Appendix 2 Greenhouse Gas (GHG) emissions inventory[1] for Chichester District Council

Table 1: Revision history

Date	Revision
January 2021	Adoption of the Climate Emergency Detailed Action Plan by full council.
7 April 2021	• Base year is recalculated to include emissions from the leisure centres. • Base year recalculated to include fuel extraction and processing to generate electricity. • Target expanded to include emissions from leased out assets. • Reporting format changed to follow Chapter 2 of the Streamlined Energy and Carbon Reporting (rather than Chapter 3 format).
September 2021	• Correction of emission factor used in estimating business mileage emissions for 2018-2019, increasing reported emissions by 3tCO2e.
January 2022	• Electrical transmission and distribution (T&D) losses were doubled counted in 2018-2019. This reduces 2018-2019 emissions by 37tCO2e. This reduction reduces the percentage reduction in emissions from 2018-2019 to 2019-2020 from 17% (reported to Environment Panel on 15 October 2021) to 16%. T&D losses were not shown in 2019-2020 figures reported to Environment Panel, but they were counted. This is corrected in Table 2. • Correction of some copying errors in Table 2. • Removal of double counting of scope 3 emissions in Graph: CDC Emissions.

Organisation information
Chichester District Council is a lower-tier local authority with its main offices at 1 East Pallant, Chichester, West Sussex, PO19 1TY.

Reporting period
01/10/2019 to 30/9/2020

[1] Inventory is the technical term for a footprint.

Organisational boundary[2]
We have used the operational control approach. Therefore, all services delivered either directly by the Council and Chichester Contract Services are included in Scope 1 and Scope 2 emissions.

This encompasses fuel and electricity use at:

- The council's headquarters at East Pallant House which has solar electric (PV) and solar thermal arrays
- Westward House homeless shelter
- Novium museum which has a wood pellet-fueled boiler
- Car parks
- Westhampnett depot
- Other smaller buildings
- Refuse fleet
- Other council-operated vehicles

In 2021 the emissions for the three leisure centres were gathered and the data was used to recalculate the base year.

Reasons for change in emissions

This period includes lockdowns due to Covid, the first of which occurred in March 2020. There was also a significant increase in the amount of renewable electricity on the national grid in this reporting period compared to the base year. Together these factors led to a 16% reduction in emissions in scopes 1 and 2 and selected scope 3 from the 2018/19 figure and therefore the internal target of 10% reduction year on year has been exceeded. The reduction in emissions from the leisure centres was particularly marked (see Graph: CDC emissions). At East Pallant House, 32 radiator thermostats were fixed, which would increase their efficiency.

Emission reductions did not occur across all of assets within the organisational boundary of this report. Emissions from vehicles collecting garden and household waste increased. Green waste has been growing year on year and the Divisional Manager for Chichester Contract Services attributes this to organic growth rather than an effect of Covid. The growth in household waste is attributed to the increase in housing over that period as well as possibly extra transfer stations runs caused by an increase in the amount of kerbside waste collected during lock down. The latter will be offset by the reduction of the Household Waste Recycling Centre (HWRC) articulated bulkers that stopped operating when the HWRCs were closed. Electricity use increased at the depot by 13.5% which may be due to the relocation of the council's data centre to the depot.

Westward House saw an increase in electricity consumption of 35%. The reasons for this are thought to be:

a) Westward House has had high levels of occupation, leading to high electricity use.

[2] There are different ways to draw a line around organisations – its boundary. We have used operational control so that we are accounting for emissions from activities over which we have day-to-day control.

b) Residents were at home during the day due to Covid impacts (lockdown, furlough, redundancy, low-income).

There was also a 17% increase in gas consumption at the Novium museum, which is attributed to an increased use of gas to compensate for the biomass boiler not being operational for much of the reporting period.

Quantification and Reporting Methodology
The UK government's Environmental Reporting Guidelines dated March 2019 and the 2020 UK Government Conversion Factors for Company Reporting have been used, along with the GHG Protocol Value Chain (Scope 3) Standard. We are not able to report on all categories that may be relevant. Some adjustment may be needed to the emission figures following further investigation into leased assets (which assets are operated by CDC and which are leased out).

Operational scopes
We have estimated our scope 1, 2 and certain scope 3 emissions.

Table 2: CDC's scope 1, scope 2 and scope 3 emissions

Scope 1[3] emissions in tCO_2e[4]	**2019-2020**	**Excluded emission sources**	**% of activity data[5] that is estimated**	**2018-2019**
Gas consumption	96	Oving Jubilee Hall & 80 High Street, Selsey (aka Selsey Fire Station). Both used as Community Warden bases[6]. Public conveniences at Itchenor are also excluded[7].	0	105
LPG	37			43
Fuel emissions for vehicles	1,154	None	0	1,180

[3] For those organisations using the operational control approach, scope 1 emissions are from activities or emission sources that we control day-to-day. They occur directly from those activities or sources i.e., a vehicle exhaust pipe.
[4] tCO2e stands for metric tonnes of carbon dioxide equivalent. The global warming caused by gases is standardised to the warming caused by one unit of carbon dioxide hence carbon dioxide equivalent.
[5] Activity data is the data used to estimate emissions e.g., how much fuel we have used, how many miles we have driven for business.
[6] CDC has no obligation to pay energy bills for these sites.
[7] These conveniences at Ferryside, The Street, are leased from Chichester Harbour Conservancy.

