Water Management Alliance

Annual Carbon Report

2023/2024 Financial Year Update

Published: January 2025

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1. Introduction

This report is an annual update to the Water Management Alliance's first-ever full carbon audit (Published February 2023), as it strives to reduce carbon emissions by 50% by 2030. This report now includes emissions data for the 2023/2024 financial year.

The carbon audit will allow the Water Management Alliance to calculate and benchmark its carbon emissions and enable the key sources of emissions to be identified. This report now sits alongside the Water Management Alliance's Carbon Management Plan which sets out short, medium and long term actions to reduce carbon emissions.

2. Purpose

The Water Management Alliance would like to commit to the Government's ask of small businesses (SMEs) to commit to take climate action in three ways:

- 50% reduction in greenhouse gas emissions before 2030. (Scope 1 and Scope 2)
- Achieve net zero emissions by 2050. (across Scope 1, 2 and 3)
- Disclose progress on a yearly basis.

3. Methodology

3.1 The GHG Protocol

The GHG Protocol establishes comprehensive global standardized frameworks to account for and report on greenhouse gas emissions. This carbon audit has been produced in line with the principles of the Greenhouse Gas (GHG) Protocol and UK Government Department for Business, Energy and Industrial Strategy (BEIS) GHG reporting guidance.

The GHG emissions have been calculated by multiplying activity data by the relevant emissions factor:

Activity data x GHG emissions factor = GHG emissions

GHG emissions are expressed as carbon dioxide equivalents (CO_2e), and include; Carbon dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), Sulphur hexafluoride (SF_6), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Nitrogen trifluoride (NF_3).

3.2 Scope Definitions

The Green House Gas Protocol defines 3 types of emission categories referred to as Scopes. To help demonstrate Figure 1 is a Scope Infographic. Figure 2 describes each activity the WMA has included within each Scope.

Scope 1 - Direct Emissions from activities under our control. Primarily relating to fossil fuel combustion

Scope 2 - Indirect Emissions from the electricity we purchase and use

Scope 3 - All other indirect emissions form activities, sources we don't own or control

3.3 Organisational boundary

Calculating scope 3 emissions can often be difficult because the data required is mostly held by other organisations in the supply chain. For Scope 3 we have had to be clear which activities we are unable to report on

Included -

Fuel purchased by WMA for owned plant used for PSCA Work

Excluded -

Fuel purchased by contractors for their own vehicles and plant undertaking IDB work.

Emissions from FCERM Capital projects where we use contractors.

Employee Commuting

For the excluded items we may look to develop a reporting process that would allow us to report these emissions in future annual audits. We will request contractors for any construction projects to inform us of their emission reporting capabilities and which GHG calculation and reporting standards they operate to.

3.4 Coverage

The Water Management Alliance is an umbrella organisation, offering back-office and technical services to a consortium of seven Internal Drainage Boards. Each Internal drainage Boards managed by the WMA is an autonomous local, public body which has statutory duties to the environment as it undertakes its permissive powers.

The IDBs covered by the consortium are included – South Holland IDB, King's Lynn IDB, Norfolk Rivers IDB, Broads IDB, Waveney, Lower Yare & Lothingland IDB, East Suffolk WMB and Pevensey & Cuckmere WLMB. Data has been collected and summarised for individual Boards and collectively as the WMA.

3.5 Target

The IDBs of the WMA have a carbon net zero target date of 2050.

