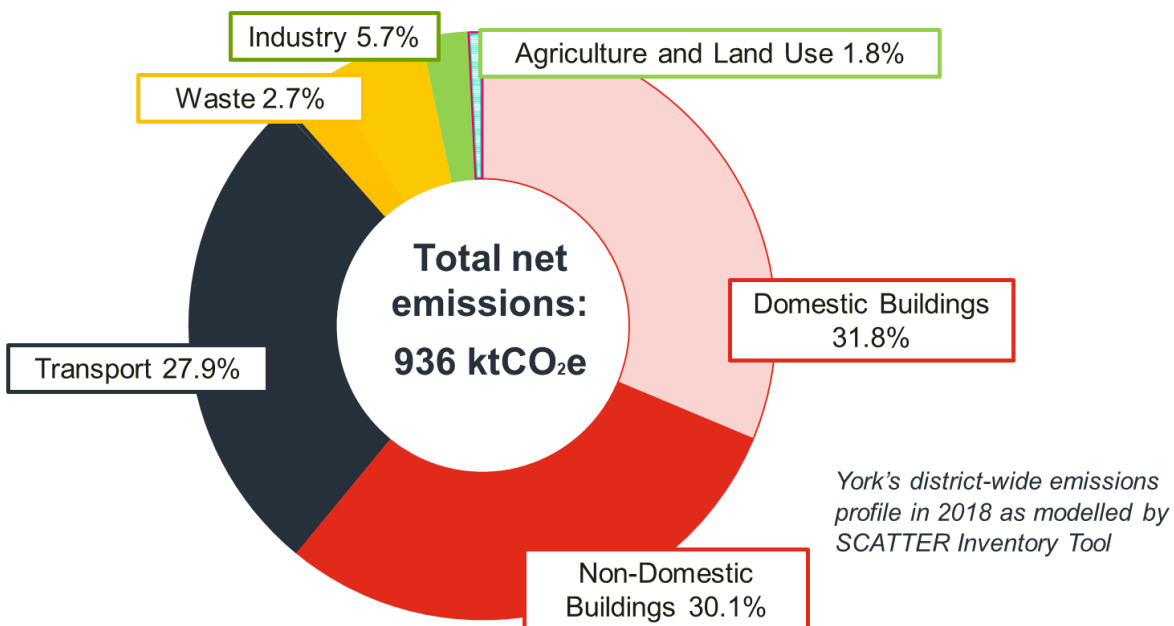
- 2.1 The Executive Member is asked to:
 - i. Approve the York Emissions Inventory Report

Reason: This report fulfils the commitment in the Council Plan to report on city-wide carbon emissions and monitor progress towards the net zero ambition.

3. Background

- 3.1 In July 2021, the Executive Member for Environment and Climate Change approved the use of the SCATTER tool for reporting city-wide greenhouse gas (ghg) emissions.
- 3.2 The decision was accompanied with the first York Emissions Report Inventory (2020) relating the 2017 reporting year.
- 3.3 This report presents the latest York Emissions Report Inventory (2021) for the reporting year 2018.
- 3.4 Scope 1 and 2 emissions in York for 2018 were 936ktCO₂e. The make-up of these emissions is shown below.

York's city-wide Emissions



- 3.5 The built environment accounts for over 60% of emissions in York. With almost 32% coming from dwellings and 30% from other buildings. The majority of emissions from buildings are associated with gas consumption used for space heating and hot water.

- 3.6 Emissions from transport is another significant contributor (27.9%), with on-road transport responsible for most of these emissions.
- 3.7 A more detailed breakdown of emissions by sub-sector is presented in the Inventory Summary Report (Annex A).
- 3.8 The Council's own Scope 1 and 2 Corporate Emissions have been recorded and reported for the first time in 2021. Council corporate emissions account for less than 4% of the city-wide inventory (3,635tCO₂e).
- 3.9 The York Emissions Inventory and SCATTER Pathway Tool are being used to support the evidence base for the York Climate Change Strategy.

4. Council Plan

- 4.1 The recommendation from this paper fulfils one of the commitments from the Council Plan: Providing data of carbon emissions across the city. This monitors progress against the Greener and Cleaner Council Plan priority.

5. Implications

- 5.1 Full implications are considered below:
 - **Financial** – no financial implications have been identified
 - **Human Resources (HR)** – no HR implications have been identified
 - **Equalities** – no equalities implications have been identified
 - **Legal** – no legal implications have been identified
 - **Crime and Disorder** – no crime and disorder implications have been identified
 - **Information Technology (IT)** – the majority of information being recorded is already captured in some format. Some of this information is reported through the York Open Data Platform. Consolidating this data into one place will make it easier for the public to access, increase transparency and collaborative working.
 - **Property** – no property implications have been identified

6. Risk Management

- 6.1 The following risks have been identified:

- **Transparency:** Wider emissions reporting refers in the main to city partner activity. Partners will use their own methodology to measure their own impact and there might be occasions when data is not aligned. City partners will work together to present a shared narrative about data as it is published.
- **Time:** with a 2.5 year time lag for the data, it will be some time before the impact of policies is really understood. This brings a risk that inadvertent and negative impacts are not acted on quickly enough. To mitigate this risk the council will work with city partners, and draw on available evidence to better understand impact until the accurate data is available

Contact Details

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Officer Responsible for the report:

Claire Foale
Assistant Director Policy & Strategy

Report Date 01/10/2021
Approved

All

Wards Affected: [List wards or tick box to indicate all]

For further information please contact the author of the report

Background Papers:

EMDS_Emissions Reporting_July 2021
Net Zero Carbon Roadmap for York (2020)

Annexes

SCATTER York Summary 2021

Summary Greenhouse Gas emissions (tonnes CO ₂ e)		Scope 1
Sector	Sub-sector	Total tCO ₂ e
		DIRECT
Stationary energy	Residential buildings	211,617.78
	Commercial buildings & facilities	29,871.23
	Institutional buildings & facilities	24,237.14
	Industrial buildings & facilities	70,983.18
	Agriculture	3,827.67
	Fugitive emissions	29,661.16
Transportation	On-road	250,781.81
	Rail	6,789.95
	Waterborne navigation	950.57
	Aviation	NO
	Off-road	2,507.82
Waste	Solid waste disposal	12,923.78
	Biological treatment	NO
	Incineration and open burning	NO
	Wastewater treatment and discharge	12,355.44
IPPU	Industrial process	53,169.71
	Industrial product use	0.00
AFOLU	Livestock	24,099.56
	Land use	- 7,352.09
	Other AFOLU	NE
Generation of grid-supplied energy	Electricity-only generation	NO
	CHP generation	1,476.54
	Heat/cold generation	NO
	Local renewable generation	6.54

Scope 2	Scope 3	
Total tCO2e	Total tCO2e	Total tCO2e
INDIRECT	OTHER	TOTAL
86,053.16	44,777.90	342,448.85
50,720.02	12,371.77	92,963.02
11,012.67	5,141.39	40,391.20
61,912.61	21,771.98	154,667.77
1.21	903.60	4,732.49
-	NE	29,661.16
IE	IE	250,781.81
IE	1,599.07	8,389.02
IE	IE	950.57
IE	108,110.88	108,110.88
IE	NE	2,507.82
-	IE	12,923.78
-	IE	-
-	IE	-
-	NO	12,355.44
-	NE	53,169.71
-	NE	0.00
-	NE	24,099.56
-	NE	- 7,352.09
-	NE	-
-	NO	-
-	256.96	1,733.49
-	NO	-
NO	NO	6.54

