



# What's new?

## September Upgrade 2023

Lizzy Parker and Michael Oldman

Version 1.5.6 (Sept 2023)





**We provide upgrades to the Farm Carbon Calculator on a regular basis, to ensure that we are reflecting the most recent science, and giving users the best experience.**

**Our latest upgrade showcases a raft of changes that will give our users more functionality and more accurate carbon reports.**

**Here we layout all the changes that have been made, and what you can expect in this latest version, from September 2023.**

## **Table of Contents**

<a href="#">Table of Contents</a>	<a href="#">2</a>
<a href="#">1. Summary</a>	<a href="#">3</a>
<a href="#">2. Comparing Reports</a>	<a href="#">3</a>
<a href="#">3. Interactive Charts</a>	<a href="#">4</a>
<a href="#">4. Exporting Improvements</a>	<a href="#">5</a>
<a href="#">5. New emissions factors</a>	<a href="#">6</a>
<a href="#">Table 2. Items added, or terms changed, for v1.5.6 (September 2023)</a>	<a href="#">6</a>
<a href="#">6. References for Calculator v1.5.6 (September 2023)</a>	<a href="#">6</a>



## 1. Summary

This upgrade includes a range of new user features.

- We've introduced **Target-monitoring** so you can track progress toward net zero
- New **Report Comparison** features mean that you can compare up to 5 different reports between farms and/or time periods
- Upgrades to **charts and visualisation** let you see extra context in your carbon results.

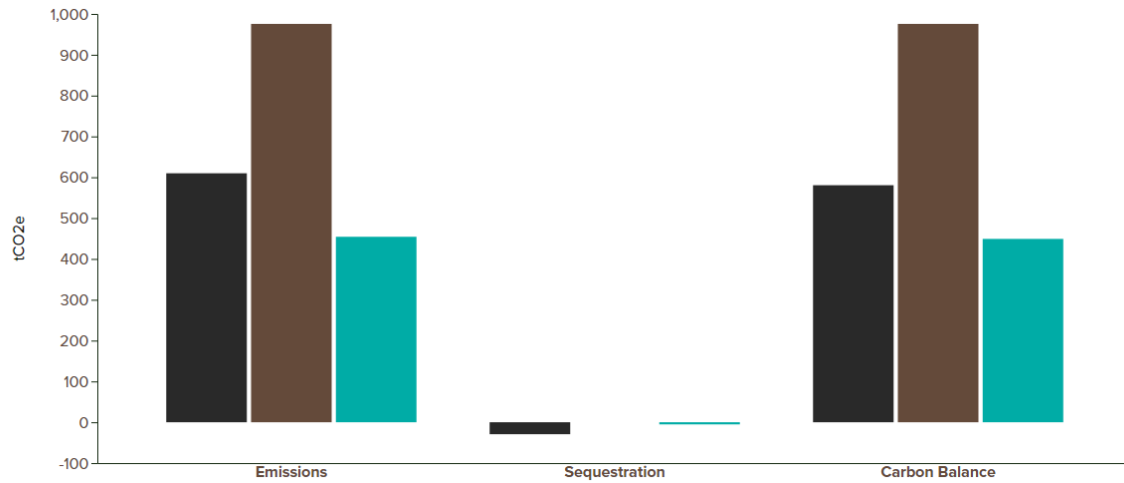
## 2. Comparing Reports

As of the latest update Calculator users can now compare up to 5 reports on either a summary or timeline basis. From the Results page of your report, click the 'Compare' button. You can then select which reports and which comparison mode you want to use

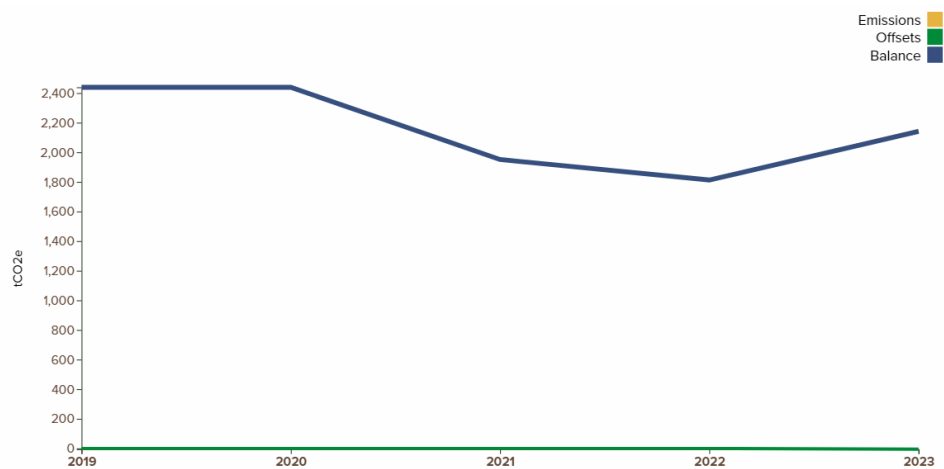
This is a list of all the reports that you have permission to compare (including your own reports and any shared with you). **You can compare a maximum of 5 reports.** Tick the boxes next to those you want to compare, and then click "Compare".