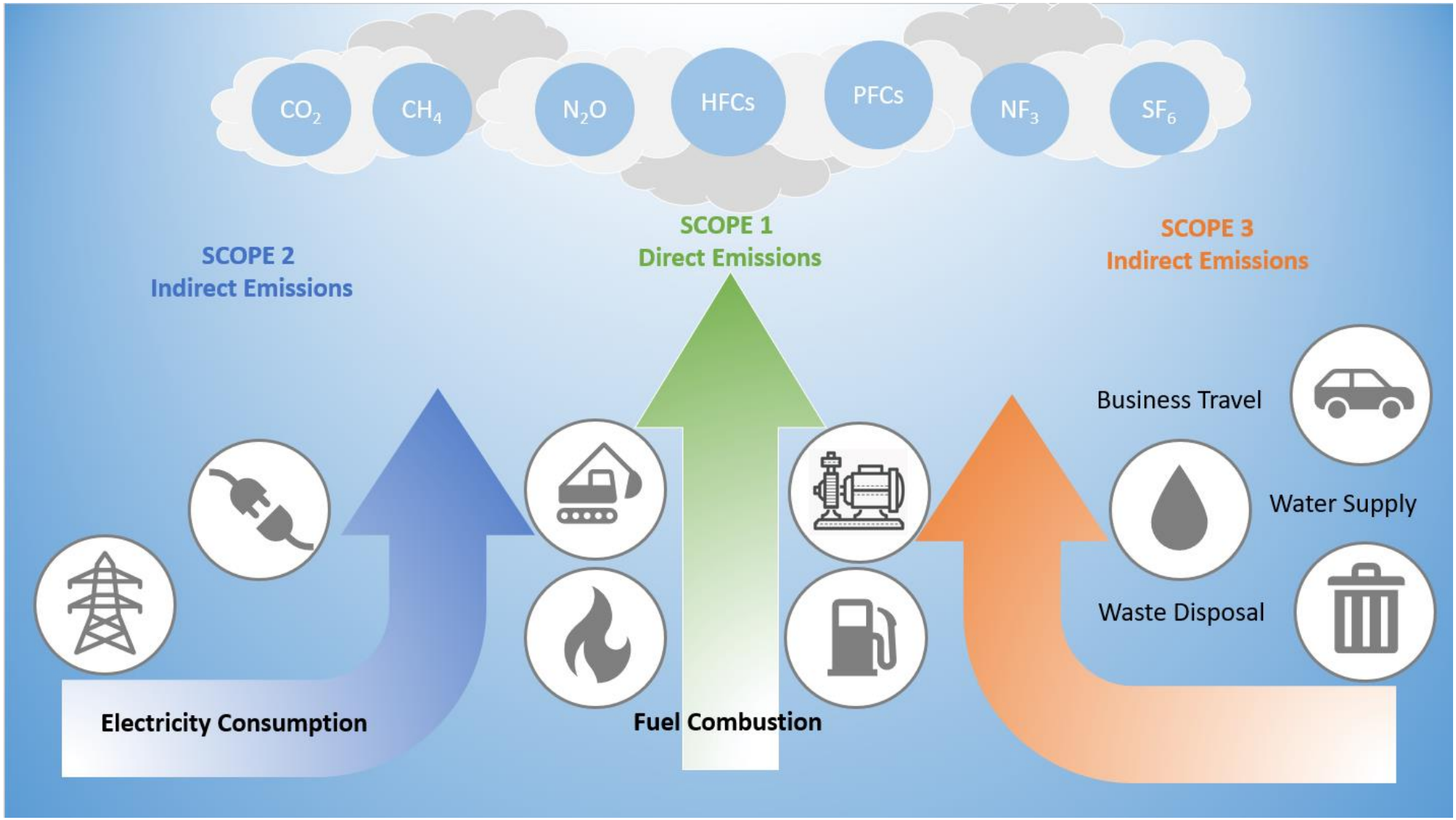


Figure 1: Scope Infographic

Activity		Description	Data Source	Unit
Scope 1 - Direct Emissions – Fuel Consumption				
Fuel in Fleet Vehicles	White Diesel	operational vehicle Fleet & Plant	fuel invoices	Litres
	Petrol			
	Red Diesel			
	Bio Oil			
Offices	Fugitive Emissions	Air con flouros	EOC Services	Kg
Pumping Station	Red Diesel Generators	Operating Pumping station back-up generators	fuel invoices	Litres
	Unleaded			
Scope 2 - Indirect Emissions – Electricity Consumption				
Electricity Emissions	Offices	Electricity purchased from the national grid to power the WMAs offices and Pumping Stations	utility bills	kWh
	Pumping Station			
Scope 3 - Other Indirect Emissions				
	Electricity Transmission & Distribution Losses	These are indirect emissions from the transmission and distribution of our purchased electricity. It is considered best practise to include these	utility bills	kWh
	Business travel inc Car, rail, and flights	Staff travel - in their own vehicles on business grounds, via train or plane	employee mileage claims / expenses	Miles / km
	Water Supply & Treatment	The supply of water to our buildings and sites. Treatment is the water we return to the system (90% return to sewer rate).	utility bills	m^3
	Waste & Recycling	Weight of Waste and recycling collected from our offices	Veolia Dashboard	Kg

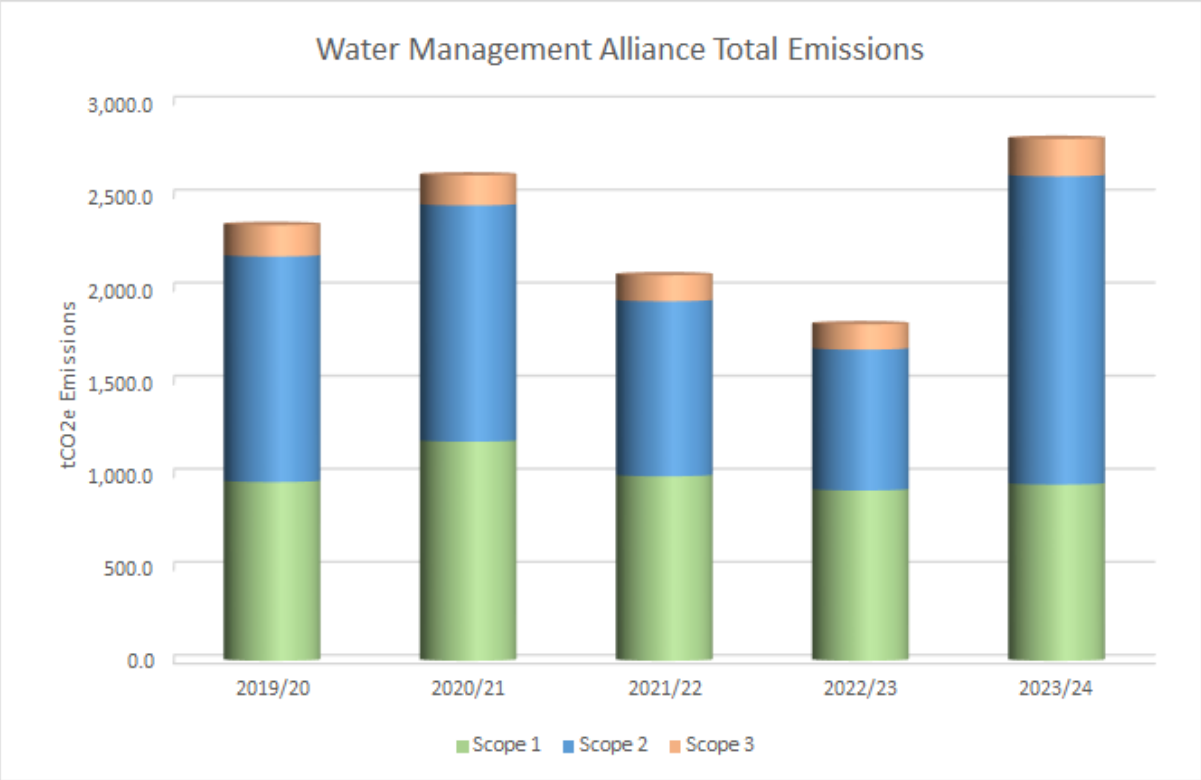
Figure 2: Description of each activity WMA included witin each Scope

4. RESULTS

4.1 WMA Summary

The data shows that overall Carbon Emissions in 2023/24 are 20% higher compared to our baseline year of 2019/20, an increase of 462.9 tCO2e. The emissions are 55% higher compared to 2022/23, an increase of 996 tCO2e.

All Board's emissions have increased in 2023/24 compared against the previous year, 2022/23 due to the very wet weather endured during the Winter – as described and evidenced in 4.3 below and Appendix 8.



Scope 1

- Overall Emissions 3% higher (an increase of 32 tCO2e) in 2023/24 than 2022/23, 1% lower (reduction of 13.4 tCO2e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 119% higher (an increase of 898.8 tCO2e) in 2023/24 than 2022/23, 37% higher (an increase of 447.1 tCO2e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 48% higher (an increase of 65.1 tCO2e) in 2023/24 than 2022/23, 19% higher (an increase of 32.2 tCO2e) than 2019/20 baseline year.

4.2 Quality Control

The Finance team collating the data have applied data checks and consistency in producing data from the system. All outliers have been checked and explanations sought and documented from individual IDBs where large variations have occurred.

4.3 2023/2024 Weather

Summer 2023 was warmer and wetter than average with a record-breaking June. June 2023 was confirmed as the hottest June on record for the UK. The average mean temperature of 15.8°C in the month eclipsed the previous record for the Junes of 1940 and 1976 by 0.9°C, a huge margin.

Autumn 2023 was milder and wetter than average, with a fine start, a very wet October and a run of named storms including Agnes (late September), Babet (mid-October), Ciaran (start of November), Debi (mid-November), Elin and Fergus (early December) and Gerrit (late December).

October 2023 was the UK's equal sixth wettest October on record since 1836 with Storm Babet playing a large role.

February 2024 was very wet with roads across Essex, Cambridgeshire and Peterborough closed due to floodwater

All our IDBs experienced higher rainfall in 2023/2024 which explains why all Scope 2 Emissions, relating to electricity consumption in pumping stations, is higher for every board. It also explains why Scope 1 emissions, relating to fuel consumption to run temporary pumps, is higher for King's Lynn IDB, East Suffolk IDB, Broads IDB.

Given the significant increase in rainfall and operating costs felt by IDBs across the country as a result, in February 2024, the prime minister announced £75m to be split initially for two distinct purposes:

1. Storm recovery – assisting with IDB operational expenses following the winter storms of 2023/24, repairs to pumping stations, watercourses and other assets.
2. Investment to modernise and upgrade IDB assets/waterways for the future – modernise them, making them more efficient/effective, sustainable, environment friendly, to diversify the outcomes they achieve for lowland landscapes and communities.

Prime Minister announces £75 million for IDBs to recover and modernise - Association of Drainage Authorities

A third Tranche has recently been announced in November 2024 providing £19m of funding until April 2026.