Notation keys:
Not Occuring
Integrated Elsewhere
Not Estimated
Confidential
Combination of notation keys
N/A
Required
Optional

Summary of notation keys available

Scope / table tag
Direct/AFOLU > Land use
Direct/AFOLU > Land use
Direct/AFOLU > Land use
Direct/AFOLU > Livestock
Direct/AFOLU > Other AFOLU
Direct/Generation of grid-supplied energy > CHP generation
Direct/Generation of grid-supplied energy > Electricity
Direct/Generation of grid-supplied energy > Heat/cold
Direct/Generation of grid-supplied energy > Local renewable
Direct/IPPU > Industrial process
Direct/IPPU > Product use
Direct/Stationary energy > Agriculture
Direct/Stationary energy > Agriculture
Direct/Stationary energy > Commercial buildings & facilities
Direct/Stationary energy > Fugitive emissions
Direct/Stationary energy > Industrial buildings & facilities
Direct/Stationary energy > Institutional buildings & facilities
Direct/Stationary energy > Residential buildings
Direct/Transportation > Aviation
Direct/Transportation > Off-road
Direct/Transportation > On-road
Direct/Transportation > Rail
Direct/Transportation > Waterborne navigation
Direct/Waste > Biological treatment
Direct/Waste > Incineration and open burning
Direct/Waste > Solid waste disposal
Direct/Waste > Wastewater
Indirect/Generation of grid-supplied energy > Local renewable
Indirect/Stationary energy > Agriculture
Indirect/Stationary energy > Commercial buildings & facilities
Indirect/Stationary energy > Industrial buildings & facilities
Indirect/Stationary energy > Institutional buildings & facilities
Indirect/Stationary energy > Residential buildings
Indirect/Transportation > Aviation
Indirect/Transportation > On-road
Indirect/Transportation > Rail
Indirect/Transportation > Waterborne navigation
Other/Generation of grid-supplied energy > CHP generation
Other/Generation of grid-supplied energy > Electricity
Other/IPPU > Product use
Other/Stationary energy > Agriculture
Other/Stationary energy > Agriculture
Other/Stationary energy > Commercial buildings & facilities
Other/Stationary energy > Industrial buildings & facilities
Other/Stationary energy > Institutional buildings & facilities
Other/Stationary energy > Residential buildings
Other/Transportation > Aviation
Other/Transportation > Off-road

Other/Transportation > On-road
Other/Transportation > On-road
Other/Transportation > Rail
Other/Transportation > Rail
Other/Transportation > Waterborne navigation
Other/Transportation > Waterborne navigation
Other/Waste > Biological treatment
Other/Waste > Incineration and open burning
Other/Waste > Solid waste disposal
Other/Waste > Wastewater
Grand Total

Livestock

Land use

Other AFOLU

Industrial Process

Fugitive emissions

end

Scope / summary	Reason Code (pulled through only where applicable)	
Direct/Land use	IE	<i>Integrated Elsewhere</i>
Direct/Land use	NE	<i>Not Estimated</i>
Direct/Land use	NO	<i>Not Occuring</i>
Direct/Livestock	NO	<i>Not Occuring</i>
Direct/Other AFOLU	NE	<i>Not Estimated</i>
Direct/CHP generation	NO	<i>Not Occuring</i>
Direct/Electricity-only generation	NO	<i>Not Occuring</i>
Direct/Heat/cold generation	NO	<i>Not Occuring</i>
Direct/Local renewable generation	NO	<i>Not Occuring</i>
Direct/Industrial process	NO	<i>Not Occuring</i>
Direct/Industrial product use	NO	<i>Not Occuring</i>
Direct/Agriculture	NE	<i>Not Estimated</i>
Direct/Agriculture	NO	<i>Not Occuring</i>
Direct/Commercial buildings & facilities	NO	<i>Not Occuring</i>
Direct/Fugitive emissions	NO	<i>Not Occuring</i>
Direct/Industrial buildings & facilities	NO	<i>Not Occuring</i>
Direct/Institutional buildings & facilities	NO	<i>Not Occuring</i>
Direct/Residential buildings	NO	<i>Not Occuring</i>
Direct/Aviation	NO	<i>Not Occuring</i>
Direct/Off-road	NO	<i>Not Occuring</i>
Direct/On-road	NO	<i>Not Occuring</i>
Direct/Rail	NO	<i>Not Occuring</i>
Direct/Waterborne navigation	NO	<i>Not Occuring</i>
Direct/Biological treatment	NO	<i>Not Occuring</i>
Direct/Incineration and open burning	NO	<i>Not Occuring</i>
Direct/Solid waste disposal	NO	<i>Not Occuring</i>
Direct/Wastewater treatment and discha	NO	<i>Not Occuring</i>
Indirect/Local renewable generation	NO	<i>Not Occuring</i>
Indirect/Agriculture	NO	<i>Not Occuring</i>
Indirect/Commercial buildings & facilities	NO	<i>Not Occuring</i>
Indirect/Industrial buildings & facilities	NO	<i>Not Occuring</i>
Indirect/Institutional buildings & facilities	NO	<i>Not Occuring</i>
Indirect/Residential buildings	NO	<i>Not Occuring</i>
Indirect/Aviation	IE	<i>Integrated Elsewhere</i>
Indirect/On-road	IE	<i>Integrated Elsewhere</i>
Indirect/Rail	IE	<i>Integrated Elsewhere</i>
Indirect/Waterborne navigation	IE	<i>Integrated Elsewhere</i>
Other/CHP generation	NO	<i>Not Occuring</i>
Other/Electricity-only generation	NO	<i>Not Occuring</i>
Other/Industrial product use	NE	<i>Not Estimated</i>
Other/Agriculture	NE	<i>Not Estimated</i>
Other/Agriculture	NO	<i>Not Occuring</i>
Other/Commercial buildings & facilities	NO	<i>Not Occuring</i>
Other/Industrial buildings & facilities	NO	<i>Not Occuring</i>
Other/Institutional buildings & facilities	NO	<i>Not Occuring</i>
Other/Residential buildings	NO	<i>Not Occuring</i>
Other/Aviation	NO	<i>Not Occuring</i>
Other/Off-road	NE	<i>Not Estimated</i>

Other/On-road	IE	<i>Integrated Elsewhere</i>
Other/On-road	NO	<i>Not Occuring</i>
Other/Rail	IE	<i>Integrated Elsewhere</i>
Other/Rail	NO	<i>Not Occuring</i>
Other/Waterborne navigation	IE	<i>Integrated Elsewhere</i>
Other/Waterborne navigation	NE	<i>Not Estimated</i>
Other/Biological treatment	IE	<i>Integrated Elsewhere</i>
Other/Incineration and open burning	IE	<i>Integrated Elsewhere</i>
Other/Solid waste disposal	IE	<i>Integrated Elsewhere</i>
Other/Wastewater treatment and discha	NO	
<hr/>		
Indirect/Off-road	IE	
Other/Heat/cold generation	NO	
Other/Local renewable generation	NO	
Other/Livestock	NE	
Other/Land use	NE	
Other/Other AFOLU	NE	
Other/Industrial Process	NE	
Other/Fugitive emissions	NE	
<i>end</i>	<i>end</i>	

