

# AGRICULTURE AND CLIMATE CHANGE

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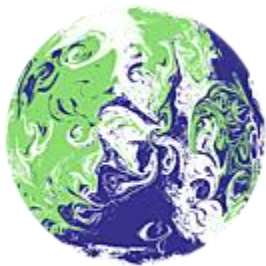


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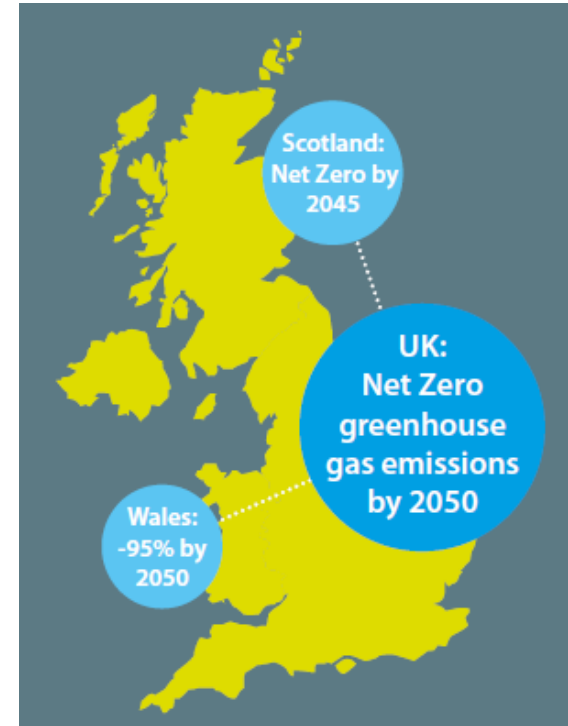
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- Agriculture and GHGs
- The effect of climate change in the UK
- Carbon markets
- Net zero for different farming systems



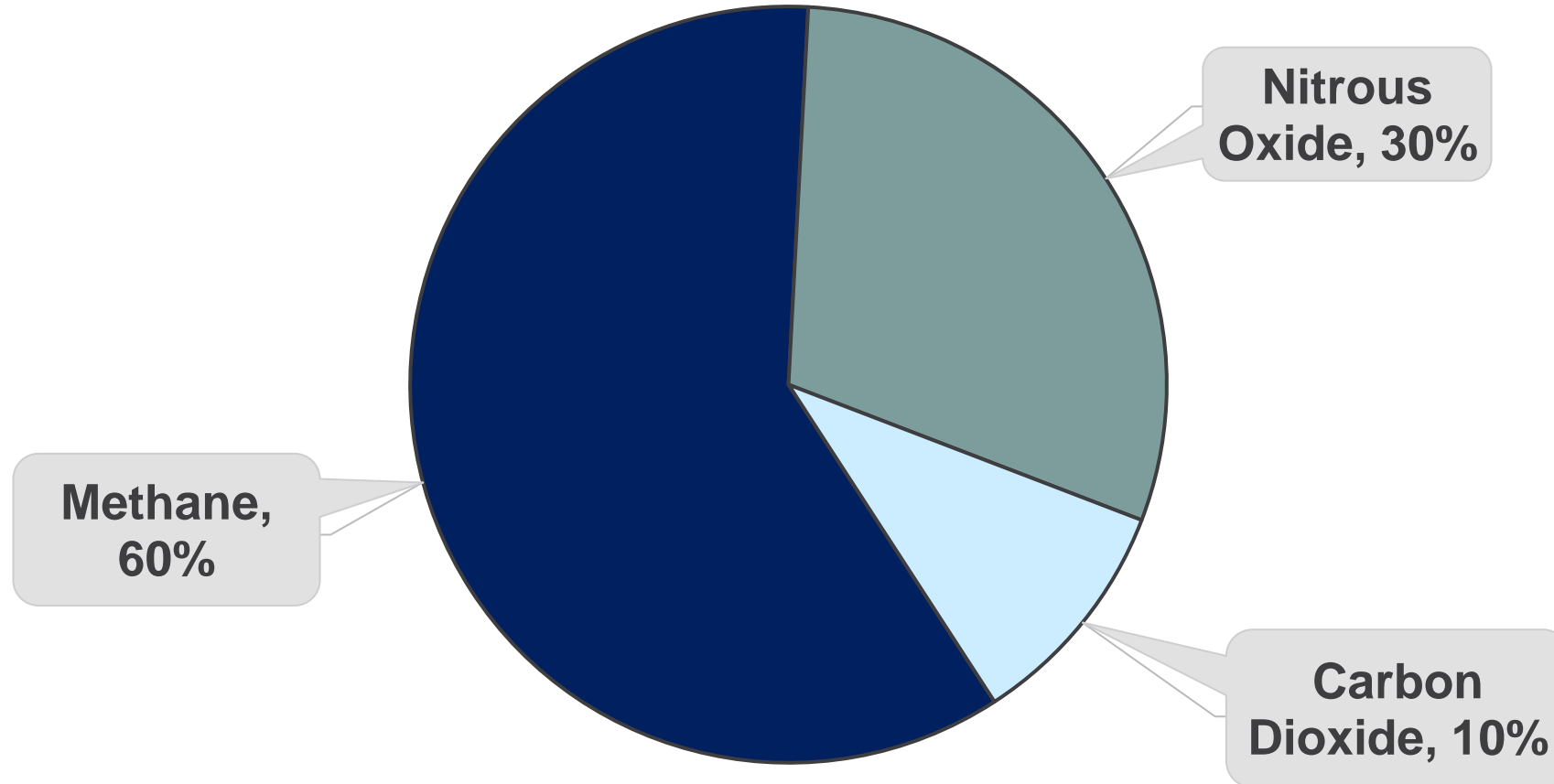
**UN CLIMATE  
CHANGE  
CONFERENCE  
UK 2021**