4.4 Data

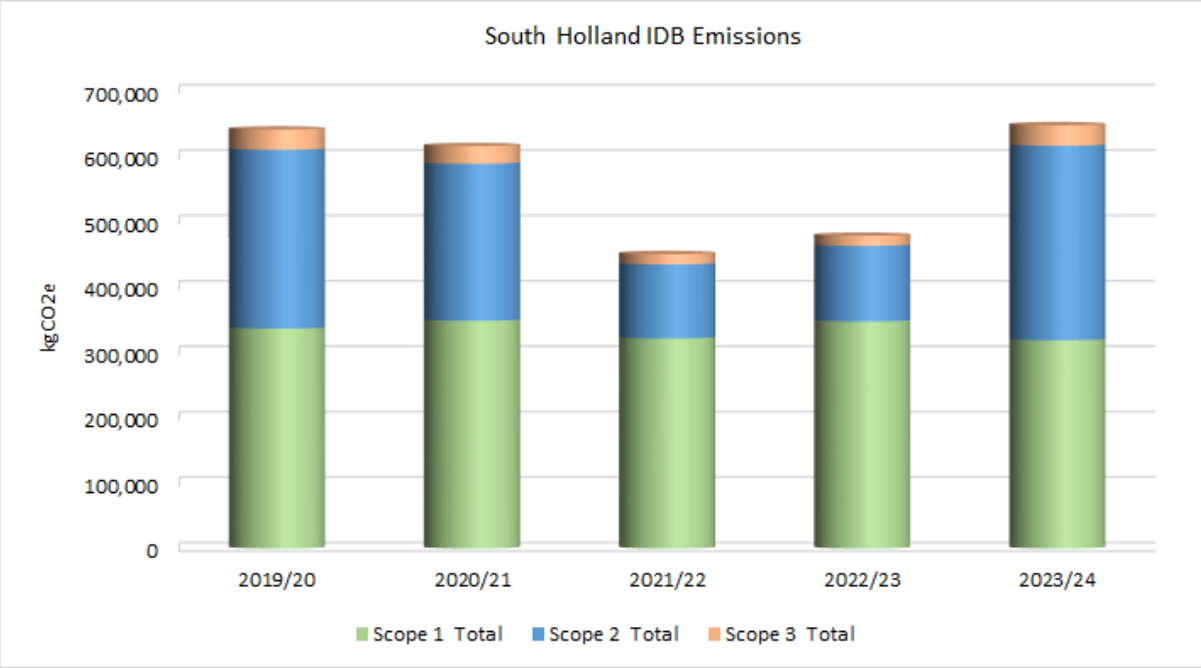
All the Boards are on 'Green Electricity Tariffs' but we have still recorded 100% of the electricity emissions as we do not believe the electricity provided from these tariffs is all from renewables.

		WMA TOTAL kgCO2e Emissions				
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23	2023/24
Fuel in Fleet Vehicles	White Diesel	151,605.7	150,615.0	150,444.7	149,113.5	141,788.1
	Unleaded	1,614.9	1,454.4	1,464.5	1,121.3	8,266.1
	Red Diesel	730,561.6	885,025.9	744,720.1	741,692.0	759,135.2
	Bio Oil	0.0	0.0	550.0	137.5	0.0
	Gas	16,831.9	19,520.3	18,308.6	2,583.2	0.0
Small Tools / Others	Unleaded	211.7	189.1	95.7	253.0	588.8
	White Diesel	0.0	0.0	0.0	0.0	696.3
	Red Diesel	0.0	0.0	0.0	0.0	184.9
Offices	Oil	0.0	0.0	0.0	0.0	0.0
	Air con flouros	13,303.5	0.0	75,153.1	12,804.9	0.0
Pumping Station	Red Diesel Pump Engines or Generators	46,282.8	120,042.5	617.9	7,231.2	36,236.0
	Unleaded	11.0	362.3	100.5	83.1	140.3
Scope 2 - Indirect Emissions						
Electricity Emissions	Offices	23,489.3	17,327.2	19,364.0	21,042.0	14,943.4
	Pumping Station	1,188,238.7	1,251,588.7	920,709.5	735,919.5	1,640,860.2
Scope 3 - Other Indirect Emissions						
Electricty T&D Losses	Electricty T&D Losses	102,712.9	109,192.1	84,251.9	69,245.3	143,343.0
Business Travel	Private Car Business travel	65,653.4	52,275.5	55,324.2	66,162.6	57,326.6
	Rail	120.3	27.8	117.9	91.6	78.6
	Flying	0.0	0.0	0.0	264.3	0.0
Water Supply / Treatment	Water Supply	365.9	349.6	58.0	90.0	76.6
	Water treatment	26.5	30.8	22.2	82.0	50.4
Waste / recycling	Waste	76.6	76.5	117.3	100.7	260.6
	Recycling	9.5	9.5	11.6	31.4	25.2
	TOTAL	**2,341,116.3**	**2,608,087.1**	**2,071,431.8**	**1,808,049.0**	**2,804,000.5**
Scope 1 Total		**960,423.1**	**1,177,209.4**	**991,455.2**	**915,019.7**	**947,035.9**
Scope 2 Total		**1,211,728.0**	**1,268,915.9**	**940,073.5**	**756,961.5**	**1,655,803.6**
Scope 3 Total		**168,965.1**	**161,961.8**	**139,903.1**	**136,067.8**	**201,161.0**
% Change from Baseline year 2019/20						**20**
% Change from 2022/23						**55**

APPENDIX 1: SOUTH HOLLAND IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2023/24 are 1% higher compared to our baseline year of 2019/20, an increase of 6.5 tCO2e. The emissions are 35% higher than 2022/23, an increase of 169 tCO2e.



1.2 Results

Scope 1

- Overall Emissions 8% lower (a reduction of 28.7 tCO2e) in 2023/24 than 2022/23, 5% lower (reduction of 17.7 tCO2e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 157% higher (an increase of 181.7 tCO2e) in 2023/24 than 2022/23, 9% higher (increase of 23.8 tCO2e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 103% higher (increase of 16.0 tCO2e) in 2023/24 than 2022/23, 2% higher (increase of 0.5 tCO2e) than 2019/20 baseline year.