NO
IE
NE

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10 November 2021

Decision Session – Executive Member for Environment and Climate Change

Report of the Corporate Director, Place

Air Quality – Annual Status Report

Summary

1. The report details the latest air quality monitoring results for York and progress on achieving measures in York's third Air Quality Action Plan (AQAP3) to deliver further improvements.
2. Recent air quality monitoring can be summarised as follows:
 - Widespread improvements in air quality were observed in York in 2020 compared with previous years, primarily due to a reduction in emissions from traffic caused by working from home and non-essential retail being closed during Covid lockdowns.
 - Whilst concentrations of NO₂ monitored in York in 2020 were atypical they continue the general downward trend in York since 2012. Ongoing air quality monitoring in all locations will be key to understanding the longer term environmental impacts of the pandemic and the magnitude of any changes due to increased levels of walking and cycling and decreased use of public transport.
 - Air pollution monitoring indicates that the annual average air quality objective for NO₂ was met at all relevant locations in York during 2020, including all sites within the current Air Quality Management Area (AQMA). The highest concentration of NO₂ recorded at a relevant location was 40µg/m³ on Gillygate (equal to the objective).
 - Maximum concentrations of NO₂ recorded across key areas within the current AQMA were on average 19.2% lower in 2020 than in 2019. Concentrations of particulates (PM₁₀ and PM_{2.5}) in York are currently well below the air quality objectives and PM_{2.5} have generally decreased at roadside monitoring sites.
3. CYC has progressed the delivery of measures within York's Third Air Quality Action Plan (AQAP3) as follows:

- Secured funding to deliver 33 fully electric buses and charging infrastructure at York's Park & Ride (P&R) sites.
 - Introduced a Clean Air Zone (CAZ) for buses and allocated funding to help to replace/retrofit 93 buses to CAZ compliant vehicles.
 - Encouraged 25% of York taxis to change to low emission vehicles and secured further DEFRA funding to encourage more drivers to upgrade.
 - Implemented an extensive public electric vehicle recharging network
 - Been awarded 'Go Ultra Low' city status and is in the process of delivering ultra-rapid charge units (hyper-hubs) at two P&R sites, with plans for a further site.
 - Developed Low Emission Planning Guidance
 - Implemented measures aimed at deterring vehicle idling including the 'Kick the Habit' anti-idling awareness-raising campaign.
 - CYC has also agreed to commence the transition to an all-electric fleet for all vehicles under 3.5 tonnes.
 - Continued to deliver walking, cycling and public transport
4. The Covid-19 pandemic means that the ongoing impact of AQAP3, including major air quality improvement measures in 2020 such as the Clean Air Zone and a new electric bus fleet, have been difficult to quantify. The true impacts of such measures may only be apparent in subsequent years when/if traffic levels and travel behaviour return to 'normal'.
5. Over the coming year, CYC will update its current Air Quality Action Plan and will consider measures to further reduce nitrogen oxides and particulates from all sources and to support and complement the Council's economic strategy, Local Plan, fourth Local Transport Plan (LTP4) and Climate Change Strategy
6. The report is provided for information following submission of the 2021 Annual Status Report to DEFRA.

Recommendations

7. The Executive Member is asked to note the contents of the report, including the continuing improvements in air quality in 2020 and proposals to update the current AQAP to complement other key CYC strategies.

Reason: To enable to Executive Member to remain updated on the continuing improvements in air quality.

Background

8. In 2015 DEFRA introduced Annual Status Reports (ASRs) to aid local transparency, increase accessibility of air quality to the wider public and encourage buy-in to delivering air quality improvement measures by those best placed to assist (e.g. Directors of Public Health and Transport).
9. This report provides an update on air quality in York (2020 calendar year), including progress on delivery of the measures within City of York Council's third Air Quality Action Plan (AQAP3), following submission of this year's Annual Status Report (ASR) to DEFRA in June 2021. The ASR and its conclusions were fully accepted by DEFRA on 24 September 2021. The full Annual Status Report (2021) is available to download from <http://jorair.co.uk/data-downloads/reports/>.
10. Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages¹, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017².
11. Some research has suggested a link between coronavirus (Covid-19) deaths and exposure to high levels of pollution. It is well established that long term exposure to particulate matter causes stress to the respiratory and cardiovascular system. Emerging research suggests that pre-exposure to high levels of particulate pollution may make a person more likely to become seriously ill, or even die, after infection with Covid-19. Whilst air pollution exposure appears to be one contributory factor to Covid-19 death rates there will be others including deprivation levels. In many places there is a close link between levels of air pollution and deprivation, the poorest areas often experiencing the highest exposure levels. Other research has suggested that particulate matter (PM) could create a suitable environment for transporting the virus over greater distances than those considered for close contact, thereby increasing the rate of Covid-19 infection³.

¹ Defra. Air quality appraisal: damage cost guidance, July 2020

² Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7345938/>

12. At the start of 2020 York had two Air Quality Management Areas (AQMAs), declared on the basis of breaches of the health based annual mean air quality objective for nitrogen dioxide (NO₂). These AQMAs were located in the city centre and on Fulford Road⁴. Following an Executive Member Decision Session in November 2019⁵, the Fulford AQMA was revoked in February 2020 (due to air quality objectives no longer being exceeded in this area). CYC has a statutory duty to try to reduce NO₂ concentrations within the current AQMA and additional obligations in relation to the protection of public health and reduction of greenhouse gas emissions.
13. The main air pollutants of concern in York are NO₂ and particulate matter (PM). Previous source apportionment work has suggested that traffic is responsible for around 50-70% of the total NO₂ at any particular location in the city (although the exact amount varies according to proximity to roads and other emission sources). This source apportionment work is currently being updated to reflect the current position in the city.

Air Quality Monitoring Update

14. Real-time monitoring of nitrogen dioxide and other pollutants has been undertaken at a total of 14 different locations across York since 1999 (real-time monitoring is currently undertaken at 9 sites). The Council has also historically undertaken long-term nitrogen dioxide diffusion tube monitoring across 340 locations in the city. In 2020, the Council undertook diffusion tube monitoring at 233 sites across the city. In addition to monitoring air pollution across the city, the results determine the impact of air quality, planning and transport measures. There has been no significant change to the Council's overall monitoring strategy in the last 12 months, since the last report to the Executive Member.

City Centre AQMA

15. The latest air pollution monitoring data indicates that the annual average air quality objective for NO₂ (40µg/m³) was met at all monitoring sites (at relevant locations) in York in 2020, including all sites within the current city centre AQMA. The highest concentration of NO₂ recorded at a relevant location was 40µg/m³ on Gillygate (equal to the objective). Only one site, a bus shelter on Rougier Street, recorded an annual mean concentration above the objective at 49µg/m³, but this site is not a relevant location for the

⁴ A third AQMA for NO₂ existed on Salisbury Terrace between 2012 and 2017 (AQMA Order No.3) but was revoked in 2017 due to improvements in air quality in this area.

⁵ <https://democracy.york.gov.uk/ieListDocuments.aspx?CId=870&MIId=11519>

purposes of Local Air Quality Management (i.e. it is not at a location that would be representative of long term public exposure.

16. Annual mean NO₂ concentrations monitored at all roadside real-time monitoring stations were significantly lower in 2020 compared with 2019: NO₂ reduced by between 13.9% (Gillygate) and 27.8% (Fishergate) (average reduction 23.4%). NO₂ at Bootham Hospital (City of York Council's urban background monitoring site) between 2019 and 2020 reduced by 13.5%. This lower reduction than at roadside sites is expected and reflects the reduced impact of local traffic emissions on air quality in the vicinity of this background site.