Compare		Timeline	
Title			
Farm 1 September 22-23 01 Sep 2023		<input checked="" type="checkbox"/>	
Farm 1 September 21-22 01 Sep 2022		<input checked="" type="checkbox"/>	
Farm 1 September 20-21 01 Sep 2021		<input checked="" type="checkbox"/>	
Farm 1 September 19-20 01 Sep 2020		<input checked="" type="checkbox"/>	

'Compare' will allow you to view key metrics side by side.

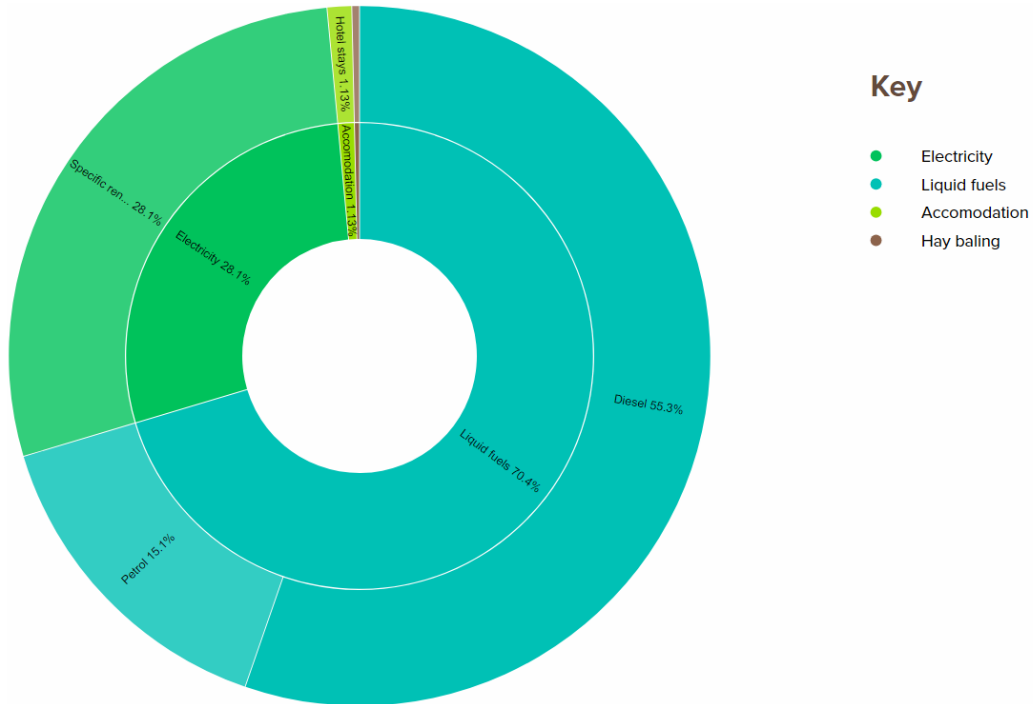


Whereas Timeline comparison plots the key data points from your reports over time. You'll also be able to track your progress toward net zero from here.