Scope 1[3] emissions in tCO_2e[4]	**2019-2020**	**Excluded emission sources**	**% of activity data[5] that is estimated**	**2018-2019**
Fugitive[8] emissions of refrigerants used in air con.	0	A catalogue of air con units is being developed. Not all units are covered by this report.	0	0
TOTAL SCOPE 1	1,287			1,327
Scope 2[9] emissions in tCO_2e				
Purchased electricity – location-based approach	272	Oving Jubilee Hall & 80 High Street, Selsey.	0	437
TOTAL SCOPE 2	272			437
Scope 3 emissions in tCO_2e				
Purchased goods & services	We have not tried to quantify these emissions yet.			
Capital goods	We have not tried to quantify these emissions yet.			
Fuel- and energy-related activities not included in Scopes 1 & 2	354			397
Upstream transportation & distribution	We have not tried to quantify these emissions yet.			

[8] Fugitive is the technical terms for emissions from leaks or accidental venting of equipment.

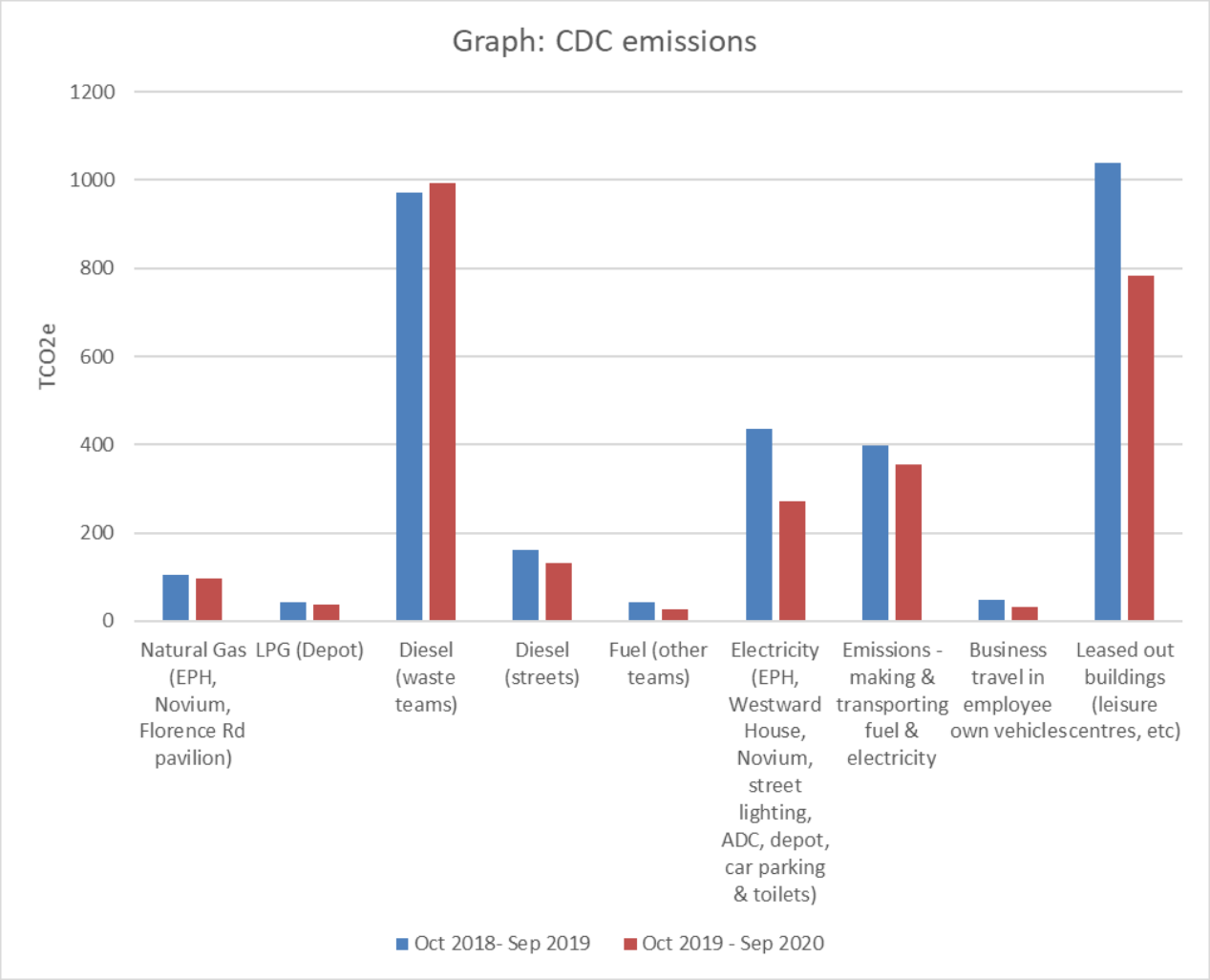
[9] Scope 2 and scope 3 emissions are indirect emissions. They occur as a result of activities over which we do not have control e.g. a power station generating electricity or at the paper mill of the company making CDC stationery. However, we have influence over these emissions which is why they are reported. Scope 2 is a special category of indirect emissions covering electricity, heat, steam and cooling that has been acquired (usually purchased).