IN PARTNERSHIP WITH ITALY

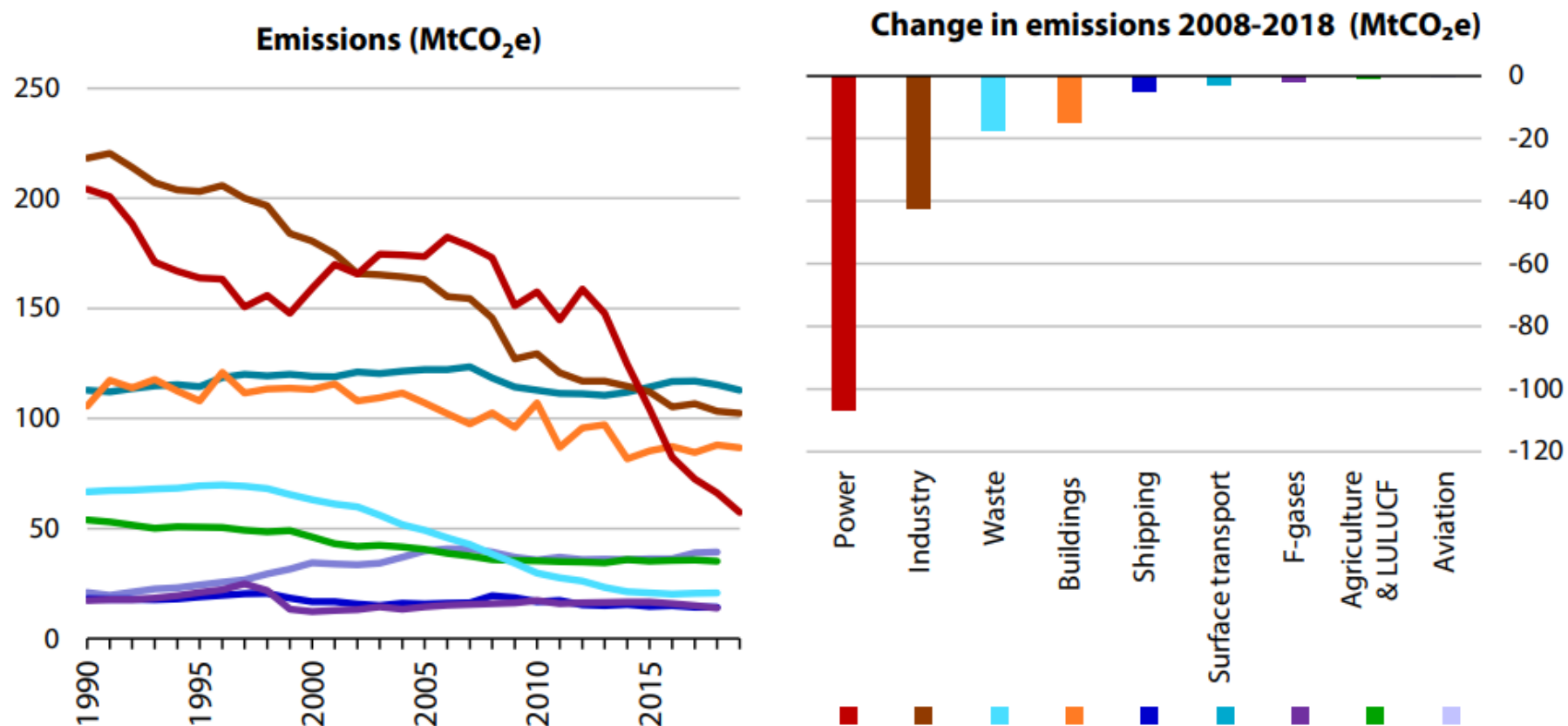


# GHG EMISSIONS FROM AGRICULTURE

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**Figure 2.3.** UK greenhouse gas emissions by sector 1990-2019



**Source:** BEIS (2020) *2019 UK Greenhouse Gas Emissions, Provisional Figures*; BEIS (2020) *2018 UK Greenhouse Gas Emissions, Final Figures*; CCC analysis.

**Notes:** The chart on the right-hand side shows changes in sectoral emissions