

# The role of sequestration in carbon reporting

How Hertfordshire adapted the Welsh LGA approach into a practical  
standard for local authority carbon reporting



# Sequestration and Carbon reporting



## Legitimacy



What about additionality?



Making sure we're not greenwashing

## Scale



Accuracy vs financial viability



What quantities of carbon are we talking about?

## Consistency



Bringing others into the conversation



Alignment regionally and nationally

# Why we are looking at sequestration now



LAs face persistent residual emissions even after pursuing mitigation efforts.



Sequestration is not first mitigation tool but can help refine operational carbon reporting.



No England-wide methodology →  
LAs need a defensible, consistent,  
transparent approach.

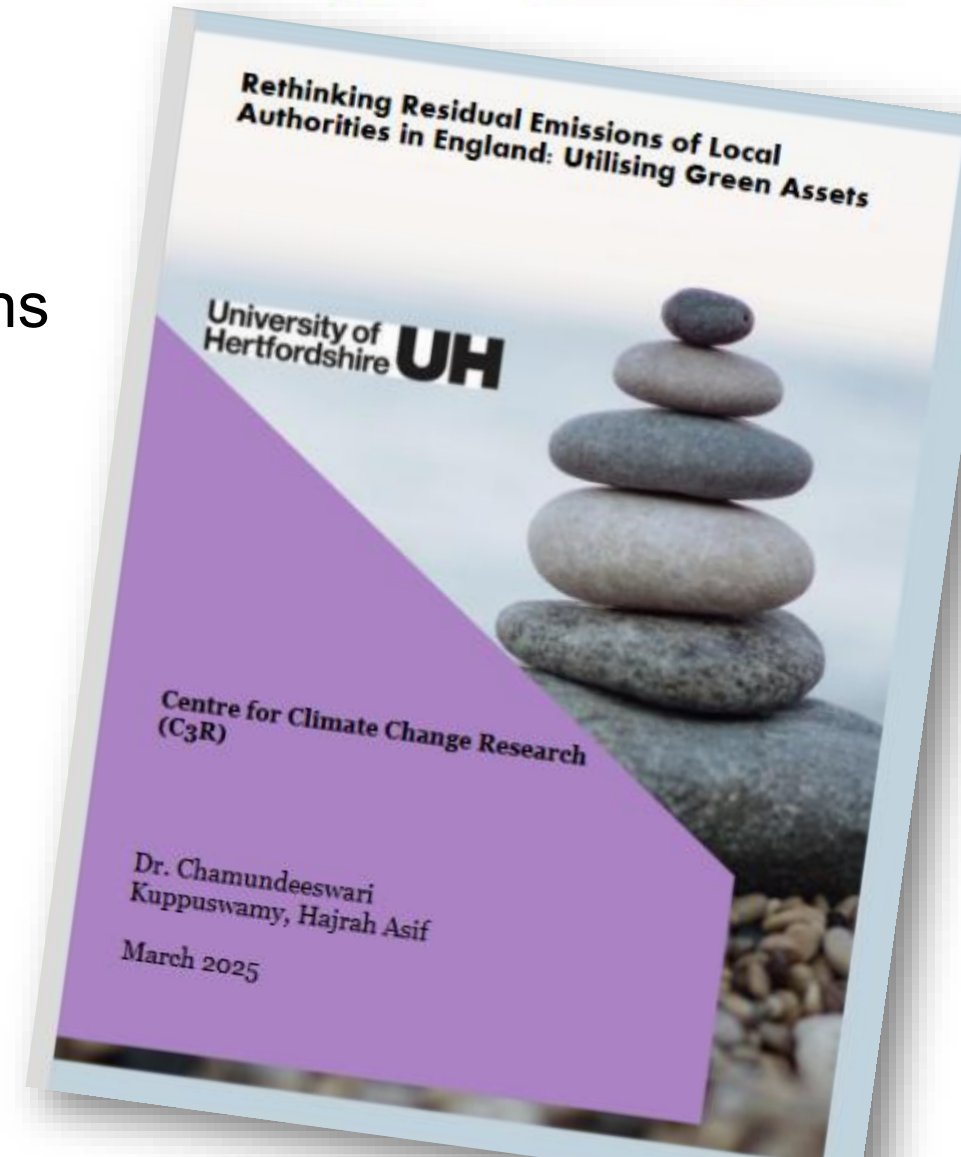
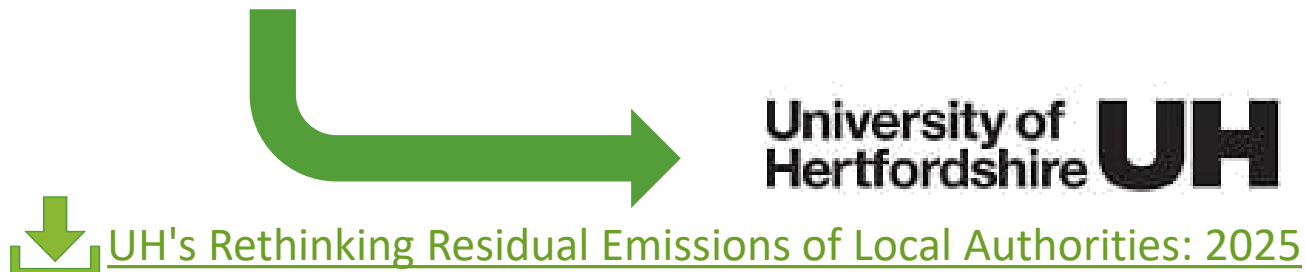
# Why green assets matter:

- Hertfordshire LAs collectively own / maintain:
  - Parks
  - Woodlands
  - Verges
  - Grasslands
  - Wetlands
- These assets **already sequester carbon annually**
- Until now – no shared way to quantify their contribution, building a more accurate reporting baseline...