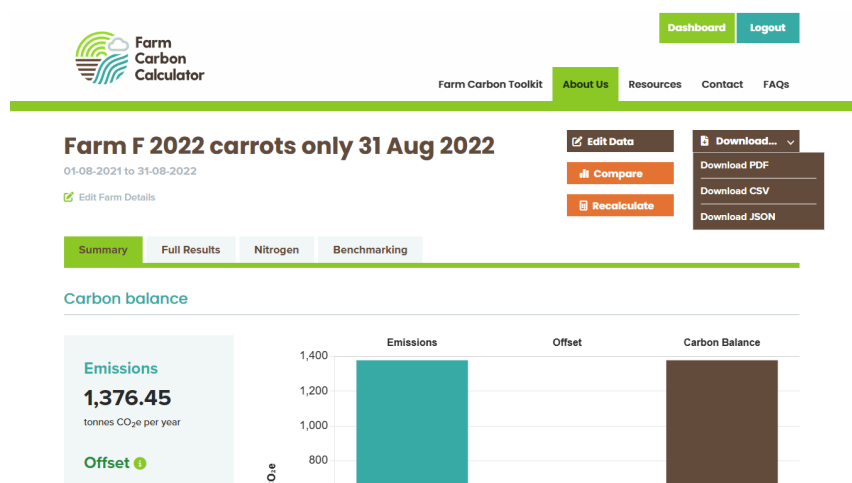
### 3. Interactive Charts

New 'Sunburst' charts have been implemented in certain results tables across the Calculator. These interactive charts allow you a more detailed overview of your data. You can click on a section to zoom into it, and then click the white centre circle to move back up a level.



## 4. Exporting Improvements

The Calculator now allows you to export your report data in JSON format, so you can access the data you have inputted into the calculator as well as the resulting carbon emissions information that is included in the .csv download.



## 5. New emissions factors

In addition to the new features, these items in the Calculator are new or re-organised, offering users an increase in the range of inputs and processes to the business.

**Table 2. Items added, or terms changed, for v1.5.6 (September 2023)**

Items	Ref	Notes
<b>Livestock – Animal feeds</b>		
Barley distiller's grains Wheat distiller's grains	18	Added to non-organic animal feeds
<b>Inventory</b>		
Agricultural sheds (without concrete floors)	2	
<b>Sequestration</b>		
Uncultivated peatland options	82	New peatland categories added in line with updates to the Peatland Carbon Code (amended January 2023).

## 6. References for Calculator v1.5.6 (September 2023)

- 1 Department for Business, Energy & Industrial Strategy (2020). 2020 Government greenhouse gas conversion factors for company reporting. Accessed on 16/03/2023  
<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>
- 1a Department for Business, Energy & Industrial Strategy (2020). 2020 Government greenhouse gas conversion factors for company reporting: methodology. Accessed on 16/03/2023  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/901692/conversion-factors-2020-methodology.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/901692/conversion-factors-2020-methodology.pdf) on 16/03/2023
- 2 Hammond & Jones (2011). The Inventory of Carbon & Energy (ICE) database v2.0.
- 2a Jones (2019). The Inventory of Carbon & Energy (ICE) database v3.0. Accessed on 16/03/2023  
<https://circularecology.com/embodied-carbon-footprint-database.html>
- 3 Williams et al. (2006). Determining the environmental burdens and resource use in the production of agricultural and horticultural commodities. DEFRA project report ISO205. Accessed on 16/03/2023  
<https://randd.defra.gov.uk/ProjectDetails?ProjectID=11442>
- 4 Brown et al. (2017). UK Greenhouse Gas Inventory, 1990 to 2017: Annual Report for submission under the Framework Convention on Climate Change. Accessed on 20/03/2023  
[https://naei.beis.gov.uk/reports/reports?report\\_id=981](https://naei.beis.gov.uk/reports/reports?report_id=981)