17. The downward trend in NO₂ concentrations has continued since 2012, accelerated by the Coronavirus pandemic and lockdown and the reduction in traffic. Although 2020 was atypical for these reasons, ongoing air quality monitoring in all locations will be key to understanding the longer term environmental impacts of the pandemic and the magnitude of any changes due to increased levels of walking and cycling, and decreased use of public transport.

18. With respect to the city centre AQMA, no exceedances of the health based annual mean NO₂ objective of 40µg/m³ were monitored in any technical breach area (at a relevant location) in 2020. Maximum annual mean concentrations of NO₂ monitored at key locations within the current AQMA 'technical breach' areas were 40µg/m³ (Gillygate), 39µg/m³ (Rougier St), 35µg/m³ (Holgate / Blossom Street), 33µg/m³ (Lawrence St), 29µg/m³ (Fishergate / Paragon St), 27µg/m³ (Prices Lane/Nunnery Lane) and 31µg/m³ (Coppergate). Maximum concentrations of NO₂ recorded in these areas were on average 19.2% lower in 2020 than in 2019 and ranged from 9.2% lower in Gillygate to 27.3% lower in Prices / Nunnery Lane.

19. In December 2018, the boundary of the city centre AQMA was extended to include the full length of Coppergate and the buildings either side of the road. Concentrations of NO₂ monitored along Coppergate in 2020 were significantly lower than those monitored in 2019, with the highest concentration in 2020 observed at site D56 (Three Tuns Pub, 12 Coppergate). This site recorded an annual mean NO₂ concentration of 31.2µg/m³ which is well below the annual mean objective for this pollutant and represents an 18.3% reduction in NO₂ compared with concentrations monitored in 2019. Monitoring data for the last 5 years has indicated that concentrations of nitrogen dioxide along Coppergate are falling, but as 2020 has been atypical in terms of traffic, it will be important to maintain the current monitoring to review concentrations as normal conditions resume. During the daytime,

access to Coppergate is restricted to buses and taxis. Whilst taxi emissions are likely to have fallen significantly during 2020 as a result of the pandemic, further CYC incentives to reduce taxi emissions (as the demand for taxi services returns) will help to maintain air quality on Coppergate into the future. It is also expected that cleaner buses associated with the implementation of the York CAZ are contributing to air quality improvement in this area.

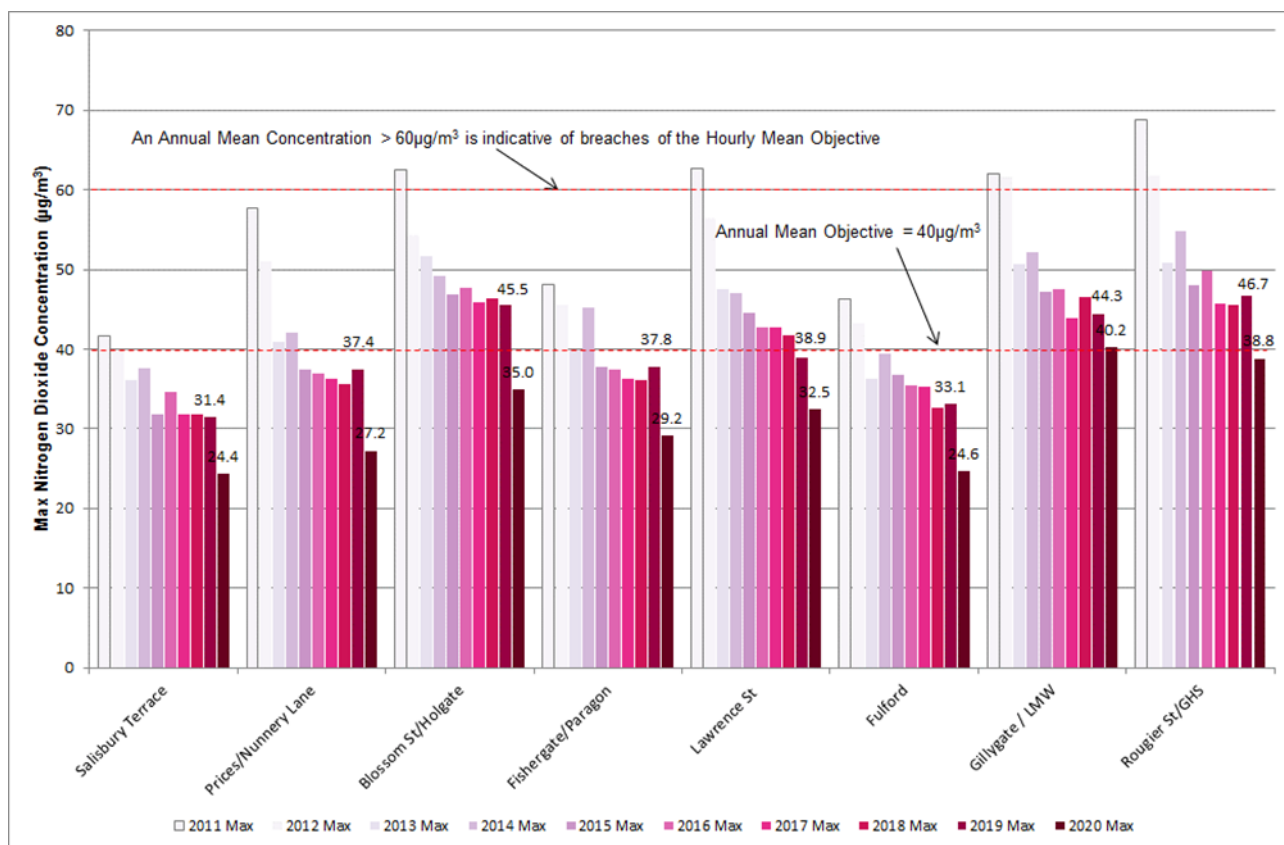
20. As traffic levels and associated emissions in the city were atypical in 2020 as a result of the Covid-19 lockdowns, it is not considered appropriate to reduce the size of the city centre AQMA at this time. In line with DEFRA's LAQM guidance, before revoking an AQMA on the basis of measured pollutant concentrations, a local authority needs to be reasonably certain that any future exceedances of air quality objectives are unlikely. Therefore local authorities have to consider monitoring over several years, national trends in emissions and local factors that may affect the AQMA. This will be reviewed again as part of CYC's next ASR (due June 2022) when the longer term impacts of the pandemic on traffic may be clearer.

Maximum monitored concentrations of nitrogen dioxide in 2020

21. The maximum NO₂ concentrations monitored (at a relevant location⁶) in each area of technical breach over the last 10 years are shown below. Council Plan indicator CAN028 only considers monitoring at relevant locations and is useful when considering the validity of AQMA boundaries.

Figure 1

⁶ A relevant location is an outdoor, non-occupational location (e.g. facade of a residential dwelling) where members of the public may be exposed to poor air quality



22. Figure 1 shows that the maximum annual mean NO₂ concentration monitored at a relevant location in 2020 was 40.2µg/m³ on Gillygate. All other locations were below the annual mean NO₂ objective.

Former Fulford Road and Salisbury Terrace AQMAs

23. Maximum concentrations of NO₂ monitored at relevant locations within the former Salisbury Terrace and Fulford Road AQMAs are well below the health based annual mean objectives so it was appropriate to revoke these AQMAs in 2017 and 2020 respectively. Current monitoring along Fulford Road and Salisbury Terrace will remain in place to monitor future changes in air quality due to development in the vicinity of these areas. Should pollution increase at these locations, the AQMAs could be re-instated.