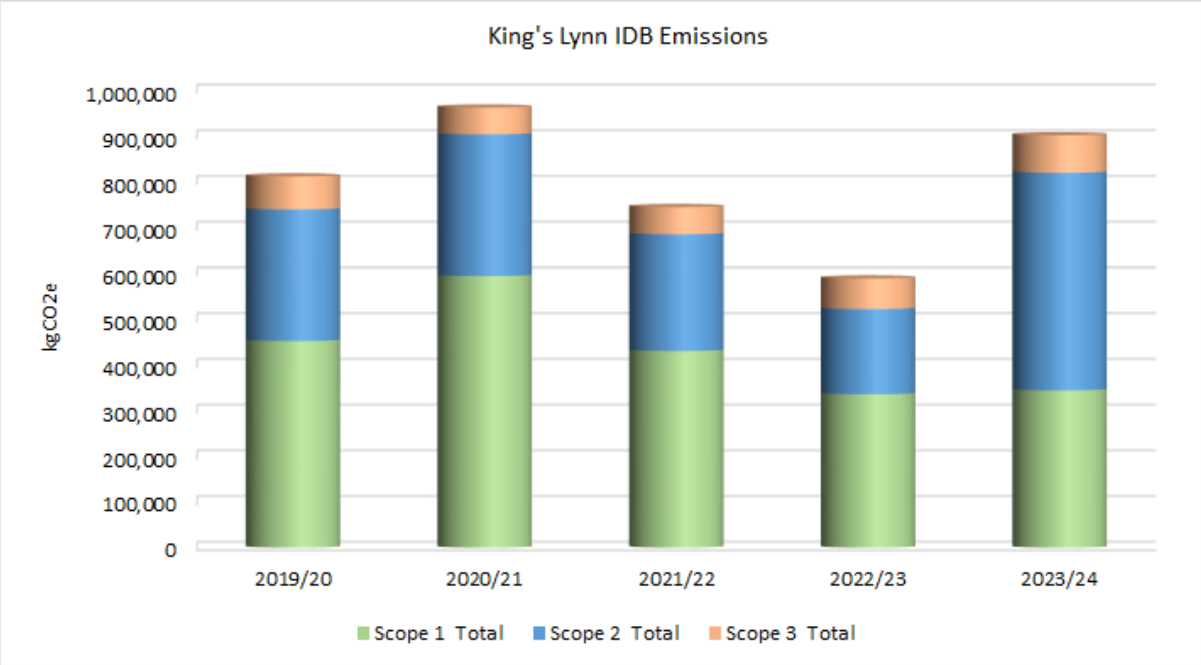
1.3 Data

		South Holland IDB kgCO2e Emissions				
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23	2023/24
Fuel in Fleet Vehicles	White Diesel	37,719.4	35,165.4	28,498.6	39,639.0	34,153.6
	Petrol	521.3	362.1	390.5	261.4	395.5
	Red Diesel	293,029.5	308,623.7	291,263.6	293,716.4	283,485.1
	Bio Oil	0.0	0.0	0.0	0.0	0.0
	Gas	0.0	0.0	0.0	0.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0	0.0
	Air con flouros	4,434.5	0.0	0.0	12,804.9	0.0
Pumping Station	Red Diesel Pump Engines or Generators	69.0	3,623.7	617.9	358.8	0.0
	Unleaded	0.0	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions						
Electricity Emissions	Offices	3,571.7	3,607.1	3,525.3	2,909.3	3,213.1
	Pumping Station	269,673.5	236,270.6	109,585.1	112,449.2	293,814.8
Scope 3 - Other Indirect Emissions						
Electricty T&D Losses	Electricty T&D Losses	23,161.8	20,641.8	10,137.3	10,552.8	25,713.7
Business Travel	Private Car Business travel	7,833.9	6,395.6	5,654.1	4,950.6	5,652.2
	Rail	0.0	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	72.2	67.8	15.3	16.8	23.5
	Water treatment	0.0	0.0	0.0	0.0	0.0
Waste / recycling	Waste	72.6	72.5	106.5	82.6	245.2
	Recycling	0.0	0.0	0.0	0.0	6.8
	TOTAL	**640,159.4**	**614,830.1**	**449,794.3**	**477,741.9**	**646,703.5**
Scope 1 Total		**335,773.6**	**347,774.8**	**320,770.7**	**346,780.5**	**318,034.2**
Scope 2 Total		**273,245.2**	**239,877.7**	**113,110.5**	**115,358.5**	**297,027.8**
Scope 3 Total		**31,140.6**	**27,177.7**	**15,913.2**	**15,602.8**	**31,641.4**
% Change from Baseline year 2019/20						**1**
% Change from 2022/23						**35**

APPENDIX 2: KINGS LYNN IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2023/24 are 11% higher compared to our baseline year of 2019/20, an increase of 90 tCO2e. The emissions are 53% higher compared to 2022/23, an increase of 312.9 tCO2e.



1.2 Results

Scope 1

- Overall Emissions 2% higher (an increase of 8.4 tCO2e) in 2023/24 than 2022/23, 24% lower (reduction of 108 tCO2e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 156% higher (an increase of 289.5 tCO2e) in 2023/24 than 2022/23, 65% higher (an increase of 188 tCO2e) than 2019/20 baseline year.
- Electricity usage in previous years 2021/22 and 2022/23 has been updated to reflect half hourly meter reads.

Scope 3

- Overall Emissions 22% higher (increase of 15.1 tCO2e) in 2023/24 than 2022/23, 14% higher (an increase of 10 tCO2e) than 2019/20 baseline year.

1.3 Data

		King's Lynn IDB kgCO2e Emissions				
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23	2023/24
Fuel in Fleet Vehicles	White Diesel	30,152.8	28,556.1	27,229.1	24,647.1	26,889.0
	Unleaded	479.6	419.4	515.9	374.2	509.5
	Red Diesel	349,070.8	433,246.9	308,664.7	300,823.4	315,699.8
	Bio Oil	0.0	0.0	0.0	0.0	0.0
	Gas	16,831.9	19,506.6	18,294.9	2,560.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0	0.0
	Air con flouros	8,869.0	0.0	75,153.1	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	46,213.8	111,774.8	0.0	6,872.4	538.2
	Unleaded	0.0	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions						
Electricity Emissions	Offices	14,919.2	7,810.7	9,938.8	14,191.4	7,992.4
	Pumping Station	272,442.9	301,665.8	244,896.0	171,665.4	467,324.4
Scope 3 - Other Indirect Emissions						
Electricty T&D Losses	Electricty T&D Losses	24,358.4	26,630.9	22,839.0	17,001.8	41,148.2
Business Travel	Private Car Business travel	47,541.2	31,923.8	36,600.8	49,677.0	40,988.2
	Rail	120.3	27.8	117.9	91.6	78.6
	Flying	0.0	0.0	0.0	264.3	0.0
Water Supply / Treatment	Water Supply	293.7	281.8	42.7	73.2	53.1
	Water treatment	26.5	30.8	22.2	82.0	50.4
Waste / recycling	Waste	4.0	4.0	10.8	18.2	15.5
	Recycling	9.5	9.5	11.6	31.4	18.4
	TOTAL	**811,333.4**	**961,888.8**	**744,337.3**	**588,373.2**	**901,305.6**
Scope 1 Total		**451,617.8**	**593,503.7**	**429,857.6**	**335,277.1**	**343,636.5**
Scope 2 Total		**287,362.0**	**309,476.5**	**254,834.8**	**185,856.7**	**475,316.8**
Scope 3 Total		**72,353.5**	**58,908.6**	**59,644.9**	**67,239.4**	**82,352.4**
% Change from Baseline year 2019/20						**11**
% Change from 2022/23						**53**

