Our Coast's Carbon Story

Greenhouse gas emissions in the Norfolk Coast National Landscape have fallen substantially since 2005. But the latest estimates show that progress is uneven, with agriculture and industry driving a slight increase in emissions in 2024.

142.9

thousand tonnes of carbon dioxide equivalent (kt CO_2e) emitted

33.6% ↓

lower net emissions in 2024 than in 2005

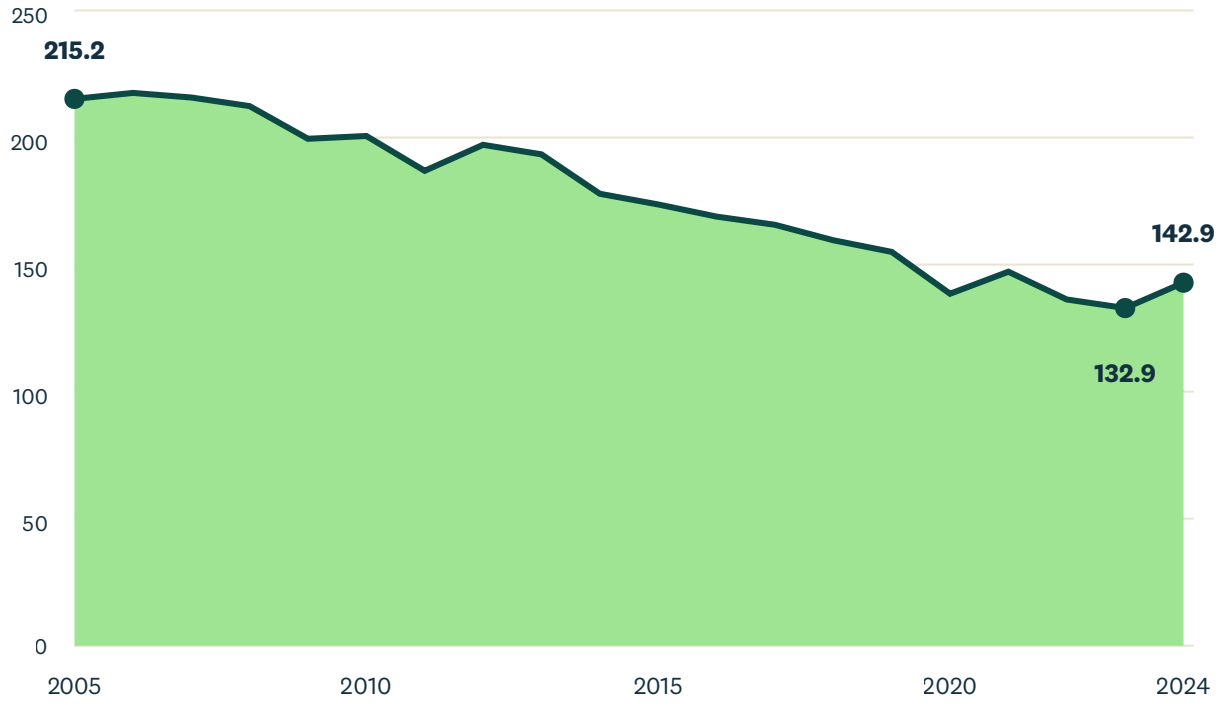
7.5% ↑

higher net emissions in 2024 than in 2023



Long-term reductions, short-term setbacks.

Net emissions fell from 215.2 to 142.9 kt CO_2e between 2005 and 2024: a reduction of 72.3 kt CO_2e. 2024 is the most recent year in the 2026 government data release.



Net greenhouse gas emissions, kt CO_2e. Includes land use, land-use change and forestry (LULUCF). Source: DESNZ GHG Inventory for Protected Landscapes.

Progress and stagnation

Homes, commercial activity and waste together account for **84%** of the net reduction since 2005. These sectors are substantially below their starting levels.