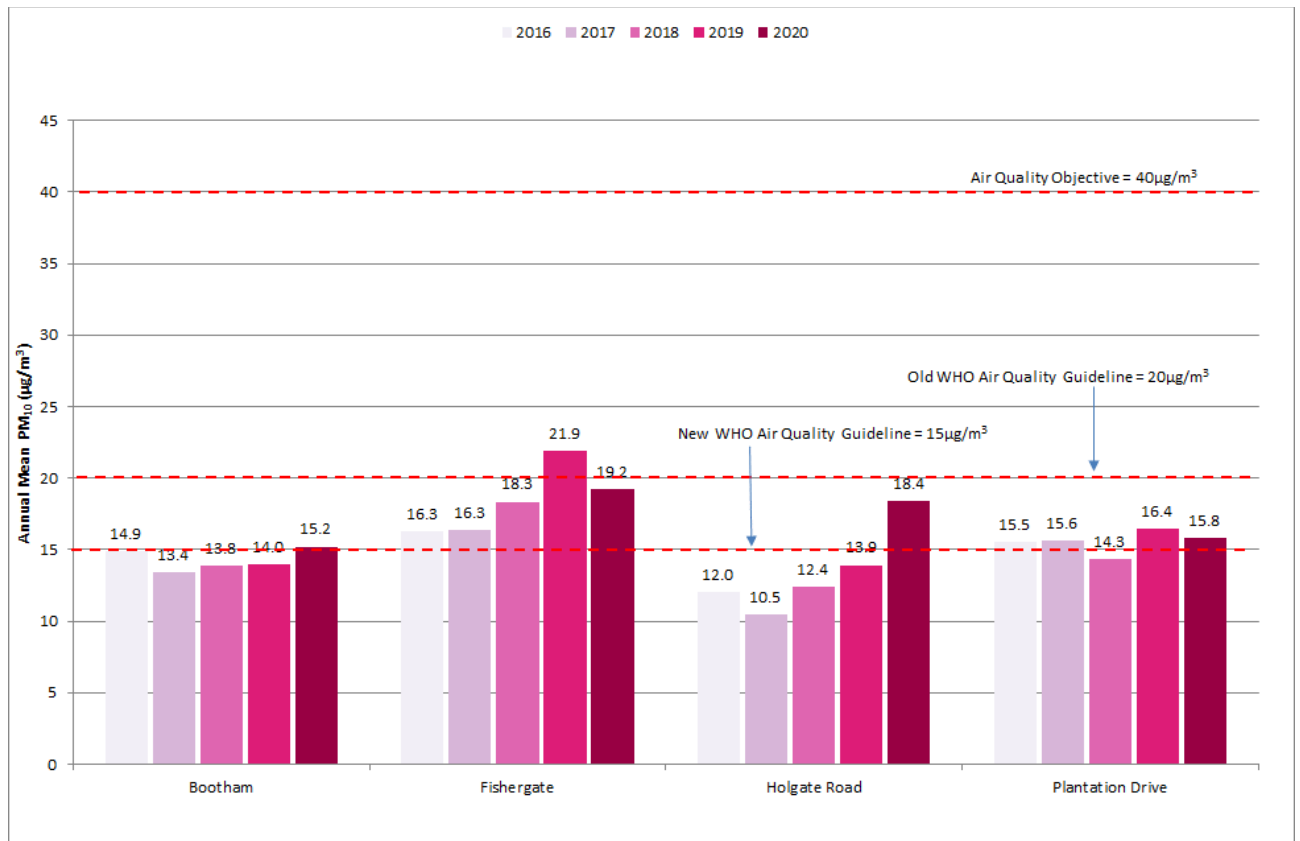
Monitoring of Particulate Matter (PM₁₀ and PM_{2.5})

24. City of York Council monitors particulate (PM₁₀) at 4 sites in the city (Bootham, Fishergate, Holgate Road and Plantation Drive) and ultra-fine particulate (PM_{2.5}) at 3 sites (Bootham, Fishergate and Gillygate). National air quality objectives for PM₁₀ and PM_{2.5} are currently easily met in York. The highest annual mean levels of PM₁₀ and PM_{2.5} monitored in York during 2020 were 19.2µg/m³ and 8.6µg/m³ respectively. Concentrations

monitored in 2020 compare with maximum levels of $21.9\mu\text{g}/\text{m}^3$ (PM_{10}) and $11.1\mu\text{g}/\text{m}^3$ ($\text{PM}_{2.5}$) monitored in 2019.