1.4 Solar Panels

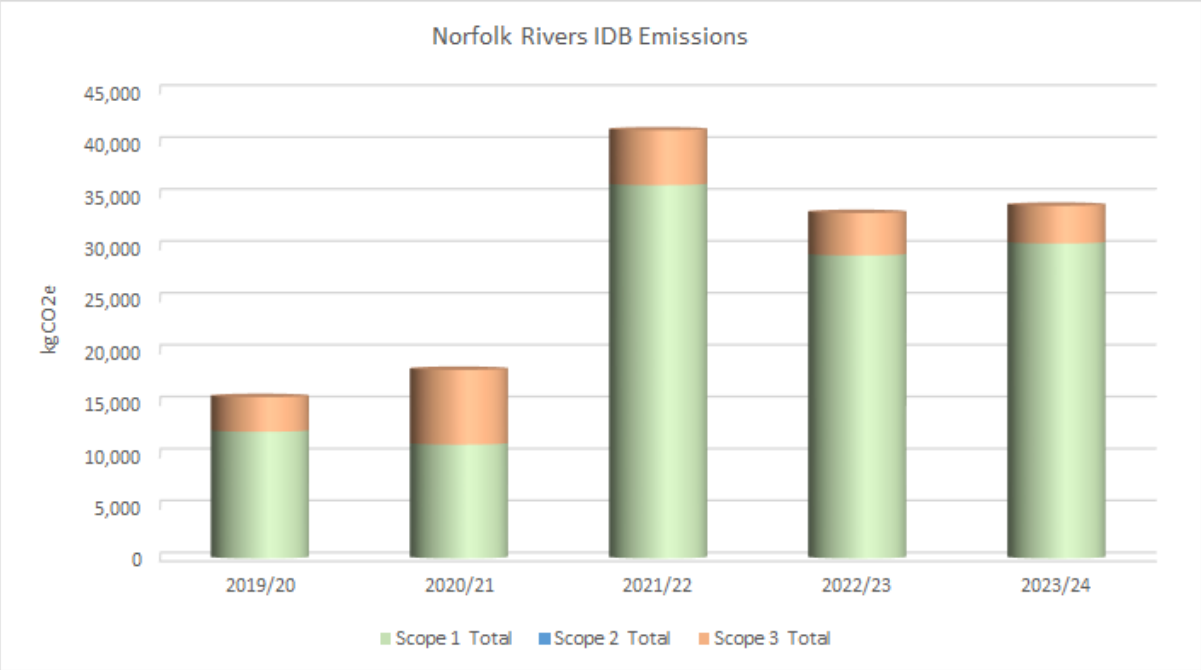
At Pierpoint House we commissioned solar panels in November 2022. Circa 51% (35.61 MWh) of our electricity consumption came from solar power during 2023/24. This avoided 8 tCO2e emissions compared with using electricity from the Grid. We have installed 60 kWh batteries to increase our storage and therefore the amount we can consume, before it is fed into the grid.

The solar also fed 33.9 MWh of excess generation that we could not consume into the grid. We get 6p per kWh from the grid generating a small income.

APPENDIX 3: NORFOLK RIVERS IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2023/24 are 119% higher compared to our baseline year of 2019/20, an increase of 18.4 tCO2e. The emissions are 2% higher compared to 2022/23, an increase of 0.7 tCO2e.



1.2 Results

Scope 1

- Overall Emissions 4% higher (increase of 1.1 tCO2e) in 2023/24 than 2022/23, 149% higher (increase of 18.1 tCO2e) than 2019/20 baseline year.

Scope 2

- No Emissions as there are no Pumping Stations or office

Scope 3

- Overall Emissions 11% lower (reduction of 0.45 tCO2e) in 2023/24 than 2022/23, 9% higher (increase of 0.3 tCO2e) than 2019/20 baseline year.

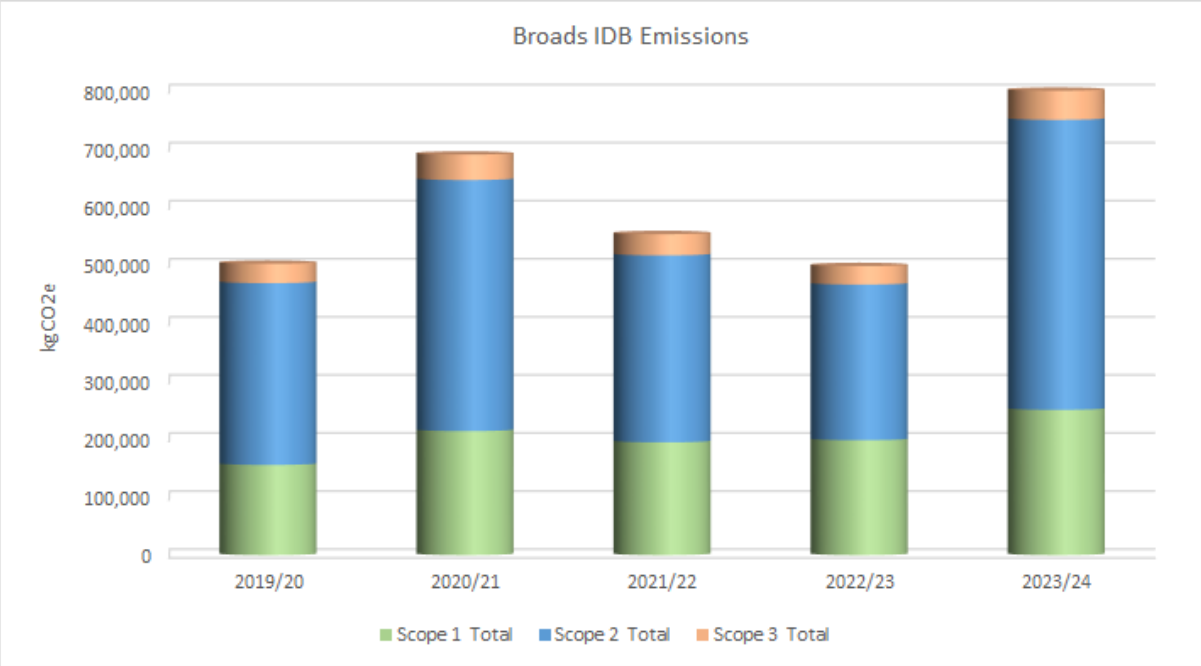
1.3 Data

		Norfolk Rivers IDB kgCO2e Emissions				
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23	2023/24
Fuel in Fleet Vehicles	White Diesel	0.0	0.0	0.0	0.0	148.5
	Unleaded	0.0	0.0	108.8	99.4	6,496.3
	Red Diesel	12,194.0	10,959.3	35,273.8	29,068.3	23,633.9
	Bio Oil	0.0	0.0	550.0	0.0	0.0
	Gas	0.0	0.0	0.0	0.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0	0.0
	Air con flouros	0.0	0.0	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	0.0	0.0	0.0	0.0	0.0
	Unleaded	0.0	0.0	0.0	0.0	39.8
Scope 2 - Indirect Emissions						
Electricity Emissions	Offices	0.0	0.0	0.0	0.0	0.0
	Pumping Station	0.0	0.0	0.0	0.0	0.0
Scope 3 - Other Indirect Emissions						
Electricty T&D Losses	Electricty T&D Losses	0.0	0.0	0.0	0.0	0.0
Business Travel	Private Car Business travel	3,345.4	7,195.3	5,280.1	4,092.9	3,641.3
	Rail	0.0	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0	0.0
	TOTAL	**15,539.4**	**18,154.7**	**41,212.8**	**33,260.6**	**33,959.7**
Scope 1 Total		**12,194.0**	**10,959.3**	**35,932.7**	**29,167.7**	**30,318.4**
Scope 2 Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Scope 3 Total		**3,345.4**	**7,195.3**	**5,280.1**	**4,092.9**	**3,641.3**
% Change from Baseline year 2019/20						**119**
% Change from 2022/23						**2**

APPENDIX 4: BROADS IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2023/24 are 59% higher compared to our baseline year of 2019/20, an increase of 297.9 tCO2e. The emissions are 61% higher compared to 2022/23, an increase of 301.9 tCO2e.