between 2008 and 2018 for all sectors. Data are not temperature-adjusted.

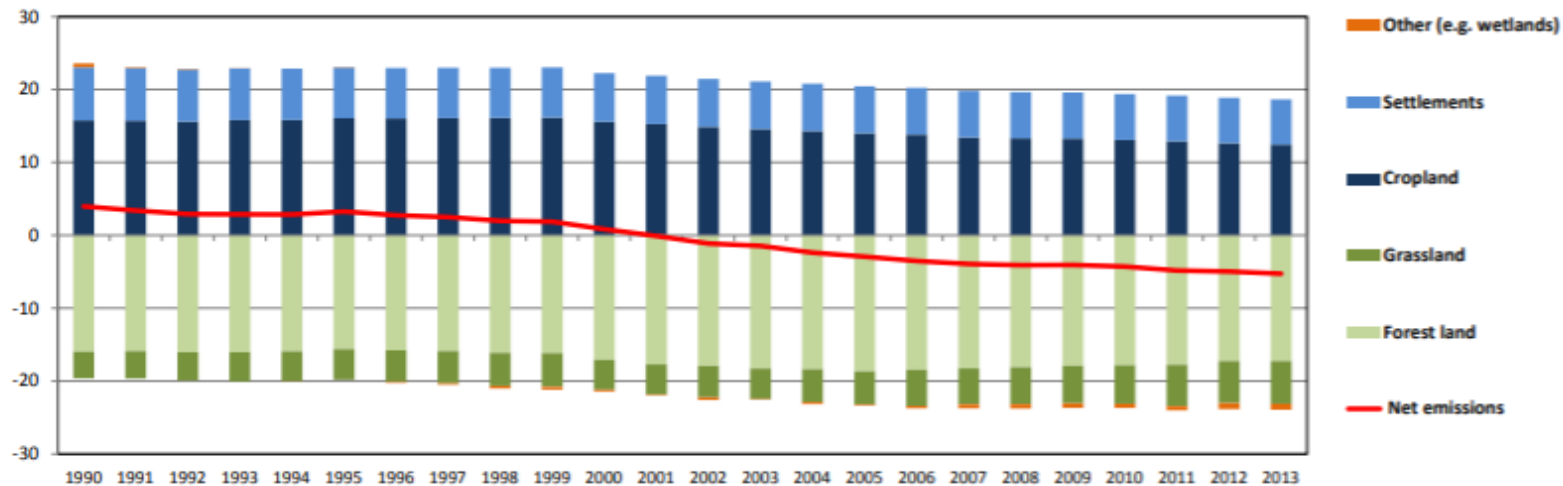


# AGRICULTURE AS A CARBON STORE

Nature based  
solutions

Conserving, restoring, or better managing ecosystems to remove carbon dioxide (CO<sub>2</sub>) from the atmosphere

Figure 1. LULUCF emissions/removals (1990-2013)



<https://www.theccc.org.uk/wp-content/uploads/2013/03/LULUCF.pdf>

WHAT EFFECT IS CLIMATE  
CHANGE HAVING IN THE UK?