**And what about additionality anyway?**

# What we are, and are not, claiming

- Measuring removals associated with LA green assets
- Reporting these alongside operational emissions
- Not creating carbon credits or a financial offset
- Not substituting sequestration for emissions reduction
- Applying explicit scope, evidence and transparency rules

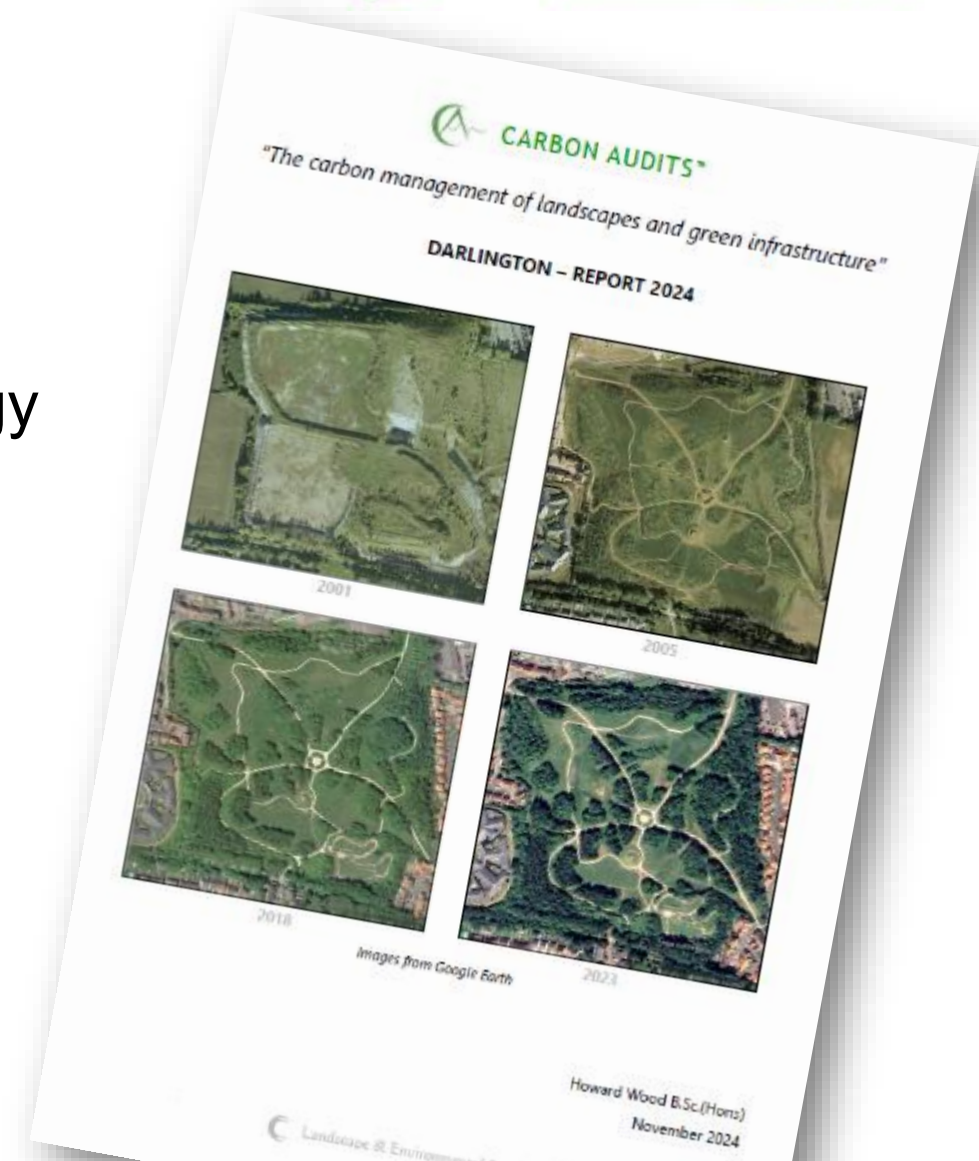


# The challenge: inconsistent, costly or incomplete

- Detailed studies by consultancies (Darlington)
  - accurate but high cost and longterm
  - Inconsistent, potentially opaque methodology
- i-Tree
  - good for street trees but not whole-estate
- Woodland Carbon Code
  - robust but limited to woodland



[Carbon counting in Darlington: LGA Case study](#)



# WLGA: GHG Emissions and Carbon Sequestration Tool



- Land-based emissions reported annually since 2019
  - Forest, cropland, grassland, wetland, settlements and 'other'
  - Carbon Stock Exchange Factors
- 2022 tool developed by WLGA / COSTAIN
  - Habitat detail
  - Parcel-level granularity



[Land & Carbon Sequestration and Storage WLGA: 2022](#)

# WLGA: GHG Emissions and Carbon Sequestration Tool



- National endorsed and peer reviewed
- Transparent, open-source, replicable
- Designed for mixed landholding patterns managed by LAs
- Cost-effective: prudent but credible
- Already aligned with LULUCF and NAEI datasets



# From green asset to carbon figure: how the method works



Habitat polygon  
via GIS mapping



Classify land into  
LULUCF  
categories



Build on  
sequestration  
factors from NAEI



Single annual  
sequestration  
figure

Land area (ha) × relevant land-use factor = annual tCO<sub>2</sub>e emission or removal

Green Asset Sequestration Tool for Local Authorities - Website

Official

Saved to this PC

Search

Comments

Share

FileHomeInsertDrawPage LayoutFormulasDataReviewViewAutomateHelp

Paste

Clipboard

Aptos Narrow11

Font

Wrap Text

Alignment

General

Number

Conditional Formatting

Format as Table

Cell Styles

Insert

B3

fx

Guidance for users

Cell colour codes:

Optional notes for record

Information entered

Estimated data

Land-based emissions, sequestration and agriculture

Guidance for users

This sheet contains a simplified Land Emissions (tier 1) table derived from the Welsh Local Government Association greenhouse gas reporting approach. For consistency, organisations may wish to define their organisational boundary as assets or operations under the local authority's operational control. In practice, this would include emissions and sequestrations associated with vegetation and soils of land managed by the organisation for the delivery of public services, whether owned or leased.

Authorities may also wish to develop a local sequestration framework or policy to clarify boundaries relating to asset ownership, management responsibility and reporting treatment.

This tool applies the Tier 1 land-use methodology from the Welsh local government reporting framework. The methodology uses Carbon Stock Change (CSC) factors from the 2025 UK National Inventory Report and applies them to six broad land categories. To simplify the process, implied carbon stock change factors for living biomass, dead wood, litter, and soils have been combined into single emission factors for each land type. A negative emission factor indicates that the land type is likely to result in net carbon sequestration (removal of carbon dioxide from the atmosphere), whereas a positive emission factor indicates that the land type is likely to produce net emissions. Where land use has changed within the last 20 years, users are encouraged to enter the previous land category. Where land use has remained unchanged for more than 20 years, the land category can generally be treated as constant. Soil type is classified as either mineral or organic. Where soil information is not directly available from organisational datasets, indicative classifications may be estimated using national mapping resources (for example

Instructions for users:

Find out the extent of land holdings that are under the operational control of your organisation.