25. There is no clear trend in PM_{10} concentrations (see Figure 2 below):

Figure 2

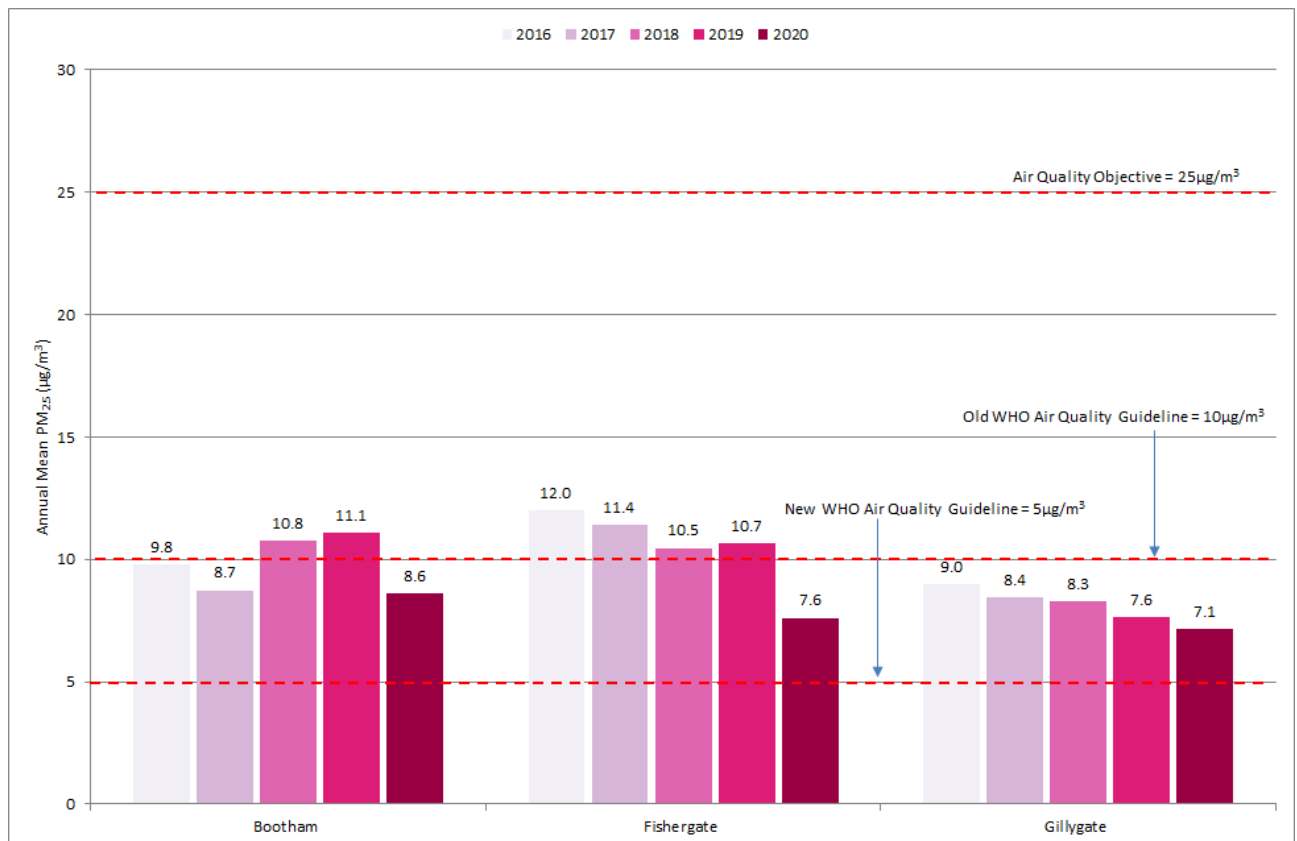


26. The World Health Organisation (WHO) Air Quality Guidelines offer global guidance on thresholds and limits for key air pollutants that pose health risks. Guidelines of 10 and $20\mu\text{g}/\text{m}^3$ (as annual means) existed for $\text{PM}_{2.5}$ and PM_{10} respectively until September 2021; these have now been tightened to $5\mu\text{g}/\text{m}^3$ ($\text{PM}_{2.5}$) and $15\mu\text{g}/\text{m}^3$ (PM_{10}). The new guidelines are significantly more stringent than current UK Air Quality Objectives and do not currently apply to UK law. A similar strengthening of WHO guidelines occurred for NO_2 , with the annual average recommendation falling from 40 to $10\mu\text{g}/\text{m}^3$. The new guidelines reflect the large body of evidence produced in recent years of the harm caused by much lower levels of pollution than previously thought. WHO recognise these are challenging public health recommendations and achieving the guideline levels would be the ultimate goal <https://apps.who.int/iris/handle/10665/345329>

27. Health based objective levels for fine particulates ($\text{PM}_{2.5}$) have not yet been set for local authorities. However, the EU limit value for $\text{PM}_{2.5}$ is $25\mu\text{g}/\text{m}^3$ as an annual average. Monitoring of $\text{PM}_{2.5}$ at Fishergate and

Bootham is part of DEFRA's Automatic and Rural Monitoring Network (AURN). Monitoring at Gillygate was established by CYC as a result of growing concern over the health impacts of PM_{2.5}. Trends in annual mean PM_{2.5} in York are shown in figure 3 below. Over the last 5 years, concentrations of PM_{2.5} have generally decreased at roadside monitoring sites, although PM_{2.5} monitored at the Bootham background site has been more variable. No exceedances of the annual mean PM_{2.5} objective have been recorded in York.

Figure 3



Meeting the Air Quality Objectives at all locations

28. Previous air quality modelling work undertaken by CYC indicated that with delivery of the third Air Quality Action Plan (AQAP3) (with all measures in place) the health based national air quality objectives for NO₂ could be met in all the current air quality technical breach areas in York by 2021. The Covid-19 pandemic has meant that the ongoing impact of AQAP3, including major air quality improvement measures implemented in 2020 such as the impact of the York Clean Air Zone and a new all electric bus fleet, have been difficult to quantify. Whilst such measures are important parts of the AQAP3 delivery programme and will undoubtedly have reduced emissions in key areas of concern,

the absolute impacts of such measures may only be apparent in subsequent years, when/if traffic levels and behaviour return to 'normal' and the air quality impact of such interventions can be verified via ongoing, longer-term air quality trends.

Impact of Covid-19 Lockdown

29. The Covid-19 lockdown provided a unique opportunity to study York's air quality in the absence of normal traffic levels. Widespread improvements in air quality were monitored in York in 2020 compared with previous years, primarily due to a reduction in emissions from vehicles on the York road network. The initial guidance to exercise outside the home once a day, and reduced numbers of vehicles on the roads, also resulted in an increase in active forms of travel such as walking and cycling.
30. Ricardo Energy and Environment (CYC air quality data management contractors) have produced a detailed technical note that examines the impact of lockdown measures on ambient air quality in York throughout 2020. The full report is available online at [Impact of COVID-19 on Air Quality in York](#). The analysis focuses on CYC air quality monitoring data and uses proven modelling techniques to discount the influence of weather on ambient pollutant concentrations. This analysis suggested that during the early part of the Covid-19 lockdown, nitrogen dioxide concentrations in some areas of York may have improved by up to 43% (average across all continuous monitoring sites was 30%) compared with a 'business as usual' scenario, clearly demonstrating that traffic is a significant source of nitrogen dioxide in the city and supporting the steps the council has taken so far to reduce vehicle emissions. As lockdown has eased and traffic has started to return to more normal levels, council policies to incentivise walking, cycling and public transport (as alternatives to private car) aim to maximise and sustain such air quality improvement. A priority for the coming year is to commence production of a new updated Air Quality Action Plan, to include measures to further reduce nitrogen oxides and particulates from all sources and to support and complement the Council's economic strategy, Local Plan, fourth Local Transport Plan (LTP4) and Climate Change Strategy.
31. Current uncertainties with respect to future travel behaviour, particularly around confidence in the use of public transport (and possible subsequent increases in private car journeys) could offset some of the air pollution gains made in recent years. However, if York can sustain some of the improvements in walking and cycling levels that arose

during lockdown and people continue to work at home, there may be an opportunity to improve air quality further. Members of the public have had a unique opportunity to experience cleaner air and may have given the issue more thought than normal due to the links to Covid-19 death rates. Research indicates that there has been a significant change in attitudes towards walking, cycling and electric vehicle use as a result of the pandemic and the council should aim to maximise opportunities to influence behaviour change.

Actions to Improve Air Quality

32. Whilst air quality has improved significantly in recent decades, and should continue to improve due to national policy decisions and advances in technology, there are some areas where local action is needed to improve air quality further. The government's 2019 Clean Air Strategy⁷ sets out the case for action, with goals even more ambitious than EU requirements to reduce exposure to harmful pollutants. The Road to Zero⁸ sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of AQMAs are designated due to elevated concentrations heavily influenced by transport emissions.
33. CYC previously produced two AQAPs in 2004 and 2006. These plans were primarily based on modal shift and congestion reduction with an emphasis on reducing vehicle trips across the city. Despite these plans air quality in York continued to deteriorate between 2004 and 2010. To address this, York developed the UK's first overarching Low Emission Strategy (LES) in 2012, based on reducing emissions from all sources, including vehicles and encouraging the uptake of alternative fuels and low emission vehicle technologies (whilst at the same time reducing carbon and greenhouse gas emissions). The LES has been particularly effective at tackling emissions from service vehicles such as buses, taxis and Heavy Goods Vehicles, which fall outside the scope of trip reduction based modal shift measures, but contribute to poor air quality in York.
34. Modal shift and congestion reduction measures remain fundamental to the delivery of air quality improvement and emission reduction in York. The primary local delivery programmes for these measures are the Local Transport Plan and the iTravel York programme. CYC are currently preparing a new Local Transport Plan (LTP4) and Carbon Reduction Strategy. Existing programmes and those such as

⁷ Defra. Clean Air Strategy, 2019

⁸ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

Government Active Travel Funding encourage walking, cycling and public transport in the city. They are supported by planning policies that ensure that sustainable travel solutions are included in all new developments in York.

35. CYC's third Air Quality Action Plan (AQAP3, 2015) described how York intends to continue to deliver its Low Emission Strategy and to work towards becoming an internationally recognised ultra-low emission city. The LES has already changed the way York delivers public transport and plans for future transport trips. York continues to deliver on walking, cycling and public transport improvements, maintaining its national reputation as a leader in sustainable transport.