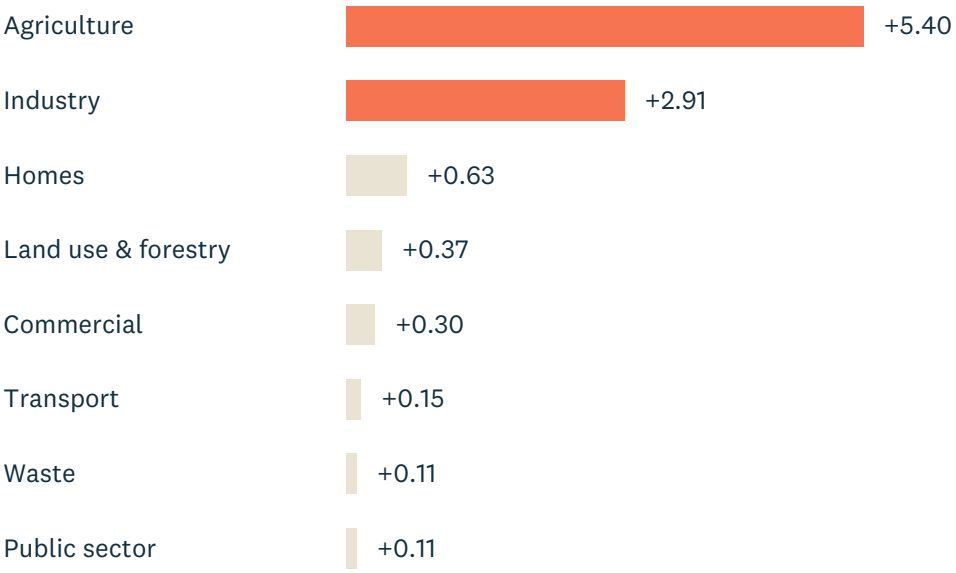
Transport emissions are only **13.6% lower** than in 2005. Agriculture is **0.7% higher**. Both remain central to the emissions picture.

The latest year reverses part of the recent fall.

2023 was the lowest year in this data, at 132.9 kt CO_2e. The increase in 2024 takes net emissions back above their 2020 level.

Every sector added to the annual rise in 2024.

Net emissions increased by 10.0 kt CO_2e in 2024. Agriculture and industry together account for 83% of that increase.



Change from 2023 to 2024, kt CO_2e. Positive values increase the net total. The land-use contribution reflects a smaller net sink.

Agriculture

+5.4 kt CO_2e (+11.6%)
The largest absolute increase. CO_2, methane and nitrous oxide all rose within the sector.