# CLA CLIMATE SURVEY

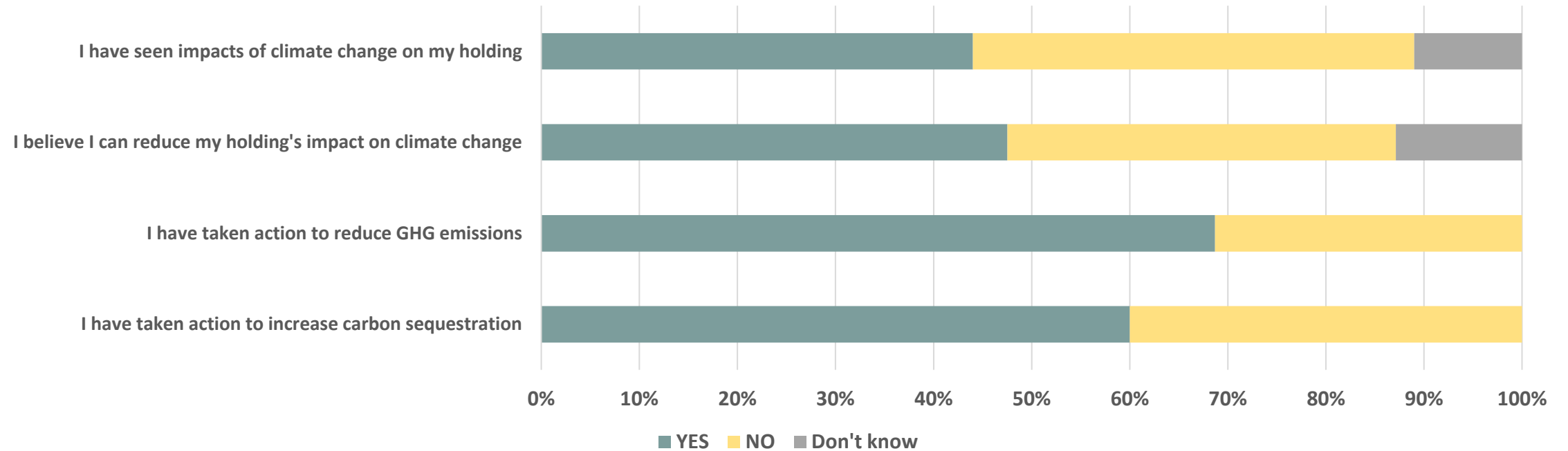
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|                            |  |
|----------------------------|--|
| <b>Total respondents</b>   | 1,010  |
| <b>Size</b>                | 48% <100 acres; 52% >100 acres   |
| <b>Farming enterprises</b> | All main farming enterprises were represented alongside forestry and woodland. 29% also had other enterprises. |
| <b>Geographic spread</b>   | All CLA regions and CLA Cymru represented proportionately  |