Input information into the orange (dropdown) and blue (free number) cells.

Grey cells should not normally be edited. The notes column (green) can be used to describe the method and data source used, if desired.

Tier 1 methodology for land-based emissions

No data entered

| Current land use type | Soil type | Previous land use type (select same type as current if > 20 years) | Methodology | RSD estimate (+/- %) | Land area in hectares (ha) | Unit | Converted data | Standard units | Emission factor (tCO <sub>2</sub> e/ha/year) | Total kg CO <sub>2</sub> (negative = removed, positive = released) | Source of data (e.g. estates team digital maps or estimates) | Ease of collection | Upper estimate (kg CO <sub>2</sub> e) | Lower estimate (kg CO <sub>2</sub> e) | Outside of scopes |
|-----------------------|-----------|--------------------------------------------------------------------|-------------|----------------------|----------------------------|------|----------------|----------------|----------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------|--------------------|---------------------------------------|---------------------------------------|-------------------|
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |
|                       |           |                                                                    | Tier 1      |                      |                            | ha   | -              | ha             |                                              |                                                                    |                                                              |                    |                                       |                                       |                   |

\* RSD means Relative Standard Deviation, representing an assumed percentage uncertainty applied to the emissions estimate. The true value may reasonably vary by ± this percentage. Accordingly, the Upper estimate (U) and Lower estimate (L) columns represent plausible upper- and lower-bound estimates derived from this uncertainty. Local authorities should recognise the inherently uncertain nature of broad national land-use and agricultural emission factors when interpreting and applying these results. The central estimate would normally be used for reporting purposes, while upper and lower estimates may support sensitivity analysis or interpretation of uncertainty.

\* Outside of Scopes means 'emissions recorded for completeness but not formally allocated into Scopes 1, 2 or 3 greenhouse gas reporting categories under the standard GHG Protocol framework'. This label is taken from the Welsh LGA reporting tool to indicate that the emissions are being tracked for information but, as they relate to biogenic carbon, are treated separately from standard scopes

Green Asset Sequestration Tool

Land Emissions Factors

Ready

Accessibility: Investigate

11:28

06/10/2026

1. Define the reporting assumptions

2. Input land data by class

3. Workbook calculates carbon impact

4. By applying standardised factors

|    |                                             |           |                                                                                      |             |                       |                            |      |                |                |          |
|----|---------------------------------------------|-----------|--------------------------------------------------------------------------------------|-------------|-----------------------|----------------------------|------|----------------|----------------|----------|
| 6  |                                             |           |                                                                                      |             |                       |                            |      |                |                |          |
| 7  | Tier 1 methodology for land-based emissions |           |                                                                                      |             |                       | No errors in this table    |      |                |                |          |
| 8  | Current land use type                       | Soil type | Previous land use type (select the same type as current if >20 years under same use) | Methodology | RSD estimate (+/-%) * | Land area in hectares (ha) | Unit | Converted data | Standard units | Emission |
| 9  | Grassland                                   | Mineral   | Grassland                                                                            | Tier 1      | 25%                   | 155                        | ha   | 155            | ha             |          |
| 10 | Cropland                                    | Mineral   | Cropland                                                                             | Tier 1      | 25%                   | 6                          | ha   | 6              | ha             |          |
| 11 | Forest land                                 | Mineral   | Forest land                                                                          | Tier 1      | 25%                   | 119                        | ha   | 119            | ha             |          |
| 12 | Settlements                                 | Mineral   | Settlements                                                                          | Tier 1      | 25%                   | 36                         | ha   | 36             | ha             |          |
| 13 |                                             |           |                                                                                      | Tier 1      |                       |                            | ha   | -              | ha             |          |
| 14 | Forest land                                 | Mineral   | Forest land                                                                          | Tier 1      | 25%                   | 1                          | ha   | 1              | ha             |          |
| 15 | Grassland                                   | Mineral   | Grassland                                                                            | Tier 1      | 25%                   | 1                          | ha   | 1              | ha             |          |
| 16 | Forest land                                 | Mineral   | Grassland                                                                            | Tier 1      | 25%                   | 1                          | ha   | 1              | ha             |          |
| 17 |                                             |           |                                                                                      | Tier 1      |                       |                            | ha   | -              | ha             |          |
| 18 |                                             |           |                                                                                      | Tier 1      |                       |                            | ha   | -              | ha             |          |
| 19 |                                             |           |                                                                                      | Tier 1      |                       |                            | ha   | -              | ha             |          |

One consistent annual estimate, derived from the authority's land data and standardised factors

| Emission factor (tCO <sub>2</sub> /ha/year) | Total kg CO <sub>2</sub> (negative = removed, positive = released) | Source of data (e.g. estates team digital maps or estimates) | Ease of collection | Upper estimate (kg CO <sub>2</sub> ) | Lower estimate (kg CO <sub>2</sub> ) | Outside of scopes |
|---------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------|--------------------|--------------------------------------|--------------------------------------|-------------------|
| -1.50                                       | - 232,991                                                          |                                                              |                    | - 291,239                            | - 174,744                            | - 232,991         |
| 1.20                                        | 7,187                                                              |                                                              |                    | 8,983                                | 5,390                                | 7,187             |
| -5.56                                       | - 661,173                                                          |                                                              |                    | - 826,466                            | - 495,879                            | - 661,173         |
| 1.99                                        | 71,475                                                             |                                                              |                    | 89,344                               | 53,606                               | 71,475            |
|                                             |                                                                    |                                                              |                    |                                      |                                      |                   |
| -5.56                                       | - 5,556                                                            |                                                              |                    | - 6,945                              | - 4,167                              | - 5,556           |
| -1.50                                       | - 1,503                                                            |                                                              |                    | - 1,879                              | - 1,127                              | - 1,503           |
| 0.54                                        | 541                                                                |                                                              |                    | 676                                  | 406                                  | 541               |
|                                             |                                                                    |                                                              |                    |                                      |                                      |                   |
|                                             |                                                                    |                                                              |                    |                                      |                                      |                   |
|                                             |                                                                    |                                                              |                    |                                      |                                      |                   |

# The Hertfordshire standard: the decisions we made

- Classification: aligning local habitat data to the standard land-use categories
- Ownership: Mapping of land vs management (double counting)
- Scope: Agreed framework for:
  - What's in scope (parks, woodlands, verges...)
  - What's out of scope (leased farmland, privately managed land...)
- Reporting: Requirement for prudent assumptions and transparent reporting
- Data useable for:
  - Decarbonisation plans
  - Land-use decisions
  - Business cases
- Less useful for gradual quality improvements