Scope 1[3] emissions in tCO_2e[4]	2019-2020	Excluded emission sources	% of activity data[5] that is estimated	2018-2019
Waste generated in operations	We have not tried to quantify these emissions yet. Would include green waste from parks.			
Business travel	33	Employees who use their own vehicles for business travel but do not claim the mileage allowance. Employees using rail. This is infrequent.	9% is estimated. This is due to CDC not having the gCO_2/km from the employee's V5 vehicle document.	49
Employee commuting	We have not tried to quantify these emissions yet.			
Upstream leased assets	Under investigation.			
Downstream leased assets (Bourne, Grange and Westgate)	784	Collecting data from leased out assets is under development.	0	1,038
Downstream transportation & distribution	Not relevant.			
Processing of sold products	Not relevant.			
Use of sold products	Not relevant.			
End-of-life treatment of sold products	We have not tried to quantify these emissions yet. They would include emissions from trade waste collected by CCS.			

Scope 1[3] emissions in tCO_2e[4]	**2019-2020**	**Excluded emission sources**	**% of activity data[5] that is estimated**	**2018-2019**
Franchises	Not relevant.			
Investments	We have not tried to quantify these emissions yet.			
Biogenic emissions	0.07			0.31
Intensity metrics				
Scope 1, scope 2 & selected scope 3 emissions per district resident (tCO_2e per capita)	0.02			0.03
Scope 1, scope 2 & selected scope 3 emissions per unit area (tCO_2e per km^2)	3.36			4.00

Table 3: Emissions totals

	2019-2020	**2018-2019**	**% reduction**
Emissions (S1, S2 & selected S3) tCO_2e	2730	3248	16%


Graph: CDC emissions
TCO2e
1200
1000
800
600
400
200
0
Natural Gas (EPH, Novium, Florence Rd pavilion)
LPG (Depot)
Diesel (waste teams)
Diesel (streets)
Fuel (other teams)
Electricity (EPH, Westward House, Novium, street lighting, ADC, depot, car parking & toilets)
Emissions - making & transporting fuel & electricity
Business travel in employee own vehicles
Leased out buildings (leisure centres, etc)
Oct 2018- Sep 2019
Oct 2019 - Sep 2020

Base year
The base year is 01/10/2018 to 30/9/2019
We have chosen this period as it is:
• the year of the council's climate emergency resolution
• fits with the electricity and gas contract periods
• the subsequent period will show the effect of Covid 19 lockdown and any GHG reduction initiatives we put in place following the declaration of a climate emergency.

Our base year recalculation policy is to recalculate our base year and the prior year emissions for relevant significant changes which meet our significance threshold of 5% of base year emissions.

Target
Our target is a 10% year-on-year reduction from the 2018-2019 base year, covering scopes 1 and 2 and selected Scope 3 categories until year-end 2025. Initially the target encompassed only Scope 3 business travel and fuel- and energy-related activities not included in Scopes 1 & 2. However, as stated in section 1.2 of the Climate Emergency Detailed Action Plan, our aim is to develop our scope 3 emissions reporting. The first step has been to develop reporting of emissions from the downstream leased assets. Emissions from Bourne, Grange and Westgate leisure centres have been included and the base year of the target has been recalculated as a result.

Intensity Metrics
Our chosen intensity metrics are scope 1, scope 2 and selected scope 3 emissions per resident in the district (tCO_2e per district resident) and emissions per unit area (tCO_2e per km^2). The number of residents within the district is a key factor in determining the scale of our activities and hence our emissions. The acreage of the district is a factor in determining the how we deliver those services i.e. the extent to which services can be centralised.

Electricity & heat data

Electricity purchased for consumption (MWh)	1,167
Green tariffs or other renewable/low-carbon contractual instruments used	Yes, but we have used a location-based approach.
Renewable electricity (in MWh) generated in council-operated plants that was exported to the grid	Electricity is generated via the PV panels on East Pallant House roof, but data on the quantity exported to the grid is not yet known.
Was this backed by Renewable Energy Guarantees of Origin (REGOs)?	Not known
Heat generated from council operated sources (in MWh).	CDC has a solar thermal array generating hot water on East Pallant House roof. We do not have data on the quantity generated.