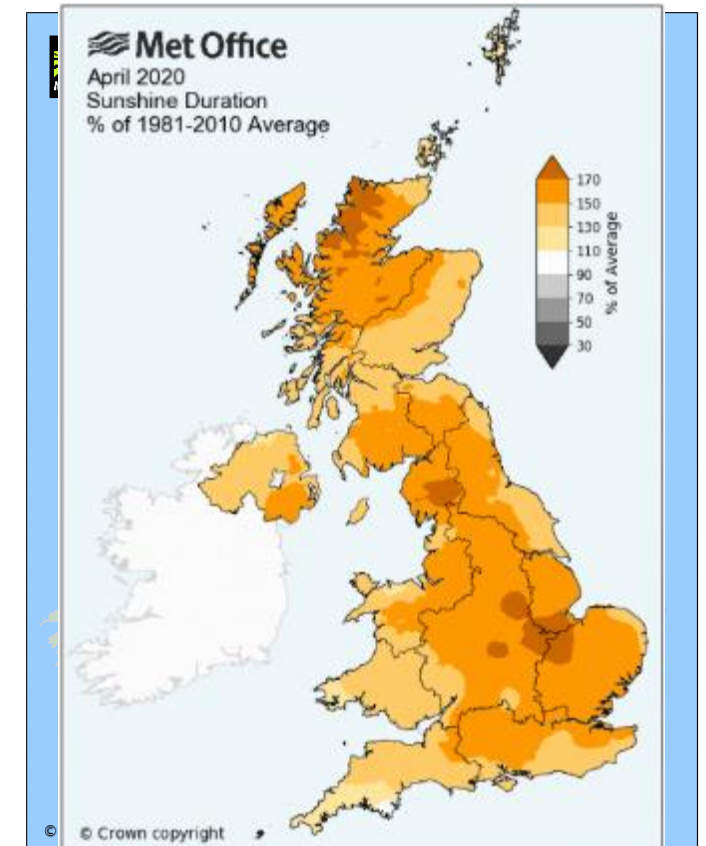
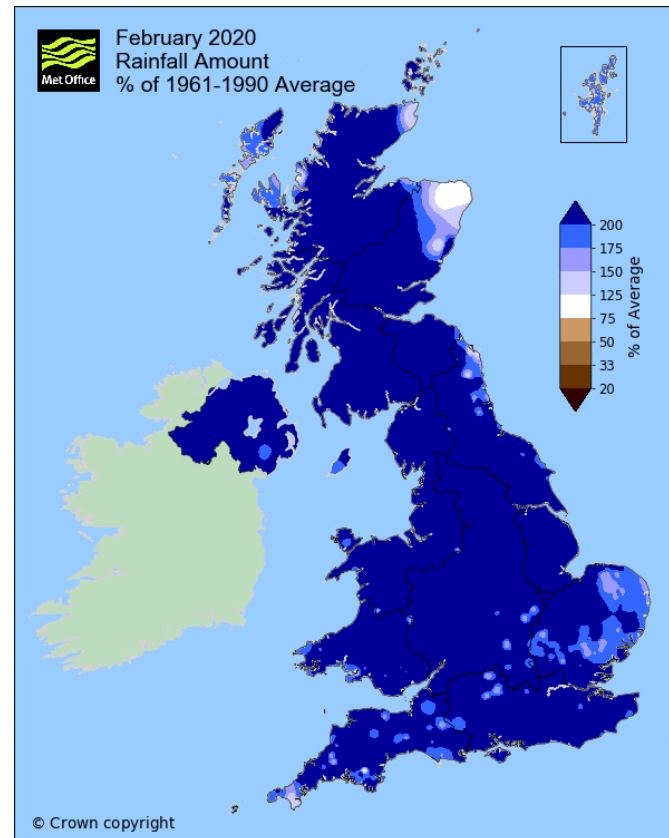
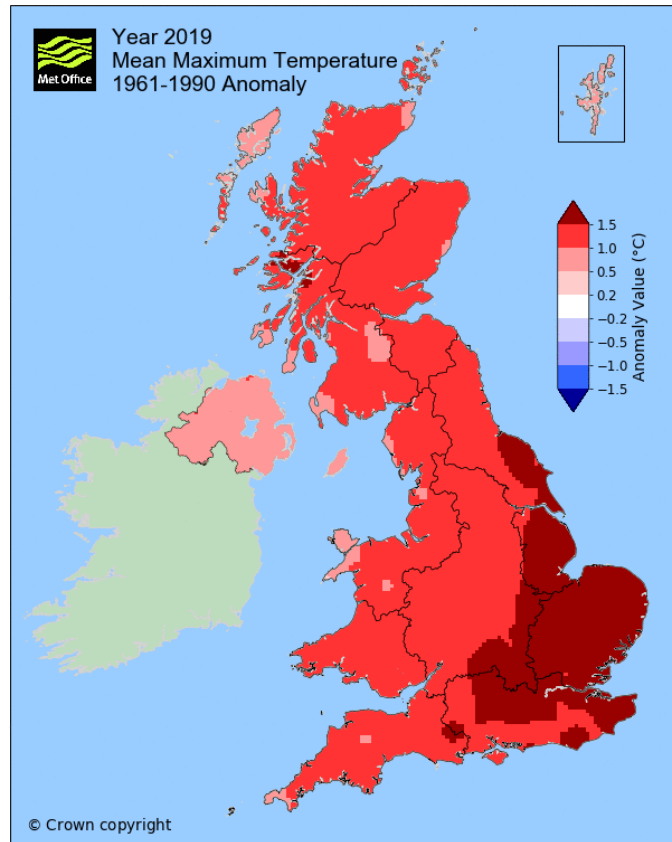
# SURVEY RESULTS

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## CLA Member survey



# IMPACTS OF CLIMATE CHANGE



# CARBON MARKETS

# CARBON MARKETS

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Net zero

Achieving a balance between the amount of greenhouse gas emissions produced and the amount removed from the atmosphere