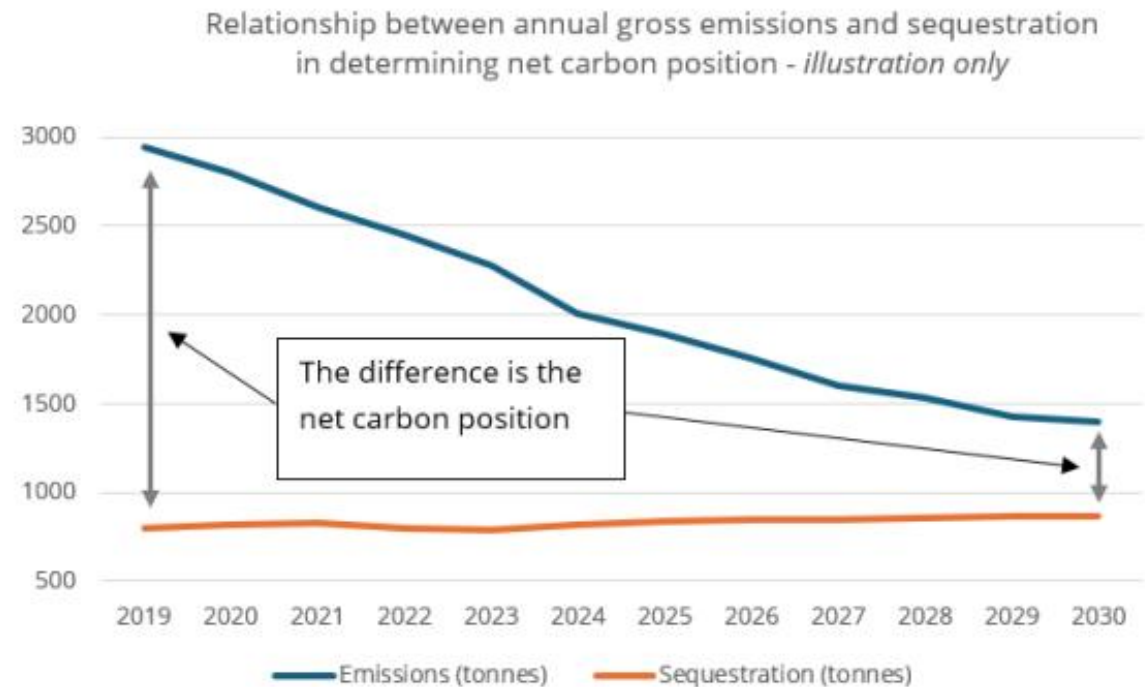
# Using sequestration in practice

- Refining operational carbon accounting
- Understanding the true net effect of LA landholdings
- Informing land-use decisions & green asset investment
- Articulating value of 'additional' greening budgets
- Supporting long-term net-zero planning

## But not:

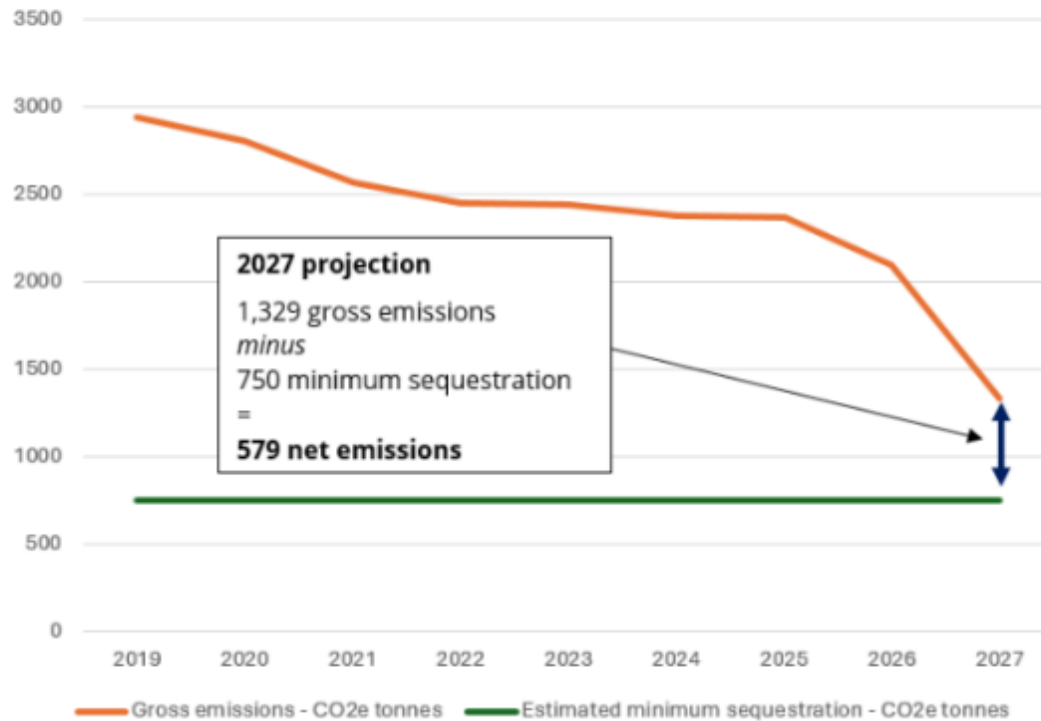
- To justify higher emissions
- As a replacement for mitigation
- As carbon credits / financial offsetting
- To claim future sequestration today