- 4a** Brown et al. (2017). Annexes to the UK Greenhouse Gas Inventory, 1990 to 2017: Annual Report for submission under the Framework Convention on Climate Change. Accessed on 20/03/2023  
[https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1905151124\\_ukghgi-90-17\\_Annexes\\_Issue\\_2\\_final.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1905151124_ukghgi-90-17_Annexes_Issue_2_final.pdf)
- 5** Andersen et al. (2010). Quantification of Greenhouse Gas Emissions from Windrow Composting of Garden Waste. Journal of Environmental Quality 39(2): 713–724 <https://doi.org/10.2134/jeq2009.0329>
- 6** Cuttle et al. (2003) A Review of Leguminous Fertility-Building Crops, with Particular Reference to Nitrogen Fixation and Utilisation Written as a Part of Defra Project OF0316 “The Development of Improved Guidance on the Use of Fertility-Building Crops in Organic Farming”. Institute of Grassland and Environmental Research: Aberystwyth, Wales, 2003.
- 7** Phong (2012). Greenhouse Gas Emissions from Composting and Anaerobic Digestion Plants. INRES, Institute of Crop Science and Resource Conservation. Bonn, D-53115.
- 8** Amon et al. (1999). Emissions of NH<sub>3</sub>, N<sub>2</sub>O and CH<sub>4</sub> from composted and anaerobically stored farm yard manure. Ramiran 98 posters presentations. Accessed on 16/03/2023  
<http://ramiran.uvlf.sk/doc98/FIN-POST/AMON-BAR.pdf>
- 9** *Reference superseded*
- 10** Woodland Carbon Code. (2018). Carbon Lookup tables v2.0. Accessed on 30/05/2022  
<https://www.woodlandcarboncode.org.uk/news/version-2-0-of-the-wcc-launched?highlight=WyJsb29rdXAiXQ==>
- 11** Clark (2007). Cover crops—United States—Handbooks, manuals, etc. Sustainable Agriculture Network. 3rd edition.
- 12** GHG protocol (2017). Calculating HFC and PFC emissions from the manufacturing, servicing, and/or disposal of refrigeration and air-conditioning equipment. Calculation worksheets v1.0. Accessed on 30/05/2022  
[https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fghgprotocol.org%2Fsites%2Fdefault%2Ffiles%2Fhfc-pfc\\_0.xls&wdOrigin=BROWSELINK](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fghgprotocol.org%2Fsites%2Fdefault%2Ffiles%2Fhfc-pfc_0.xls&wdOrigin=BROWSELINK)
- 13** Taylor et al. (2010). Measuring holistic carbon footprints for lamb and beef farms in the cambrian mountains initiative. CCW Policy Research Report No. 10/8.
- 14** Bentrup et al. (2016). Carbon footprint analysis of mineral fertilizer production in Europe and other world regions. Conference paper. Accessed on 30/05/2022  
[https://www.researchgate.net/publication/312553933\\_Carbon\\_footprint\\_analysis\\_of\\_mineral\\_fertilizer\\_production\\_in\\_Europe\\_and\\_other\\_world\\_regions](https://www.researchgate.net/publication/312553933_Carbon_footprint_analysis_of_mineral_fertilizer_production_in_Europe_and_other_world_regions)
- 15** Berners-Lee (2010). How bad are bananas? The carbon footprint of everything. Profile Books, London
- 16** Warwick HRI (2009). Preliminary assessment of greenhouse gases associated with growing media materials. DEFRA project report IF0154  
<http://randd.defra.gov.uk/Default.aspx?Module=More&Location=None&ProjectID=15967>
- 17** Wiltshire et al. (2008). Scenario building to test and inform the development of a BSI method for assessing greenhouse gas emissions from food (Technical annexe to the final report). DEFRA project report FO0404 submitted by ADAS. Accessed 02/05/2023  
<https://repository. Rothamsted.ac.uk/item/8q33x/scenario-building-to-test-and-inform-the-development-of-a-bsi-method-for-assessing-greenhouse-gas-emissions-from-food-technical-annex-to-final-report-on-defra-project-no-fo0404>
- 18** GFLI (2020). Database of livestock feeds and environmental impacts. Accessed 30/05/2022  
<http://globalfeedlca.org/gfli-database/gfli-database-tool/>
- 19** *Reference superseded*