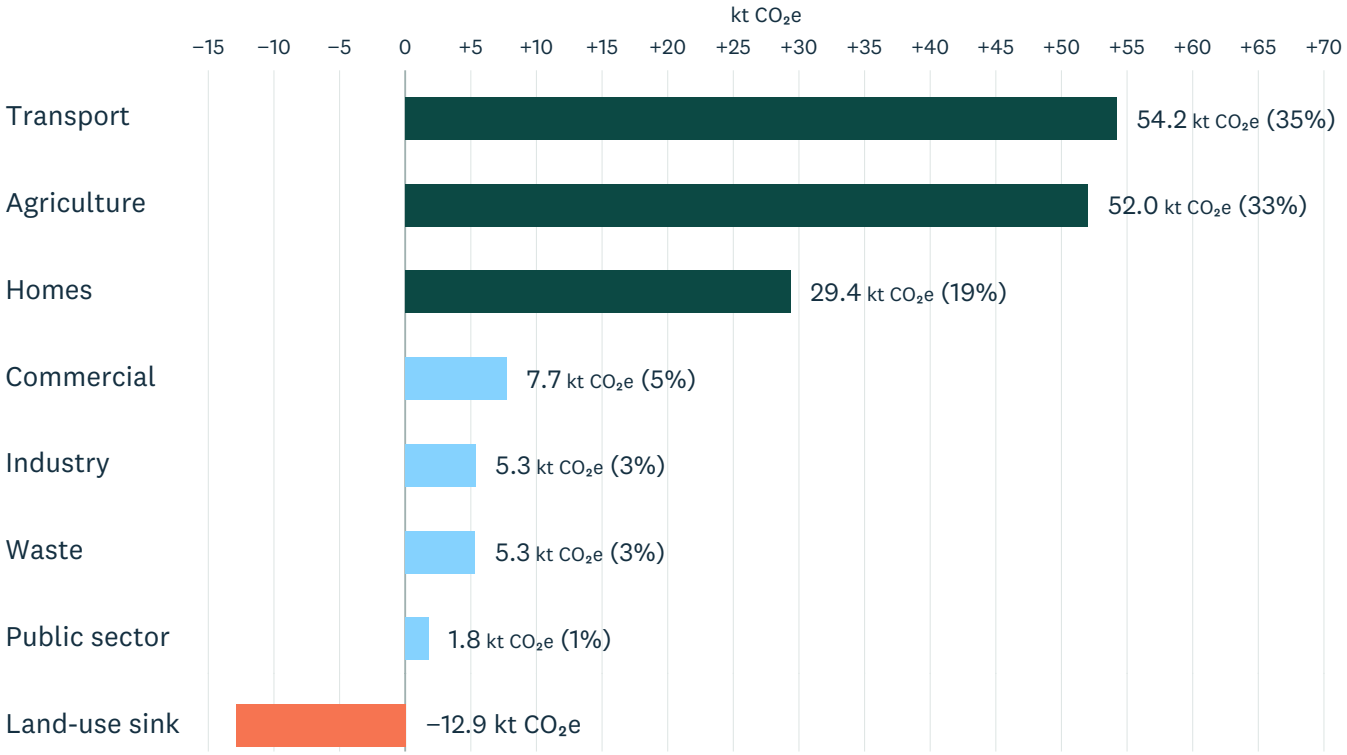
Industry

+2.9 kt CO_2e (+119%)
A sharp rise from a smaller base. It accounts for 29% of the net annual increase.

Notes: The land use balance remained negative in 2024, but became 0.4 kt CO_2e less negative. This adds to the net increase rather than representing a new positive emissions total.

Three sectors shape the challenge.

Transport, agriculture and homes account for 87% of emissions across the seven emitting sectors, before the net land-use balance is included.



Percentages show each sector's share of the 155.8 kt CO_2e subtotal.

How the land-use sink changes the total



Where reductions matter most.

Reducing emissions from transport, farming and homes can make the biggest difference to our overall total. Small changes across each sector can add up to meaningful cuts in emissions across our landscape.

Notes: "Homes" is the DESNZ domestic sector. The land-use balance covers land use, land-use change and forestry. The seven-sector subtotal is not gross ecosystem emissions: the land-use category itself combines emissions and removals.

A land-use sink.

Land use removes more than it emits

The estimated net land-use balance was **–12.9 kt CO_2e** in 2024. A negative balance means removals exceeded emissions within this category.

This reduced the seven-sector subtotal by **8.3%**. It remains a valuable part of the overall balance, but is much smaller than emissions from the other sectors.

A weaker sink than in 2023

The net sink was **2.8% smaller** than in 2023, decreasing from **13.3 kt CO_2e** to **12.9 kt CO_2e** in 2024.

The data does not allow this balance to be attributed to any particular habitats or local projects.

CO_2 is the largest component, but not the whole story.

All three gases are expressed in carbon dioxide equivalent (CO_2e), allowing their different warming effects to be compared and added.



Carbon dioxide Methane Nitrous oxide

Gas	2024 · kt CO_2e	Share of net total	Since 2005
Carbon dioxide (CO_2)	100.4	70.3%	-36.7%
Methane (CH_4)	17.6	12.3%	-38.5%
Nitrous oxide (N_2O)	24.9	17.4%	-11.2%

Agriculture is central to the non-CO_2 picture.

It accounts for 70% of the net methane total and 83% of the net nitrous oxide total in 2024.

Notes: Gas shares use net totals, including each gas's land-use balance. The CO_2 component includes a net land-use sink; methane and nitrous oxide land-use balances are positive.

The evidence behind the story.

The source is the official **DESNZ GHG Inventory for Protected Landscapes**, published in **June 2026** by the Department for Energy Security and Net Zero (DESNZ). This report presents the Norfolk Coast National Landscape estimates for 2005–2024, with separate CO_2, CH_4 and N_2O totals.

Selected year	Net total kt CO_2e	Per resident[1] t CO_2e	Per km² kt CO_2e
2005	215.2	13.97	0.483
2010	200.6	12.54	0.450
2015	173.7	10.47	0.389
2019	155.0	9.12	0.348
2020	138.5	8.14	0.311
2021	147.2	8.62	0.330
2022	136.3	8.02	0.306
2023	132.9	7.82	0.298
2024	142.9	8.41	0.320

[1] An area-wide total divided by the resident population; not an individual resident's carbon footprint. It includes economic activity and travel allocated to the area.