36. Since publication of CYC's Low Emission Strategy, York has:

- Delivered a fully electric Park & Ride (P&R) site at Poppleton Bar and introduced electric buses across other P&R sites. CYC was awarded £3.3m from DfT's Low Emission Bus Scheme in 2018 to support delivery of high capacity, fully electric buses and to support charging infrastructure at York's P&R sites. As part of a partnership between bus company First York and CYC, 21 new all-electric double decker buses entered service on the P&R network in 2020/21. The electric fleet on the P&R service has been expanded to 33 buses, and includes one of the largest fleets of electric double decker buses outside London.
- Introduced a Clean Air Zone (CAZ) for buses on 31 January 2020. Buses making 5 or more entrances to the CAZ per day are now required to be Ultra Low Emission Buses (ULEB) (Euro VI diesel or electric). A total of £1.65m has been allocated by City of York Council to 5 bus operators to help replace/retrofit 93 buses to CAZ compliant vehicles.
- Encouraged 25% of York taxis (170 vehicles as of April 2021) to change to low emission alternatives (petrol hybrid or electric); a number of these were converted through our innovative CYC taxi incentive grant scheme. CYC's taxi licensing policy also specifies minimum emission standards for new or replacement taxis. DEFRA awarded a further £105k of air quality grant to CYC in 2020 to assist with further taxi upgrades. The low emission taxi grant scheme was launched in November 2020.
- Implemented an extensive 'pay as you go' fast and rapid charge public electric vehicle recharging network. CYC's Executive have also endorsed the ambition that a minimum of 5% of bays in council owned car parks will be charging bays by 2023. The existing council owned charging estate is currently being updated with the latest EV charging hardware. Once completed, the new network will consist of 350 fast

charging spaces, 19 rapid chargers, and 12 ultra-rapid chargers providing different charging options depending on an EV driver's requirements. At the end of 2020, there were 432,000 Ultra Low Emission Vehicles (ULEVs) in the UK, with 60% more licensed ULEVs in 2020 than in 2019. The majority of ULEVs licensed at the end of 2020 were either Battery Electric Vehicles (50%) or Plug-In Hybrid Electric Vehicles (45%). New registrations of electric cars nearly tripled in Great Britain in 2020 (+184%) compared to 2019, with more electric cars being registered in 2020 than in all years between 2001 and 2019 combined⁹.

- On 19 March 2020, CYC's Executive agreed a four year programme to commence the transition to an electric fleet for all vehicles under 3.5 tonnes. CYC has also bought twelve new refuse trucks, including two fully electric vehicles, which are expected to reduce fuel costs and pollution output by approximately 16%.
- Been awarded £816,000 from the Office of Low Emission Vehicles (OLEV) after becoming the only Yorkshire location out of eight in the country to achieve 'Go Ultra Low' city status. The money is being used to fund a network of charging hubs providing ultra-fast, reliable and convenient electric charging. Since receiving this funding, CYC has secured further European funding to allow the delivery of a full solar canopy/battery storage solution in addition to the 'hyper hub' charging facilities at Monks Cross and Poppleton Bar.
- Developed Low Emission Planning guidance – to accompany policy ENV1 'Air Quality' of the Local Plan: it outlines the Council's design and mitigation expectations for all new developments in the city, including EV charging. The guidance aims to assist developers to improve air quality and lower transport emissions in line with the aims and objectives of the Air Quality Action Plan and Low Emission Strategy. The guidance has also been used as the basis for a 'common principles' document relating to low emission planning, developed by the Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG), to ensure consistency in the approach to low emission planning across the region.
- Launched an ECO-Stars Fleet Recognition Scheme. The scheme attracted fleet membership from 106 organisations and has provided advice on operational best practice.
- Obtained member approval (Joint Decision Session of the Executive Member for Planning and Transport, and Executive Member for Environment, 7 February 2019) to implement a package of measures

⁹ <https://www.gov.uk/government/statistics/vehicle-licensing-statistics-2020>

aimed at deterring stationary vehicles from idling, including the use of discretionary powers under the Road Traffic Regulations 2002 to issue fixed penalty notices to drivers who refuse to switch off their engines. The 'Kick the Habit' anti-idling awareness-raising campaign was launched in mid-2019, aimed at encouraging people to think about the importance of clean air and the impact it has on their health and that of those around them. The campaign is designed to change the way people feel about idling and encourage them to 'kick the habit' by highlighting idling as socially unacceptable.

- CYC has undertaken promotional work in relation to anti-idling as part of Clean Air Day 2018, 2019, 2020 and 2021. Anti-idling signage has also been erected in all council owned car parks across the city, at most city centre bus stops, multiple taxi ranks and at other key locations across the city where vehicle idling has been reported. In December 2020, further promotional material and signage was erected at the Askham Bar Covid vaccination site, with support from CYC Public Health.
- Obtained DEFRA AQ Grant funding and is currently acting as lead authority in developing a new air quality hub, with Lancaster City Council and Mid Devon District Council. The new hub provides a space where air quality experience and knowledge can be shared and where local authority officers can be up-skilled without the need to attend external training courses or meet travel costs. The Air Quality Hub was launched on 26 November 2020 and over 170 individuals from local authorities and organisations across the UK attended the online launch event.

Priorities for the Coming Year

37. City of York Council's priorities for the coming year are:

- **Production of a new, fourth Air Quality Action Plan (AQAP4)** to update the existing AQAP3. The new AQAP will include measures to further reduce nitrogen oxides and particulates from all sources and to support and complement the Council's economic strategy, Local Plan, fourth Local Transport Plan (LTP4) and Climate Change Strategy. Subsequent Air Quality Actions Plans are likely to have a greater focus on pollution from domestic and commercial heating and other sources, and a greater emphasis on reducing particulate emissions. CYC is considering further survey and educational campaign work in relation to this issue in line with the Government's Environment Bill to reduce pollution from domestic heating and other sources. We also plan to look at opportunities for further Smoke Control Areas in the context of the Local Plan process and new sites being brought forward for development. We will investigate complaints of non-compliance with

smoke control area regulations, taking enforcement action where necessary in line with revised government legislation (subject to Environment Bill). We will also investigate sales of non-authorised solid fuels, following the introduction of The Air Quality (Domestic Solid Fuels Standards) (England) Regulations, which took effect from May 2021.