1.2 Results

Scope 1

- Overall Emissions 26% higher (an increase of 52.3 tCO2e) in 2023/24 than 2022/23, 61% higher (increase of 94.8 tCO2e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 86% higher (an increase of 231.3 tCO2e) in 2023/24 than 2022/23, 60% higher (increase of 186.2 tCO2e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 57% higher (an increase of 18.3 tCO2e) in 2023/24 than 2022/23, 50% higher (increase of 16.8 tCO2e) than 2019/20 baseline year.

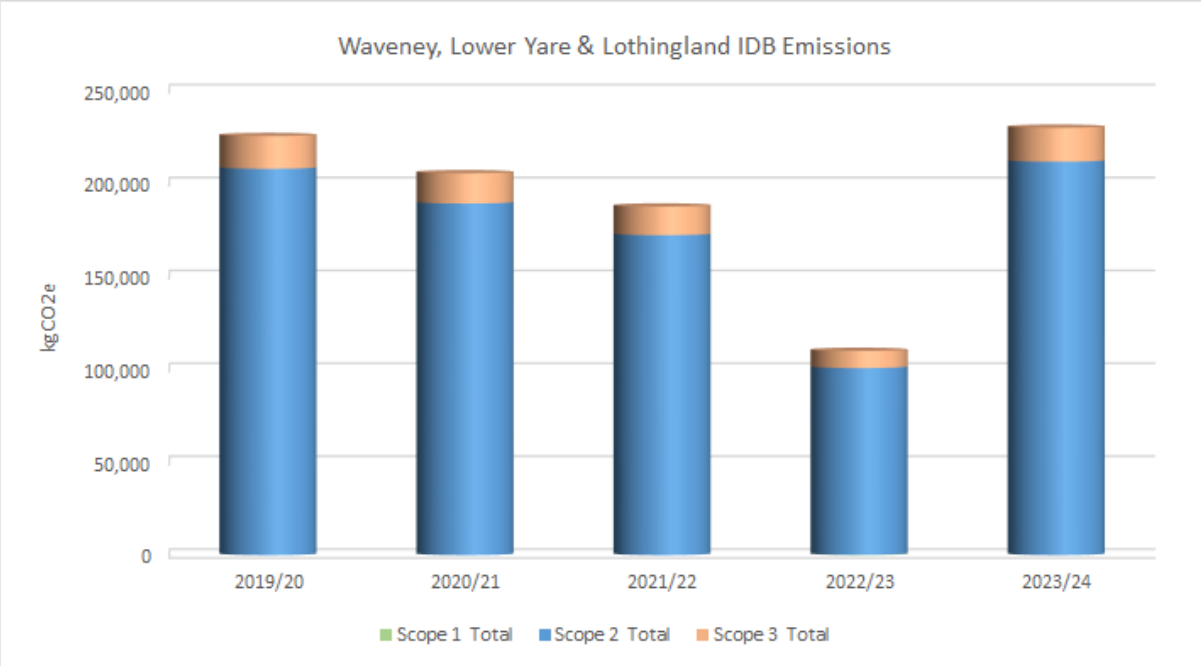
1.3 Data

		Broads IDB kgCO2e Emissions				
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23	2023/24
Fuel in Fleet Vehicles	White Diesel	78,842.3	78,093.9	86,688.6	79,281.6	76,594.4
	Unleaded	110.4	324.2	0.0	0.0	69.0
	Red Diesel	76,134.9	129,937.4	107,308.4	118,083.8	136,214.3
	Bio Oil	0.0	0.0	0.0	137.5	0.0
	Gas	0.0	13.7	13.7	12.2	0.0
Small Tools / Others	Unleaded	211.7	189.1	95.7	253.0	588.8
	White Diesel	0.0	0.0	0.0	0.0	696.3
	Red Diesel	0.0	0.0	0.0	0.0	184.9
Offices	Oil	0.0	0.0	0.0	0.0	0.0
	Air con flouros	0.0	0.0	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	0.0	4,644.1	0.0	0.0	35,697.8
	Unleaded	11.0	351.4	100.5	83.1	100.5
Scope 2 - Indirect Emissions						
Electricity Emissions	Offices	4,998.4	5,909.3	5,899.8	3,941.3	3,737.9
	Pumping Station	307,936.8	426,210.1	315,918.2	263,949.0	495,439.7
Scope 3 - Other Indirect Emissions						
Electricty T&D Losses	Electricty T&D Losses	26,526.1	37,184.5	28,842.2	24,506.0	43,213.8
Business Travel	Private Car Business travel	6,932.9	6,760.8	7,789.2	7,442.0	7,044.9
	Rail	0.0	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0	0.0
	TOTAL	**501,704.6**	**689,618.6**	**552,656.2**	**497,689.5**	**799,582.5**
Scope 1 Total		**155,310.4**	**213,553.8**	**194,206.9**	**197,851.2**	**250,146.1**
Scope 2 Total		**312,935.2**	**432,119.5**	**321,818.0**	**267,890.3**	**499,177.7**
Scope 3 Total		**33,459.1**	**43,945.3**	**36,631.4**	**31,948.1**	**50,258.7**
% Change from Baseline year 2019/20						**59**
% Change from 2022/23						**61**

APPENDIX 5: WAVENEY, LOWER YARE & LOTHINGLAND IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2023/24 are 2% higher compared to our baseline year of 2019/20, an increase of 4.5 tCO2e. The emissions are 109% higher compared to 2022/23, an increase of 120.1 tCO2e.



1.2 Results

Scope 1

- This is the second year there have been Scope 1 Emissions. These Emissions are 79% lower (reduction of 0.15 tCO2e) in 2023/24 than 2022/23.
- This reflects the use of either diesel or petrol used in hand tools. The values are so low it's not visible on the graph above.

Scope 2

- Overall Emissions 111% higher (an increase of 111.1 tCO2e) in 2023/24 than 2022/23, 2% higher (an increase of 3.7 tCO2e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 99% higher (an increase of 9.1 tCO2e) in 2023/24 than 2022/23, 4% higher (an increase of 0.7 tCO2e) than 2019/20 baseline year.
- This only relates to an increase in Electricity T&D losses as the consumption of Electricity used in Scope 2 has increased significantly.