**Figure 1: Illustration of how an organisation's offsetting requirement can be determined – illustrative figures only**

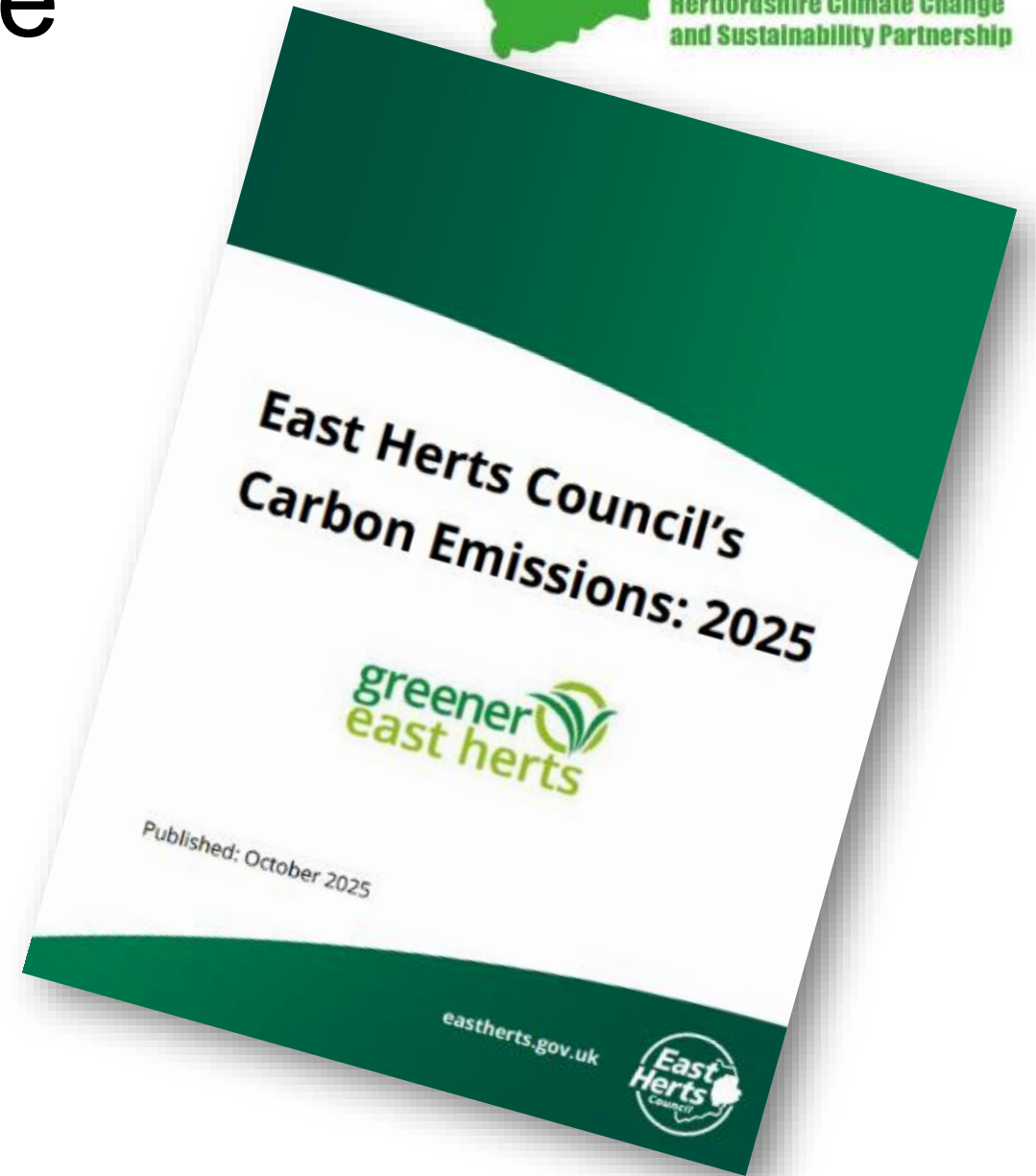


# Sequestration in practice

**Figure 2: East Herts Council's carbon emissions**  
actual to 2025, projected in 2026 and 2027 based on  
interventions currently in progress



[East Herts Council's Carbon Emissions: 2025](#)



# Governance & credibility

- ✓ Prudent (don't overstate)
- ✓ Evidence-based
- ✓ Transparent
- ✓ Avoiding double-counting
- ✓ Using government-endorsed factors
- ✓ Aligned with Welsh method
- ✓ Consistent (cross region / nation)

AutoSaveOFF

File Home Insert Draw Page Layout Formulas Data Review View Automate Help

CommentsShare

Search

133

fx

|    | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 2  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 3  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 6  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 9  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 10 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 11 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 12 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 13 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 14 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 15 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 16 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 17 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 18 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 19 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 20 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 21 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 22 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 23 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 24 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 25 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 26 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 27 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 28 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 29 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 30 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 31 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 32 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 33 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 34 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 35 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 36 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 37 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 38 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 39 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 41 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

Business travel, commute, homeWasteSupply chainLand use & agricultureRenewablesEmission factorsLand Emission FactorsBenchmarking dataErrors

Ready

Display Settings

12:5219/01/2026

# The UK Greenhouse Gas Inventory 1990 to 2023

[NAEI link from UKCEH...](#)

[Home](#) [Data](#) [About the Inventory](#) [Air pollutants](#) [Greenhouse gases](#) [Emission factors](#) [Glossary](#)

[Home](#) > [Reports](#)

## UK Greenhouse Gas Inventory, 1990 to 2023: Annual Report for submission under the Framework Convention on Climate Change

**Report date:** 15/04/2025

**Authors**  
Brown P, Cardenas L, Del Vento S, Karagianni E, MacCarthy J, Mullen P, Gorji, S, Richmond B, Thistlethwaite B, Thomson A, Wakeling D, Willis D

### Report download

[UK Greenhouse Gas Inventory, 1990 to 2023](#)

PDF, 8.71 MB

This file may not be suitable for users of assistive technology.

The UK continues to have technical difficulties with the CRT. While some of the most critical technical difficulties were resolved with support from the CRT application technical support team, it has not yet been possible to generate a PA version of the CRT with an accurate estimate of national emissions and so the UK has decided not to submit the PA version of the CRT by the 15/04/25 deadline. The UK has now generated a PA version of the CRT, and this page has been updated to allow it to be downloaded below.

### Additional documents

[UK Greenhouse Gas Inventory 1990 to 2023: Annexes](#)

PDF, 14.26 MB

This file may not be suitable for users of assistive technology.