- **Reducing emissions from buses through the Clean Air Zone (CAZ)**
Buses making 5 or more entrances to the CAZ per day are now required to be Ultra Low Emission Buses (ULEB) (Euro VI diesel or electric). The Traffic Regulation Condition implemented for the CAZ also prohibits all local buses from idling their engines anywhere within the CAZ area, irrespective of service frequency. CYC will continue to work with bus operators to ensure that the CAZ requirements are fully adhered to and idling is minimised.
- **Continue promotion of anti-idling measures (including enforcement)** – CYC will continue to investigate complaints of idling in the city and further promote our ‘Kick the Habit’ anti-idling campaign. This will be supported by anti-idling enforcement patrols by staff in Public Protection and Civil Enforcement Officers, subject to any Covid-19 restrictions. Enforcement will only be undertaken as a last resort with the problem of stationary vehicle idling being addressed first and foremost, by raising awareness, particularly in those areas of the city where complaints arise, such as residential areas and outside schools. We will continue to work with bus operators through the Quality Bus Partnership to raise awareness of idling and minimise its occurrence.
- **Continue to reduce emissions from taxis** – Revisions to CYC’s Taxi Licensing Policy are currently under consideration. Policy revisions may affect the types of vehicles that can be licensed as taxis (Hackney carriage and private hire vehicles) in York and could include a vehicle age limit in line with other local authorities. CYC received a further DEFRA air quality grant in 2020 for further taxi upgrades; the remaining grant funds will continue to be rolled out until 31 March 2022.
- **Continued delivery of strategic EV charging network** - on 19 March 2020, CYC’s Executive approved a new EV Charging Strategy which set out the rationale for the number and location of EV charging points, the principles of tariff-setting, and the council’s approach to providing charging for residents in streets without off-road parking. The Executive also endorsed a commitment to continue to explore options for on street charging and facilities for charging electric taxis in the city centre. CYC are delivering HyperHubs (containing rapid and ultra-rapid charge points) at Monks Cross and Poppleton and are working on a third City Centre site. CYC is also planning a significant upgrade of charging

facilities across the rest of the city, starting with increasing the number of Fast charging spaces from 40 to 350.

- **Continuing to reduce emissions from new development** – by continuing to require electric vehicle recharging infrastructure, Construction Environmental Management Plans (CEMPs) and, where appropriate, emissions mitigation plans on new developments.
- **Reducing emissions from the council's fleet** – by switching from diesel to low and zero emission alternatives wherever practical. CYC will continue to reduce 'grey fleet' trips by utilising Enterprise Car Club to provide a pool of low emission cars for exclusive use by CYC staff during office hours. CYC will also begin the transition to an electric fleet for all vehicles under 3.5 tonnes as part of a four year programme. The council's fleet is set to be upgraded as part of a bid to be carbon neutral by 2030. Officers will also continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels. CYC aims to replace 153 vehicles from its current fleet during the programme, reducing CO₂ emissions by a third.
- **Continued modal shift and network improvement measures** – via the LTP capital and i-Travel York sustainable travel programmes.
- **Investigate first/last mile delivery options** - CYC was awarded £297,237 by DEFRA in March 2021 to carry out a feasibility study and subsequent pilot scheme to reduce emissions relating to deliveries travelling into and out of York. The project will focus on how to reduce the number of deliveries made to the city centre and around York by LGVs and HGVs (such as small vans or larger heavy goods vehicles). A study will identify suitable sustainable alternatives which may include a delivery 'hub' allowing the last or first mile of the journey to be made by low emission modes, including e-cargo bikes. CYC is engaging with businesses such as delivery companies on the study and pilot scheme.

38. Air quality improvement measures over and above those planned and outlined in the current report may be required to fully deliver the air quality objectives in all areas of technical breach in the city. It may be several years before new 'normal' levels of air pollution can be reliably measured, but York's Air Quality Action Plan will be kept under review to ensure it remains relevant to new ways in which people will choose to travel and any emerging new sources of air pollution, such as potential increases in domestic emissions (due to people working from home).

Consultation

39. Local authorities have to submit an ASR to DEFRA each year. No consultation outside CYC has been undertaken specifically for the purposes of compiling the Annual Status Report. DEFRA has appraised the report and provided written feedback to CYC.

Options

40. The Executive Member is asked to note the contents of the report, including the improvements in air quality observed in 2020, the continuing trend in air quality in York and proposals to update the current AQAP to support and complement other key CYC strategies.

Analysis

41. DEFRA's LAQM Policy Guidance (LAQM.PG16) and Technical Guidance (LAQM.TG16) outline the process that should be followed with respect to the Local Air Quality Management regime (for example amendments to and revocation of existing AQMAs).
42. Pollutant concentrations will vary from year to year due to the influence of meteorological conditions and DEFRA guidance makes it clear that authorities should avoid cycling between declaring, revoking and declaring AQMAs again simply due to these variations. For this reason, it is expected that authorities will need to consider measurements carried out over three to five consecutive years when deliberating the revocation or amendment of an AQMA, as well as national trends in emissions and local factors that may affect the AQMA, including measures introduced as part of the Air Quality Action Plan. DEFRA advise against considering the revocation of an AQMA based solely upon compliance being achieved in 2020, as this year may not be representative of long-term trends in pollutant concentrations and local authorities must be confident that air quality objectives will continue to be met in future years.
43. Public Protection have retained all air quality monitoring in the Fulford and Salisbury Terrace areas (areas previously covered by AQMAs) to ensure that any future changes in air quality are picked up and to ensure that baseline air quality in these areas can be monitored (to assist with the future appraisal of planning applications and the application of suitable mitigation measures, where appropriate).

Council Plan

44. Monitoring and reporting on air quality and measures to improve air quality will contribute to the Council Plan's aim of delivering a prosperous city for all, where local businesses can thrive and residents have good quality jobs, housing and opportunities.
45. Reducing emissions and improving air quality will reduce exposure to harmful air pollutants which can increase the symptoms of chronic and acute illnesses increase the risk of hospital admissions and in some case result in premature death. Good air quality reduces absence from work and education due to air pollution related illnesses.
46. Air pollution damages buildings as well as human health. Improving air quality will help to protect the city's many historic buildings and create a cleaner environment for visitors to York, an ultra-low emission city.

Implications

The various implications of this report are summarised below:

Financial

47. This report has no direct financial implications. However, implementation of air quality improvement measures will require both capital and revenue funding. Ongoing monitoring of air quality in the city, including continuation of monitoring in previous AQMA areas, also requires ongoing revenue funding. Any request for funding will follow the council's budgetary process.

Human Resources (HR)

48. There are no human resources implications

Equalities

49. A community impact assessment was undertaken for AQAP3. Vulnerable people, including older people, children, pregnant women and those with respiratory and other illnesses, are more likely to be adversely affected by poor air quality.

Legal

50. CYC has a statutory duty to periodically review the air quality within its area. There is a duty to designate an AQMA where air quality objectives are not being achieved or are not likely to be achieved. Once

an area has been designated there is a duty to carry out an assessment and prepare an air quality action plan (AQAP) for the area. DEFRA have issued statutory guidance to which the council must have regard in exercising these functions. This includes annual reporting on progress with delivery of AQAPs via Annual Status Reports (ASRs).

Crime and Disorder

51. There are no crime and disorder implications

Information Technology (IT)

52. There are no information technology implications

Property

53. There are no property implications

Risk Management

54. Not applicable

Contact Details

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Report **Date** 27/10/2021
Approved

Wards Affected: List wards or tick box to indicate all **All**

For further information please contact the author of the report

Background Papers:

Adoption of York's Third Air Quality Action Plan (AQAP3) - Decision Session
Executive Member for the Environment, 14th December 2014

The full Annual Status Report (2021) is available to view at
<http://jorair.co.uk/data-downloads/reports/>

List of Abbreviations Used in this Report

ASR	Annual Status Report
DEFRA	Department of Environment Food and Rural Affairs
AQAP3	Third Air Quality Action Plan
AQMA	Air Quality Management Area
CAZ	Clean Air Zone
CYC	City of York Council
EV	Electric Vehicle
µg/m ³	Micrograms per cubic metre
NO ₂	Nitrogen dioxide
PM	Particulate Matter
LES	Low Emission Strategy
HGV	Heavy Goods Vehicles
OLEV	Office for Low Emission Vehicles
CEMP	Construction Environmental Management Plan
CCFAP	Climate Change Framework and Action Plan
LTP	Local Transport Plan