What the figures cover

The DESNZ local-area framework allocates emissions to end users, including electricity-related emissions. It is not a consumption footprint of everything residents buy. Principal exclusions include fluorinated gases and sources linked to aviation, shipping and exported fuels. See the official release and technical report for the full scope.

How we compare years

Net total = the seven emitting-sector totals plus the signed LULUCF balance. Percentage changes use unrounded values: (latest ÷ comparison year − 1) × 100. 2005 is the earliest available year, not a separately adopted policy baseline. Charts and tables are rounded independently.

The figures are modelled estimates. Sector totals reconcile to the net total and the three gas tables reconcile to the all-gas table in the DESNZ GHG Inventory for Protected Landscapes. Annual fluctuations do not, by themselves, establish a lasting trend or its cause.

Sources & further detail

1. DESNZ GHG Inventory for Protected Landscapes — includes Protected Landscapes data tables.
2. DESNZ statistical release — scope, exclusions and revisions.
3. DESNZ technical report — estimation methods.

Source: DESNZ GHG Inventory for Protected Landscapes. Calculations and interpretation: Norfolk Coast National Landscape. This edition reports emissions in 2024, not emissions in its publication year.

Our Coast's Carbon Story

Supplemental data: complete annual emissions, 2005–2024

Year	Industry	Commercial	Public sector	Homes	Transport	Land use & forestry	Agriculture	Waste	Net total	Per capita (t CO_2e)	Per km² (kt CO_2e)
2005	6.090	21.537	3.986	66.861	62.723	-12.626	51.663	14.966	**215.200**	13.972	0.483
2006	5.629	22.677	3.876	68.494	63.675	-12.801	51.387	14.620	**217.557**	14.029	0.488
2007	5.245	21.766	3.666	65.592	63.422	-13.397	52.401	17.064	**215.759**	13.801	0.484
2008	4.752	21.683	3.643	65.342	61.531	-14.932	56.138	14.213	**212.370**	13.474	0.476
2009	4.635	18.771	3.195	60.730	59.443	-14.088	55.509	11.314	**199.509**	12.569	0.447
2010	4.818	19.553	3.435	65.188	58.460	-13.928	52.413	10.671	**200.611**	12.538	0.450
2011	4.948	17.721	3.054	58.309	55.835	-14.271	50.925	10.382	**186.904**	11.584	0.419
2012	5.152	19.296	3.300	61.272	57.621	-12.626	52.933	10.186	**197.134**	12.137	0.442
2013	5.398	17.945	3.206	58.783	57.313	-13.853	55.370	9.218	**193.381**	11.826	0.434
2014	4.923	15.426	2.802	50.479	58.682	-13.615	50.698	8.470	**177.864**	10.796	0.399
2015	4.077	14.032	2.534	46.966	58.628	-14.316	54.320	7.421	**173.663**	10.465	0.389
2016	3.555	11.287	2.225	43.241	60.950	-12.664	54.524	5.768	**168.886**	10.097	0.379
2017	4.064	9.694	2.185	40.154	62.790	-13.471	54.543	5.708	**165.668**	9.851	0.372
2018	3.542	11.034	2.084	38.619	61.813	-13.159	49.810	5.827	**159.569**	9.442	0.358
2019	3.037	8.657	1.736	36.327	60.312	-13.637	52.950	5.611	**154.993**	9.124	0.348
2020	2.725	7.188	1.602	35.705	49.665	-13.896	50.299	5.239	**138.527**	8.141	0.311
2021	3.318	9.311	2.059	36.206	52.975	-12.717	50.348	5.688	**147.187**	8.620	0.330
2022	2.741	8.547	1.805	30.287	52.590	-11.916	46.361	5.845	**136.259**	8.021	0.306
2023	2.433	7.426	1.686	28.722	54.051	-13.259	46.628	5.198	**132.885**	7.823	0.298
2024	**5.340**	**7.727**	**1.795**	**29.355**	**54.206**	**-12.888**	**52.028**	**5.310**	**142.872**	**8.411**	**0.320**

Notes: All emissions are in thousand tonnes of carbon dioxide equivalent (kt CO_2e), except per capita (t CO_2e) and per km² (kt CO_2e). Negative values indicate a net sink. Figures are shown to three decimal places; rounding may affect totals.

Source: DESNZ GHG Inventory for Protected Landscapes, published June 2026.