[Energy Background Data](#)

# Annexe Data from UK GHG Inventory

- Downloading the ‘CRT files’ of UNFCCC → annual data files for all categories of emitters.
- Each workbook shows the year’s emissions, with sections divided by stock type.

|                                                                                                                              |                  |                      |          |
|------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------|----------|
|  GBR-CRT-2025-V0.6-2007-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,112 KB |
|  GBR-CRT-2025-V0.6-2008-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,139 KB |
|  GBR-CRT-2025-V0.6-2009-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,164 KB |
|  GBR-CRT-2025-V0.6-2010-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,190 KB |
|  GBR-CRT-2025-V0.6-2011-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,217 KB |
|  GBR-CRT-2025-V0.6-2012-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,243 KB |
|  GBR-CRT-2025-V0.6-2013-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,270 KB |
|  GBR-CRT-2025-V0.6-2014-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,302 KB |
|  GBR-CRT-2025-V0.6-2015-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,333 KB |
|  GBR-CRT-2025-V0.6-2016-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,365 KB |
|  GBR-CRT-2025-V0.6-2017-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,394 KB |
|  GBR-CRT-2025-V0.6-2018-20250415-091...   | 15/04/2025 10:22 | Microsoft Excel W... | 4,425 KB |
|  GBR-CRT-2025-V0.6-2019-20250415-091... | 15/04/2025 10:22 | Microsoft Excel W... | 4,451 KB |
|  GBR-CRT-2025-V0.6-2020-20250415-091... | 15/04/2025 10:22 | Microsoft Excel W... | 4,476 KB |
|  GBR-CRT-2025-V0.6-2021-20250415-091... | 15/04/2025 10:22 | Microsoft Excel W... | 4,503 KB |
|  GBR-CRT-2025-V0.6-2022-20250415-091... | 15/04/2025 10:22 | Microsoft Excel W... | 4,531 KB |
|  GBR-CRT-2025-V0.6-2023-20250415-091... | 15/04/2025 10:22 | Microsoft Excel W... | 4,503 KB |

TABLE 4.A SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY

2023

Forest land  
(Sheet 1 of 1)

GBR-CRT-2025-V0.6

United Kingdom of Great Britain and Northern Ireland

[Back to Index](#)

| GREENHOUSE GAS SOURCE AND SINK CATEGORIES            |                            | ACTIVITY DATA             |                      |                      | IMPLIED CARBON STOCK CHANGE FACTORS <sup>(1)</sup>              |        |            |                                               |                                            |                                           |               | CARBON STOCK CHANGES <sup>(1)</sup>                    |                       |            |                                      |                                   |                                                   |               | NET CO <sub>2</sub> EMISSIONS/ REMOVALS <sup>(9)</sup> |
|------------------------------------------------------|----------------------------|---------------------------|----------------------|----------------------|-----------------------------------------------------------------|--------|------------|-----------------------------------------------|--------------------------------------------|-------------------------------------------|---------------|--------------------------------------------------------|-----------------------|------------|--------------------------------------|-----------------------------------|---------------------------------------------------|---------------|--------------------------------------------------------|
| Land-use category                                    | Subdivision <sup>(2)</sup> | Total area <sup>(3)</sup> | Area of mineral soil | Area of organic soil | Carbon stock change in living biomass per area <sup>(4,5)</sup> |        |            | Net carbon stock change in dead wood per area | Net carbon stock change in litter per area | Net carbon stock change in soils per area |               | Carbon stock change in living biomass <sup>(4,5)</sup> |                       |            | Net carbon stock change in dead wood | Net carbon stock change in litter | Net carbon stock change in soils <sup>(7,8)</sup> |               |                                                        |
|                                                      |                            |                           |                      |                      | Gains                                                           | Losses | Net change |                                               |                                            | Mineral soils                             | Organic soils | Gains                                                  | Losses <sup>(6)</sup> | Net change |                                      |                                   | Mineral soils                                     | Organic soils |                                                        |
|                                                      |                            |                           |                      |                      |                                                                 |        |            |                                               |                                            |                                           |               |                                                        |                       |            |                                      |                                   |                                                   |               |                                                        |
|                                                      |                            | (kha)                     |                      |                      | (t C/ha)                                                        |        |            |                                               |                                            |                                           |               | (kt C)                                                 |                       |            |                                      |                                   |                                                   |               | (kt CO <sub>2</sub> )                                  |
| 4.A. Total forest land                               |                            | 3,675.11                  | 3,206.38             | 468.73               | 4.60                                                            | -3.86  | 0.74       | 0.28                                          | 0.04                                       | 0.33                                      | 0.06          | 16,891.49                                              | -14,180.27            | 2,711.22   | 1,012.58                             | 157.50                            | 1,062.43                                          | 30.40         | -18,238.52                                             |
| 4.A.1. Forest land remaining forest land             |                            | 3,414.06                  | 2,951.35             | 462.72               | 4.88                                                            | -4.14  | 0.74       | 0.28                                          | 0.04                                       | 0.33                                      | 0.09          | 16,657.38                                              | -14,138.16            | 2,519.22   | 1,006.88                             | 149.07                            | 1,288.35                                          | 43.30         | -18,358.31                                             |
| United Kingdom                                       |                            | 3,399.00                  | 2,942.40             | 456.60               | 4.89                                                            | -4.15  | 0.74       | 0.30                                          | 0.04                                       | 0.44                                      | 0.10          | 16,627.47                                              | -14,121.22            | 2,506.25   | 1,006.88                             | 149.07                            | 1,288.35                                          | 43.58         | -18,311.82                                             |
| Overseas Territories and Crown Dependencies          |                            | 15.07                     | 8.95                 | 6.12                 | 1.99                                                            | -1.12  | 0.86       | NA                                            | NA                                         | NA                                        | -0.05         | 29.91                                                  | -16.95                | 12.96      | NA                                   | NA                                | NA                                                | -0.28         | -46.49                                                 |
| 4.A.2. Land converted to forest land <sup>(10)</sup> |                            | 261.05                    | 255.04               | 6.01                 | 0.90                                                            | -0.16  | 0.74       | 0.02                                          | 0.03                                       | -0.89                                     | -2.14         | 234.11                                                 | -42.11                | 192.01     | 5.70                                 | 8.44                              | -225.92                                           | -12.90        | 119.79                                                 |