Carbon offsetting

Emissions reductions or removals are bought and sold



- Saltmarsh Carbon Code
- Hedgerow Carbon Code



# KEY PRINCIPLES FOR CARBON CREDITS

| Principle                           | Rationale  |
|-------------------------------------|--|
| <b>Additionality</b>                | The project must be storing additional carbon to what was already there or would have been stored anyway, and the project must not have been able to take place without the intervention of a carbon credit buyer; |
| <b>Permanence</b>                   | As carbon dioxide emissions last in the atmosphere for up to 1,000 years, carbon offsetting projects should aim to have some certainty that they will store carbon for a similar period of time;                   |
| <b>Quantification</b>               | There must be a way – either by proxy or by actual measurement – to measure the carbon stored as accurately as possible to ensure the offset amount matches the corresponding emissions;                           |
| <b>Avoidance of leakage</b>         | Carbon removals in one area must not lead to an increase in emissions elsewhere; and   |
| <b>Avoidance of double counting</b> | Double counting occurs when the same tonne of CO <sub>2</sub> e is sold more than once.  |

# CARBON ACCOUNTING

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**=your carbon account**

CH<sub>4</sub>

CO<sub>2</sub>

N<sub>2</sub>O

CO<sub>2</sub>

CLA

WHAT DOES NET ZERO MEAN  
FOR ...?

# SHEEP, BEEF AND DAIRY

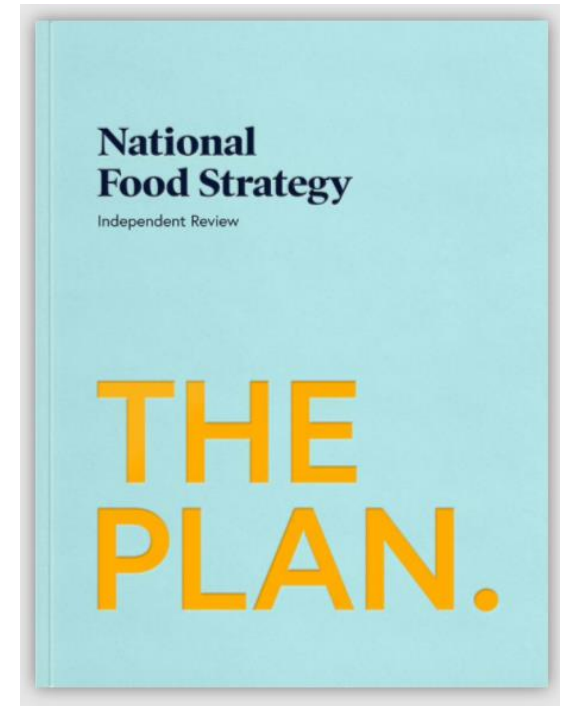
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## Emissions from livestock

*"The National Food Strategy is a welcome addition to the debate about the future of land use and food production in the UK. The strategy highlights the need to properly reward farmers for environmental improvements above and beyond what they already do, and rightly recognises the world class environmental and animal welfare standards of British food. It is precisely because of these standards that Government and industry can argue with confidence that consumers should buy British meat, fruit and vegetables as part of a healthy and environmentally conscious diet."*

**Mark Bridgeman**  
President of the Country Land and Business Association



# CROPS

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**Emissions from cropping**



**A 'low carbon' system**



**Organic systems**

# PIGS AND POULTRY

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**Emissions from pigs and poultry**



**A 'low carbon' system**

# SOILS

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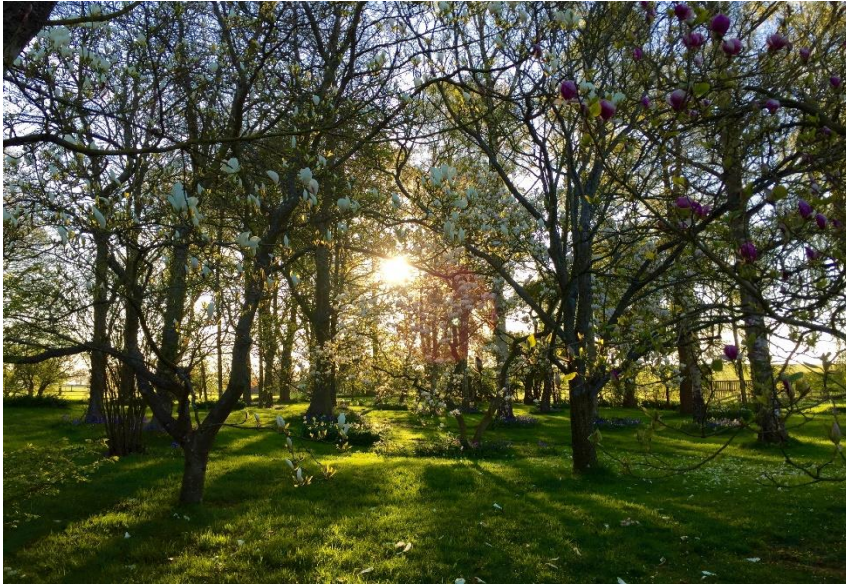