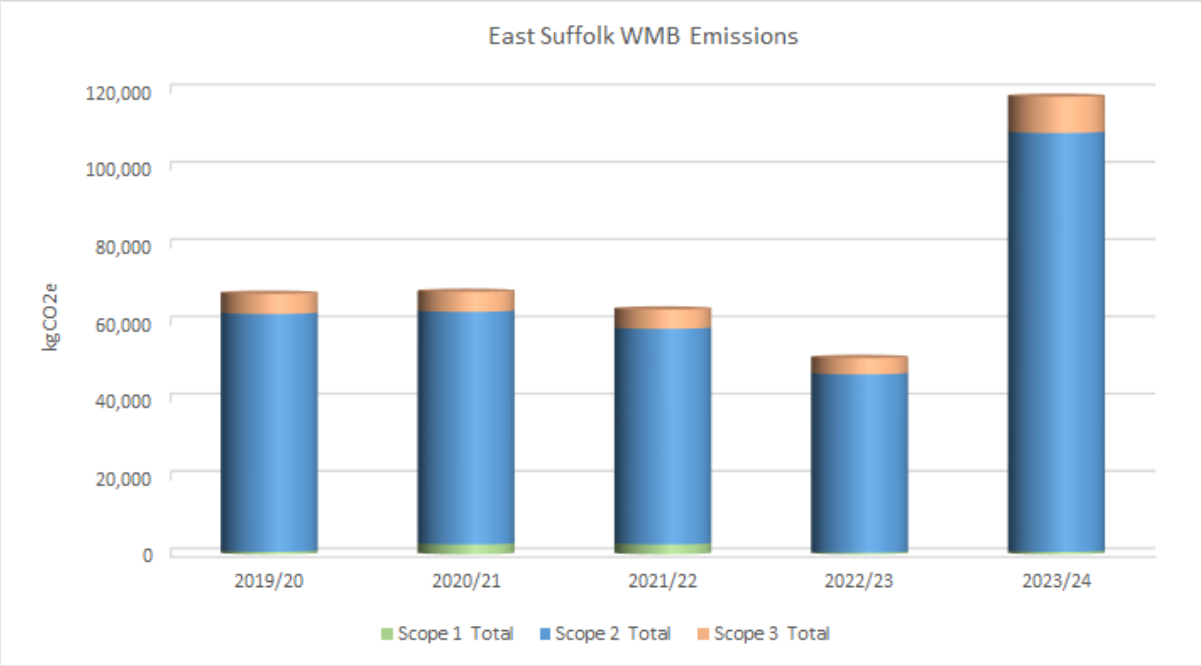
1.3 Data

		Waveney, Lower Yare & Lothingland IDB kgCO2e Emissions				
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23	2023/24
Fuel in Fleet Vehicles	White Diesel	0.0	0.0	0.0	187.8	0.0
	Petrol	0.0	0.0	0.0	0.0	39.8
	Red Diesel	0.0	0.0	0.0	0.0	0.0
	Bio Oil	0.0	0.0	0.0	0.0	0.0
	Gas	0.0	0.0	0.0	0.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0	0.0
	Air con flouros	0.0	0.0	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	0.0	0.0	0.0	0.0	0.0
	Unleaded	0.0	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions						
Electricity Emissions	Offices	0.0	0.0	0.0	0.0	0.0
	Pumping Station	207,825.7	189,153.8	172,105.6	100,458.0	211,574.3
Scope 3 - Other Indirect Emissions						
Electricty T&D Losses	Electricty T&D Losses	17,616.5	16,277.0	15,424.6	9,189.7	18,316.0
Business Travel	Private Car Business travel	0.0	0.0	0.0	0.0	0.0
	Rail	0.0	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0	0.0
	TOTAL	**225,442.1**	**205,430.8**	**187,530.2**	**109,835.5**	**229,930.1**
Scope 1 Total		**0.0**	**0.0**	**0.0**	**187.8**	**39.8**
Scope 2 Total		**207,825.7**	**189,153.8**	**172,105.6**	**100,458.0**	**211,574.3**
Scope 3 Total		**17,616.5**	**16,277.0**	**15,424.6**	**9,189.7**	**18,316.0**
% Change from Baseline year 2019/20						**2**
% Change from 2022/23						**109**

APPENDIX 6: EAST SUFFOLK WMB

1.1 Summary

The data shows that overall Carbon Emissions in 2023/24 are 76% higher compared to our baseline year of 2019/20, an increase of 50.9 tCO2e. The emissions are 133% higher compared to 2022/23, an increase of 67.6 tCO2e.



1.2 Results

Scope 1

- Overall Emissions 53% higher (an increase of 0.2 tCO2e) in 2023/24 than 2022/23, 4% lower (a reduction of 0.02 tCO2e) than 2019/20 baseline year.
- The values are so low it's not visible on the graph above.

Scope 2

- Overall Emissions 135% higher (an increase of 62.2 tCO2e) in 2023/24 than 2022/23, 76% higher (an increase of 46.8 tCO2e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 122% higher (an increase of 5.2 tCO2e) in 2023/24 than 2022/23, 80% higher (an increase of 4.2 tCO2e) than 2019/20 baseline year.
- This only relates to an increase in Electricity T&D losses as the consumption of Electricity used in Scope 2 has increased significantly.

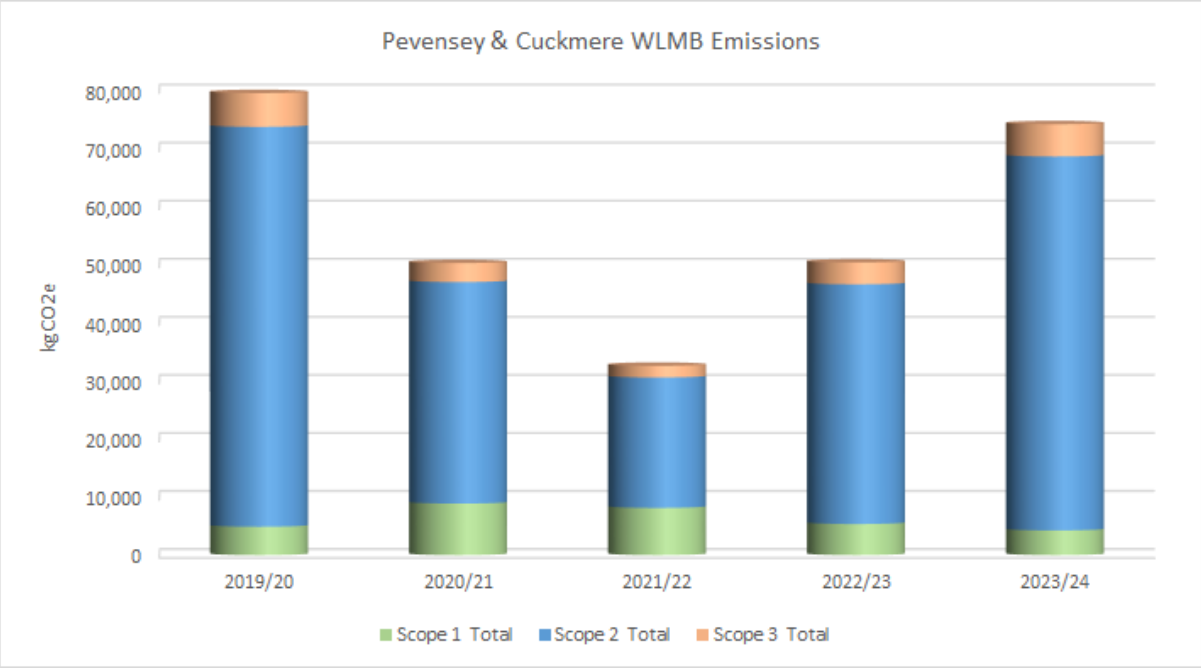
1.3 Data

		East Suffolk WMB kgCO2e Emissions				
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23	2023/24
Fuel in Fleet Vehicles	White Diesel	0.0	0.0	0.0	0.0	0.0
	Unleaded	503.6	270.2	342.9	386.4	507.2
	Red Diesel	132.4	2,258.6	2,209.6	0.0	102.1
	Bio Oil	0.0	0.0	0.0	0.0	0.0
	Gas	0.0	0.0	0.0	11.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0	0.0
	Air con flouros	0.0	0.0	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	0.0	0.0	0.0	0.0	0.0
	Unleaded	0.0	10.8	0.0	0.0	0.0
Scope 2 - Indirect Emissions						
Electricity Emissions	Offices	0.0	0.0	0.0	0.0	0.0
	Pumping Station	61,511.9	60,152.7	55,745.2	46,128.7	108,323.6
Scope 3 - Other Indirect Emissions						
Electricty T&D Losses	Electricty T&D Losses	5,214.1	5,176.2	4,996.0	4,219.8	9,377.6
Business Travel	Private Car Business travel	0.0	0.0	0.0	0.0	0.0
	Rail	0.0	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0	0.0
	TOTAL	**67,362.0**	**67,868.5**	**63,293.8**	**50,745.8**	**118,310.5**
Scope 1 Total		**636.0**	**2,539.6**	**2,552.5**	**397.4**	**609.3**
Scope 2 Total		**61,511.9**	**60,152.7**	**55,745.2**	**46,128.7**	**108,323.6**
Scope 3 Total		**5,214.1**	**5,176.2**	**4,996.0**	**4,219.8**	**9,377.6**
% Change from Baseline year 2019/20						**76**
% Change from 2022/23						**133**