| 4.A.2.a. Cropland converted to forest land           |                            | 25.89                     |                      |                      | 0.94                                                            | -0.18  | 0.76       | 0.02                                          | 0.02                                       |                                           |               | 24.21                                                  | -4.60                 | 19.62      | 0.59                                 | 0.56                              | -23.26                                            | -0.86         | 12.30                                                  |
| United Kingdom                                       |                            | 25.89                     | 25.48                | 0.41                 | 0.94                                                            | -0.18  | 0.76       | 0.02                                          | 0.02                                       | -0.91                                     | -2.11         | 24.21                                                  | -4.60                 | 19.62      | 0.59                                 | 0.56                              | -23.26                                            | -0.86         | 12.30                                                  |
| Overseas Territories and Crown Dependencies          |                            | IE                        | IE                   | IE                   | IE                                                              | IE     | IE         | IE                                            | IE                                         | IE                                        | IE            | IE                                                     | IE                    | IE         | IE                                   | IE                                | IE                                                | IE            | IE                                                     |
| 4.A.2.b. Grassland converted to forest land          |                            | 223.64                    |                      |                      | 0.89                                                            | -0.16  | 0.73       | 0.02                                          | 0.03                                       |                                           |               | 199.69                                                 | -35.66                | 164.03     | 4.86                                 | 7.54                              | -192.73                                           | -11.51        | 102.00                                                 |
| United Kingdom                                       |                            | 220.52                    | 215.16               | 5.36                 | 0.87                                                            | -0.16  | 0.70       | 0.02                                          | 0.02                                       | -0.90                                     | -2.15         | 190.94                                                 | -35.66                | 155.28     | 4.86                                 | 4.87                              | -192.73                                           | -11.51        | 143.88                                                 |
| Overseas Territories and Crown Dependencies          |                            | 3.12                      | 3.12                 | NO                   | 2.81                                                            | NA     | 2.81       | NA                                            | 0.86                                       | NA                                        | NO            | 8.75                                                   | NA                    | 8.75       | NA                                   | 2.67                              | NA                                                | NO            | -41.88                                                 |
| 4.A.2.c. Wetlands converted to forest land           |                            | NO                        |                      |                      | NO                                                              | NO     | NO         | NO                                            | NO                                         |                                           |               | NO                                                     | NO                    | NO         | NO                                   | NO                                | NO                                                | NO            | NO                                                     |
| United Kingdom                                       |                            | NO                        | NO                   | NO                   | NO                                                              | NO     | NO         | NO                                            | NO                                         | NO                                        | NO            | NO                                                     | NO                    | NO         | NO                                   | NO                                | NO                                                | NO            | NO                                                     |
| Overseas Territories and Crown Dependencies          |                            | NO                        | NO                   | NO                   | NO                                                              | NO     | NO         | NO                                            | NO                                         | NO                                        | NO            | NO                                                     | NO                    | NO         | NO                                   | NO                                | NO                                                | NO            | NO                                                     |
| 4.A.2.d. Settlements converted to forest land        |                            | 11.52                     |                      |                      | 0.89                                                            | -0.16  | 0.73       | 0.02                                          | 0.03                                       |                                           |               | 10.21                                                  | -1.85                 | 8.36       | 0.25                                 | 0.33                              | -9.92                                             | -0.52         | 5.49                                                   |
| United Kingdom                                       |                            | 11.42                     | 11.18                | 0.24                 | 0.87                                                            | -0.16  | 0.71       | 0.02                                          | 0.02                                       | -0.89                                     | -2.15         | 9.95                                                   | -1.85                 | 8.10       | 0.25                                 | 0.25                              | -9.92                                             | -0.52         | 6.72                                                   |
| Overseas Territories and Crown Dependencies          |                            | 0.10                      | 0.10                 | NO                   | 2.62                                                            | IE     | 2.62       | IE                                            | 0.80                                       | IE                                        | IE            | 0.26                                                   | IE                    | 0.26       | IE                                   | 0.08                              | IE                                                | IE            | -1.23                                                  |
| 4.A.2.e. Other land converted to forest land         |                            | NO                        |                      |                      | NO                                                              | NO     | NO         | NO                                            | NO                                         |                                           |               | NO                                                     | NO                    | NO         | NO                                   | NO                                | NO                                                | NO            | NO                                                     |
| United Kingdom                                       |                            | NO                        | NO                   | NO                   | NO                                                              | NO     | NO         | NO                                            | NO                                         | NO                                        | NO            | NO                                                     | NO                    | NO         | NO                                   | NO                                | NO                                                | NO            | NO                                                     |
| Overseas Territories and Crown Dependencies          |                            | NO                        | NO                   | NO                   | NO                                                              | NO     | NO         | NO                                            | NO                                         | NO                                        | NO            | NO                                                     | NO                    | NO         | NO                                   | NO                                | NO                                                | NO            | NO                                                     |