- 20 Correspondence with David McNaughton (Soya UK Managing Director) on crop yields and residues
- 21 Taft et al. (2017) GHG from intensively managed peat soils in an arable production system. *Agriculture, Ecosystems & Environment*. 237: 162–172.
- 22 Axe et al. (2017) Carbon storage in hedge biomass – A case study of actively managed hedges in England. *Agriculture, Ecosystems & Environment*. 250: 81–88. <https://doi.org/10.1016/j.agee.2017.08.008>
- 23 Ostle et al. (2009). UK land use and carbon sequestration. *Land Use Policy* 26S: S274–S283. <https://doi.org/10.1016/j.landusepol.2009.08.006>
- 24 Chishna et al (2010) Embodied carbon in natural building stone in Scotland. Historic Scotland, Technical Conservation Group. Technical Paper 7. SISTech Ltd and Harold-Watt University.
- 25 Falloon et al (2004) Managing field margins for biodiversity and carbon sequestration: A Great Britain case study. *Soil Use and Management*. 20 (2): 240–247.
- 26 Kerckhoffs and Reid (2007). Carbon sequestration in the standing biomass of orchard crops in New Zealand. NZ Institute for Crop & Food Research Ltd. report for Horticulture New Zealand Ltd.
- 27 Carlisle et al. (2010). California vineyard greenhouse gas emissions: assessment of the available literature and determination of research needs. California sustainable wine growing Alliance. Accessed on 30/05/2022 [https://www.sustainablewinegrowing.org/docs/CSWA%20GHG%20Report\\_Final.pdf](https://www.sustainablewinegrowing.org/docs/CSWA%20GHG%20Report_Final.pdf)
- 28 Vicente-Vicente et al. (2016) Soil carbon sequestration rates under Mediterranean woody crops using recommended management practices: A meta-analysis. *Agriculture, Ecosystems & Environment*. 235: 204–214.
- 29 Dondini et al. (2009). The potential of Miscanthus to sequester carbon in soils: comparing field measurements in Carlow, Ireland to model predictions. *GCB Bioenergy* 1: 413–425. <https://doi.org/10.1111/j.1757-1707.2010.01033.x>
- 30 Rytter (2012) The potential of willow and poplar plantations as carbon sinks in Sweden. *Biomass and Bioenergy*. 36:86–95.
- 31 Grogan and Matthews (2002). A modelling analysis of the potential for soil carbon sequestration under short rotation coppice willow bioenergy plantations. *Soil Use and Management* 18: 175–183. <https://doi.org/10.1111/j.1475-2743.2002.tb00237.x>
- 32 Ventura et al (2019) Carbon balance and soil carbon input in a poplar short rotation coppice plantation as affected by nitrogen and wood ash application. *New Forests*. 50. 969–990.
- 33 Turner et al (2015) Greenhouse gas emission factors for recycling of source-segregated waste materials. *Resources, Conservation and Recycling*. 105 (A): 186–197.
- 34 Personal communications with Chris Foss (Wine GB)
- 35 COFALEC (2015). Carbon footprint of yeast produced in the European Union. Produced by PriceWaterhouseCooper for COFALEC. Accessed 30/05/2022 [https://cofalec.com/wp-content/uploads/2022/03/20120327155707\\_Yeast\\_Carbon\\_Footprint\\_COFALEC\\_28english-version29.pdf](https://cofalec.com/wp-content/uploads/2022/03/20120327155707_Yeast_Carbon_Footprint_COFALEC_28english-version29.pdf)
- 36 Nica and Woinarocschy (2010) Environmental Assessment of Citric Acid production. UPB Scientific Bulletin, Series B. Chemistry and Materials Science. 72 (3):45–56.
- 37 AHDB & HGCA (2014). Carbon footprint decision tool. 10. Field Operations. Accessed 21/03/2023 [https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fprojectblue.blob.core.windows.net%2Fmedia%2FDefault%2FTools%2FTool%2520Download%2FAHDB%2520carbon%2520footprinting%2520tool%2520\(2014\).xls&wdOrigin=BROWSELINK](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fprojectblue.blob.core.windows.net%2Fmedia%2FDefault%2FTools%2FTool%2520Download%2FAHDB%2520carbon%2520footprinting%2520tool%2520(2014).xls&wdOrigin=BROWSELINK)
- 38 Mollet et al. (2009) Anaerobic digestion and digestate use: accounting of greenhouse gases and global warming contribution. *Waste Manag Res*. 27 (8): 813–24.
- 39 Vergana & Silver (2019) GHG emissions from windrow composting of organic wastes: Patterns and emissions factors. *Environmental Research Letters*. 14 (12) 124027.