APPENDIX 7: PEVENSEY & CUCKMERE WLMB

1.1 Summary

The data shows that overall Carbon Emissions in 2023/24 are 7% lower compared to our baseline year of 2019/20, a reduction of 5.4 tCO2e. The emissions are 47% higher compared to 2022/23, an increase of 23.8 tCO2e.



1.2 Results

Scope 1

- Overall Emissions 21% lower (a reduction of 1.1 tCO2e) in 2023/24 than 2022/23, 13% lower (a reduction of 0.6 tCO2e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 56% higher (an increase of 23.1 tCO2e) in 2023/24 than 2022/23, 6% lower (a reduction of 4.5 tCO2e) than 2019/20 baseline year.

Scope 3

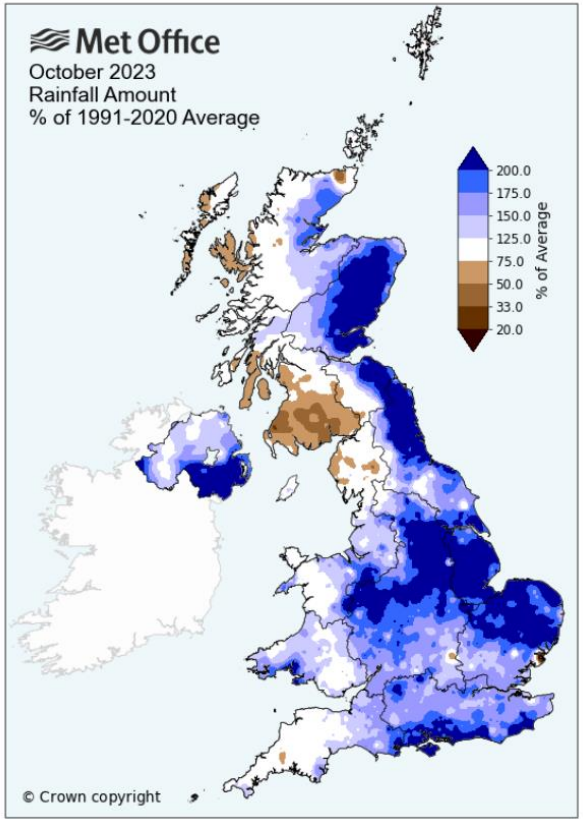
- Overall Emissions 48% higher (an increase of 1.8 tCO2e) in 2023/24 than 2022/23, 4% lower (a reduction of 0.26 tCO2e) than 2019/20 baseline year.
- This only relates to an increase in Electricity T&D losses as the consumption of Electricity used in Scope 2 has increased significantly.

1.3 Data

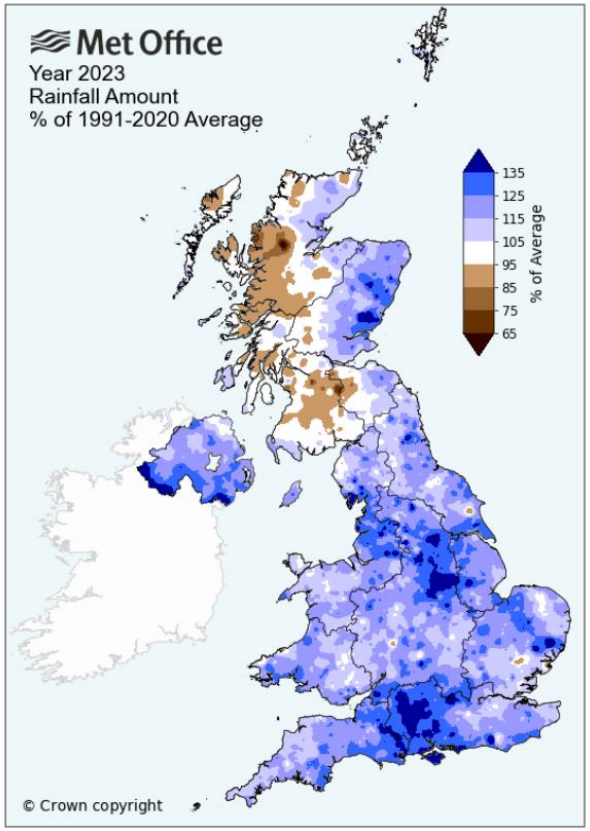
		Pevensey WLMB kgCO2e Emissions				
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23	2023/24
Fuel in Fleet Vehicles	White Diesel	4,891.3	8,799.7	8,028.5	5,358.1	4,002.7
	Petrol	0.0	78.6	106.4	0.0	248.9
	Red Diesel	0.0	0.0	0.0	0.0	0.0
	Bio Oil	0	0.0	0.0	0.0	0.0
	Gas	0.0	0.0	0.0	0.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0	0.0
	Air con flouros	0.0	0.0	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	0.0	0.0	0.0	0.0	0.0
	Unleaded	0.0	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions						
Electricity Emissions	Offices	0.0	0.0	0.0	0.0	0.0
	Pumping Station	68,848.0	38,135.7	22,459.4	41,269.3	64,383.4
Scope 3 - Other Indirect Emissions						
Electricty T&D Losses	Electricty T&D Losses	5,835.9	3,281.6	2,012.9	3,775.2	5,573.7
Business Travel	Private Car Business travel	0.0	0.0	0.0	0.0	0.0
	Rail	0.0	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0	0.0
	TOTAL	**79,575.3**	**50,295.6**	**32,607.1**	**50,402.6**	**74,208.6**
Scope 1 Total		**4,891.3**	**8,878.3**	**8,134.8**	**5,358.1**	**4,251.6**
Scope 2 Total		**68,848.0**	**38,135.7**	**22,459.4**	**41,269.3**	**64,383.4**
Scope 3 Total		**5,835.9**	**3,281.6**	**2,012.9**	**3,775.2**	**5,573.7**
% Change from Baseline year 2019/20						**-7**
% Change from 2022/23						**47**

APPENDIX 8: Maps showing anomalies relative to a 1991-2020 reference period for precipitation (%) The darker shading indicates the greater departure from average. Credit: Met Office, Exeter, UK.

Rainfall 1991 - 2020 anomaly
October 2023



Rainfall 1991 - 2020 anomaly
Annual 2023



Rainfall 1991 - 2020 anomaly
February 2024