<sup>(1)</sup> The signs are positive (+) for estimates of gains in carbon stocks and negative (-) for estimates of losses in carbon stocks.

# Comparing WLGA with HCCSP figures

| Land class            |                     | Welsh    | HCCSP    |
|-----------------------|---------------------|----------|----------|
|                       | Grassland           | -1.44    | -1.50    |
|                       | Cropland            | 1.08     | 1.20     |
|                       | Forest              | -5.42    | -5.56    |
|                       | Settlement          | 2.10     | 1.99     |
| Example sequestration | kgCO <sub>2</sub> e | -792,572 | -820,963 |

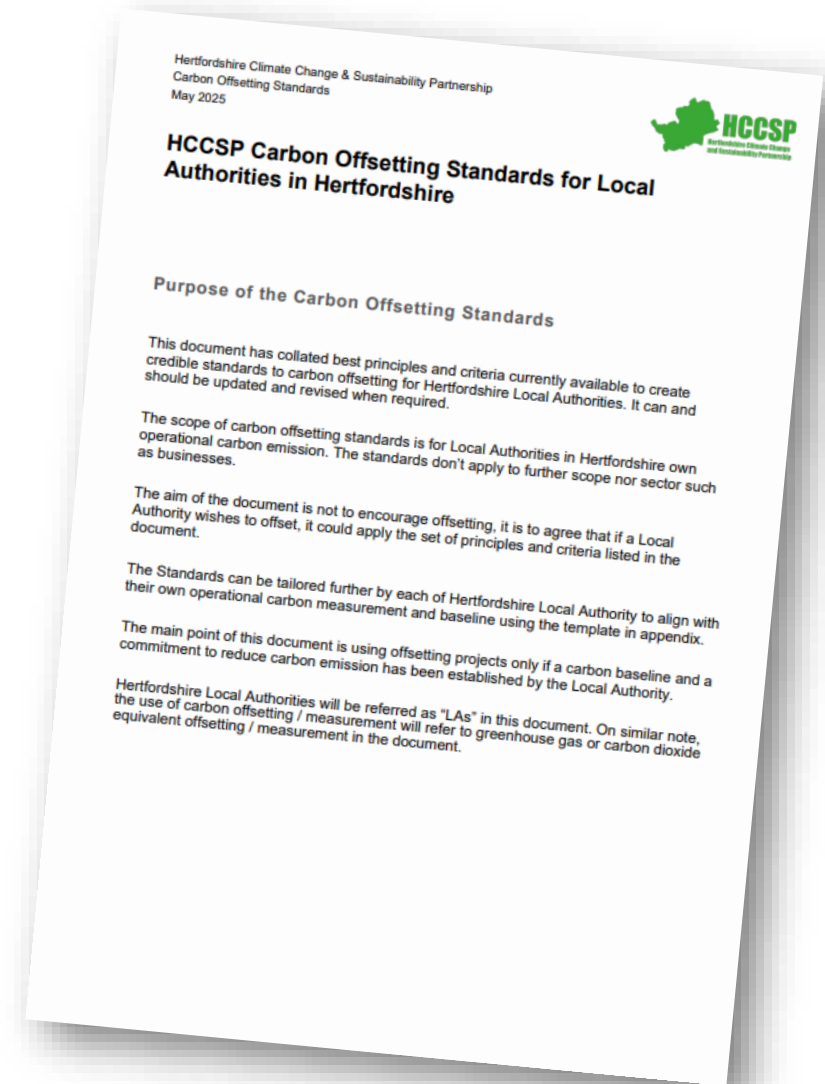


|   | B           | C                                                                                                                                                                                                            | D                            | E                            | F                            | G                            | H                            | I                            | J                       | K | L | M | N | O |
|---|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------|---|---|---|---|---|
|   |             | <b>GBR CRT 2025 LULUCF Implied Carbon Stock Change Factors</b>                                                                                                                                               |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             | <b>Implied Carbon Stock Change Factors converted from Carbon into CO<sub>2</sub> (x44/12) and then reverse poled to move from carbon storage to CO<sub>2</sub> released (Unit: Tonnes co2e/ha)</b>           |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             |                                                                                                                                                                                                              |                              | <b>Previous landuse</b>      | <b>Previous landuse</b>      | <b>Previous landuse</b>      | <b>Previous landuse</b>      | <b>Previous landuse</b>      | <b>Previous landuse</b> |   |   |   |   |   |
|   |             | <b>Current land use</b>                                                                                                                                                                                      | <b>Soil type</b>             | <b>Forest land</b>           | <b>Cropland</b>              | <b>Grassland</b>             | <b>Wetlands</b>              | <b>Settlements</b>           | <b>Other land</b>       |   |   |   |   |   |
| Y | Forest land | Mineral                                                                                                                                                                                                      | -5.556                       | 0.406                        | 0.541                        | No emission factor available | 0.490                        | No emission factor available |                         |   |   |   |   |   |
| Y | Forest land | Organic                                                                                                                                                                                                      | -4.301                       | 4.788                        | 5.130                        | No emission factor available | 5.129                        | No emission factor available |                         |   |   |   |   |   |
| Y | Cropland    | Mineral                                                                                                                                                                                                      | 10.825                       | 1.198                        | 4.239                        | No emission factor available | -11.393                      | No emission factor available |                         |   |   |   |   |   |
| Y | Cropland    | Organic                                                                                                                                                                                                      | 28.707                       | 20.930                       | No emission factor available | No emission factor available | No emission factor available | No emission factor available |                         |   |   |   |   |   |
| Y | Grassland   | Mineral                                                                                                                                                                                                      | 14.312                       | -2.257                       | -1.503                       | No emission factor available | -10.265                      | No emission factor available |                         |   |   |   |   |   |
| Y | Grassland   | Organic                                                                                                                                                                                                      | 23.468                       | No emission factor available | 3.522                        | No emission factor available | No emission factor available | No emission factor available |                         |   |   |   |   |   |
| Y | Wetlands    | Mineral                                                                                                                                                                                                      | No emission factor available | No emission factor available | No emission factor available | No emission factor available | No emission factor available | No emission factor available |                         |   |   |   |   |   |
| Y | Wetlands    | Organic                                                                                                                                                                                                      | No emission factor available | No emission factor available | No emission factor available | No emission factor available | No emission factor available | No emission factor available |                         |   |   |   |   |   |
| Y | Settlements | Mineral                                                                                                                                                                                                      | 45.666                       | 7.708                        | 17.898                       | No emission factor available | 1.985                        | No emission factor available |                         |   |   |   |   |   |
| Y | Settlements | Organic                                                                                                                                                                                                      | 15.840                       | No emission factor available | No emission factor available | No emission factor available | 0.714                        | No emission factor available |                         |   |   |   |   |   |
| Y | Other land  | Mineral                                                                                                                                                                                                      | No emission factor available | No emission factor available | No emission factor available | No emission factor available | No emission factor available | No emission factor available |                         |   |   |   |   |   |
| Y | Other land  | Organic                                                                                                                                                                                                      | No emission factor available | No emission factor available | No emission factor available | No emission factor available | No emission factor available | No emission factor available |                         |   |   |   |   |   |
|   |             | <a href="#">UK Greenhouse Gas Inventory, 1990 to 2023: Annual Report for submission under the Framework Convention on Climate Change</a>                                                                     |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             | Download the CRT UNFCCC files to access original data source including implied carbon stock change factors.                                                                                                  |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             | Zip file contains spreadsheet for each year going back.                                                                                                                                                      |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             | This table is derived from 2025 figures' spreadsheet.                                                                                                                                                        |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             | To calculate the above factors, combine the total implied stock change factor in the columns labelled Living, Dead, Litter and Soils                                                                         |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             | These implied factors are in Carbon stock increase. Positive number means increase in carbon in the stock (ie plant or soil) which equals negative number for sequestration ie removal from the atmosphere!! |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             | Then converted from Carbon to CO <sub>2</sub> - multiply by 44/12                                                                                                                                            |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |
|   |             | These factors are for Tonnes of CO <sub>2</sub> : the tool multiplies by 1,000 to convert to kg of CO <sub>2</sub> .                                                                                         |                              |                              |                              |                              |                              |                              |                         |   |   |   |   |   |

# Applying this in your authority



- Define the reporting boundary
  - Which land is owned/managed and what are you agreeing to include?
- Establish the spatial dataset
  - Map relevant land parcels/habitats.
- Classify consistently
  - Translate local habitat information into the required land-use categories.
- Apply the factors
  - Using the published methodology.
- Report transparently
  - Show gross emissions, removals, net position, scope and assumptions.



# Where we are and where next

## Now

- HCCSP Green Asset Sequestration Standards published
- Tool available for local authorities
- Framework defines application and reporting principles
- Method derived from the Welsh approach and UK GHG inventory evidence

## Next

- application across Hertfordshire authorities
- learning from implementation
- feedback and challenge from other councils
- exploration of wider sector adoption



<https://www.hccsp.org.uk/green-asset-sequestration-standards-for-local-authorities.aspx>

# **Helen Burridge CEnv, MISEP, MA**

HCCSP Manager

[helen.burridge@eastherts.gov.uk](mailto:helen.burridge@eastherts.gov.uk)