**Soils and carbon storage**



**How does farming impact  
soil carbon?**

# FORESTRY AND WOODLAND



**Forestry, woodland & agro-forestry**



**“Right tree, right place,  
right time, right purpose”**

## **Woodland Creation Planning Grant (WCPG)**

for costs of designing new  
woodland

Up to £150 per hectare

## **England Woodland Creation Offer (EWCO)**

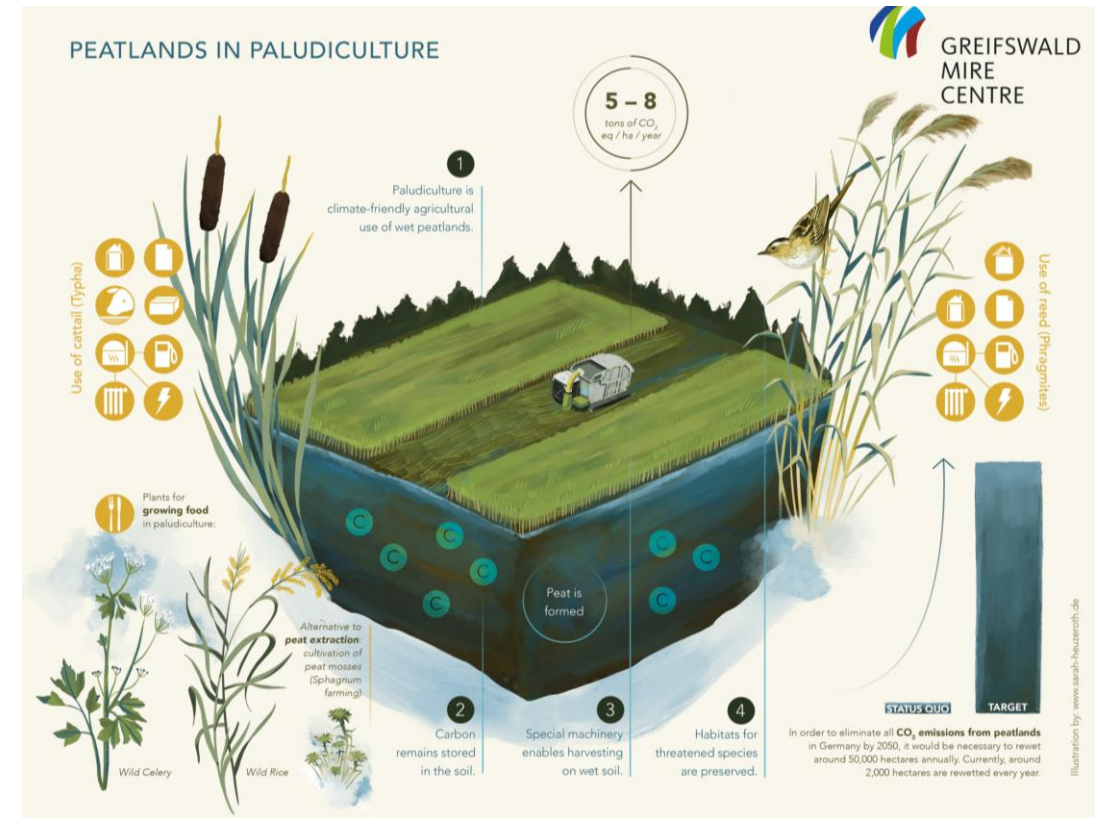
for establishing and  
maintaining new woodland

can receive over £10,000  
per hectare

# PEATLAND



## Peatlands emissions and sequestration



# HOUSING AND ENERGY

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**Efficient homes powered  
by renewable energy**



**The role of biomass?**

- We are seeing the effects of climate change now
- Meeting the UK net zero target will require actions for farming
- Farming and land use can be part of the solution
- A combination of measures is required to adapt and mitigate climate change

Any questions?