

Why do a CALM audit?

Climate change is not only a topical issue but one we expect to be of enduring concern for land managers for decades to come. Understanding the carbon account of a business is a step towards thinking about management decisions that may have some mitigating effect by reducing Greenhouse Gas (GHG) emissions. These issues are also part of the wider corporate and social responsibility (CSR) issues that many rural businesses are taking seriously.

Land management businesses are literally on the front line of climate change, depending critically on the climate for the production of their outputs. Agriculture, land use, land use change and forestry generate about 7% of UK GHG emissions, but differ from most other businesses by producing mainly nitrous oxide, N₂O, (from organic and inorganic nitrogen fertiliser) and methane, CH₄, (from livestock), with only a small percentage of the total emissions from carbon dioxide, CO₂, (from energy use). CH₄ and N₂O have a much stronger global warming effect (GWP) than carbon dioxide, 23 and 296 respectively. GHG emissions are often recorded as CO₂ equivalents (CO₂e) or Carbon equivalents (CE)¹ for easy comparison.

Land management and forestry may also remove CO₂ from the atmosphere by storing it in soils and trees. This is called carbon sequestration.

Before you can do anything about the GHG emitted from your businesses it makes sense to measure what they are and see how they arise. CALM stands for Carbon Accounting for Land Managers. It offers a way for farmers and other land managers to measure the emissions of carbon dioxide, methane and nitrous oxide from their farm/estate and any carbon which is sequestered (stored) in soil and trees. It also highlights opportunities to reduce those emissions. These are examined in the guidance part of this website ([?add a link](#))

The guidance gives some measures you can take to reduce your emissions and some of these are aligned with economic savings too - i.e. those based on efficiencies of inputs. There are also other sources of emissions from farming are difficult to reduce without the introduction of new technologies or developments in livestock breeding. Future research is important here.

The CALM calculator offers the opportunity to save your data. This will enable you to track your progress annually, and if updated factors are produced by the Intergovernmental Panel for Climate Change (IPCC) or the UK interpretation of the guidance, your historic inputs will be reassessed. Confidentiality is guaranteed. The CLA may use the consolidated data for analysis but under no circumstances will individual details be identified.

¹ Converting Between Carbon Dioxide Equivalents and Carbon Equivalents

The conversion between CO₂e and CE is directly related to the ratio of the atomic mass of a carbon dioxide molecule to the atomic mass of a carbon atom (44:12).

To convert from CE to CO₂e, multiply by 44/12

To convert from CO₂e to CE, multiply by 12/44