- 40 Audsley et al. (2009) Estimation of the greenhouse gas emissions from agricultural pesticide manufacture and use. Cranfield University. 10. Accessed 30/05/2022  
[https://dspace.lib.cranfield.ac.uk/bitstream/handle/1826/3913/Estimation\\_of\\_the\\_greenhouse\\_gas\\_emissions\\_from\\_agricultural\\_pesticide\\_manufacture\\_and\\_use%E2%80%90902009.pdf?sequence=1](https://dspace.lib.cranfield.ac.uk/bitstream/handle/1826/3913/Estimation_of_the_greenhouse_gas_emissions_from_agricultural_pesticide_manufacture_and_use%E2%80%90902009.pdf?sequence=1)
- 41 Yara (2017). Yara International ASA. Carbon footprint – fertilizer products. Verified by DNV GL. Accessed on 25/04/2023  
[https://www.yara.co.uk/contentassets/a6e77004605040aea339577f909d5368/yara-carbon-footprint\\_verification\\_statement.pdf/](https://www.yara.co.uk/contentassets/a6e77004605040aea339577f909d5368/yara-carbon-footprint_verification_statement.pdf/)
- 42 CF Fertiliser range (under reconsideration, reference material unavailable)
- 43 Schwarzbek et al (2015) Determining national greenhouse gas emissions from waste-to-energy using the Balance Method Determining national greenhouse gas emissions from waste-to-energy using the Balance Method. Waste Management. 49:263–271.
- 44 Warner et al. (2020b). Establishing a field-based evidence base for the impact of agri-environment options on soil carbon and climate change mitigation – phase 2. Final Report. Work package number: ECM50416. Evidence Programme Reference number: RP04176. Natural England.
- 45 Farm Carbon Toolkit: Soil Carbon Project (ongoing). See <https://farmcarbontoolkit.org.uk/soil-carbon-project/> for more information.
- 46 Personal communications with Joseph Barnes (Saria UK)
- 47 Fertilizers Europe (2011). Carbon footprint reference values – mineral fertilizer carbon footprint reference values: 2011.
- 48 Brentrup et al (2018) Updated carbon footprint values for mineral fertilizer from different world regions. LCA Food 2018 and LCA AgriFood Asia 2018: (1-B) From Farm to Table. Conference paper accessed on 30/05/2022  
[https://www.researchgate.net/publication/329774170\\_Updated\\_carbon\\_footprint\\_values\\_for\\_mineral\\_fertilizer\\_from\\_different\\_world\\_regions](https://www.researchgate.net/publication/329774170_Updated_carbon_footprint_values_for_mineral_fertilizer_from_different_world_regions)
- 49 Sylvester-Bradley et al. (2015). Minimising nitrous oxide intensities of arable crop products (MIN-NO). AHDB Cereals & Oilseeds/ Project Report No. 548. Accessed on 30/05/2022  
<https://projectblue.blob.core.windows.net/media/Default/Research%20Papers/Cereals%20and%20Oilseed/pr548-abstract-and-executive-summary.pdf>
- 50 AHDB (2017). Nutrient Management Guide – RB209. Accessed on 30/05/2022 <https://ahdb.org.uk/RB209>
- 51 Thorman et al (2020) Towards Country-Specific Nitrous Oxide Emission Factors for Manures Applied to Arable and Grassland Soils in the UK. Frontiers in Sustainable Food Systems. 4:62.
- 52 Liang & Kasimir (2019) Chapter 11: N<sub>2</sub>O Emissions from Managed Soils, and CO<sub>2</sub> Emissions from Lime and Urea Application. Refinement to 2006 IPCC Guidelines for National Greenhouse Gas Inventories (pp. 11.1–11.48) Publisher: Intergovernmental Panel on Climate Change.
- 53 IPCC (2020). Climate Change and Land – An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. Summary for policy makers. ISBN 978-92-9169-154-8. Available at  
<https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/>
- 54 Haverkort and Hillier (2011). Cool Farm Tool – Potato: Model Description and Performance of Four Production Systems. Potato Res. 54, 355–369 <https://doi.org/10.1007/s11540-011-9194-1>
- 55 Department for Business, Energy & Industrial Strategy (2021). UK Government GHG Conversion Factors for Company Reporting 2021. Accessed on 30/05/2021  
<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021>
- 56 PET Recycling Team website (2017). Certificate of carbon footprint for PCF Model ALPHA Bottles rPET produced using EcolInvent 3.3. Accessed on 30/05/2021 <https://petrecyclingteam.com/en/excellent-co2-balance>

- 57 Idemat database (2020). ECO-costs 2017 v1.6. Accessed on 30/05/2021  
<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.ecocostsvalue.com%2FEVR%2Fimg%2FIdematapp2020.xlsx&wdOrigin=BROWSELINK>
- 58 West (2021). Woodland Carbon Code Carbon Calculations Spreadsheet Version 2.4. Accessed 30/05/2021  
[https://www.woodlandcarboncode.org.uk/images/Spreadsheets/WCC\\_CarbonCalculationSpreadsheet\\_Version2.4\\_March2021.xlsx](https://www.woodlandcarboncode.org.uk/images/Spreadsheets/WCC_CarbonCalculationSpreadsheet_Version2.4_March2021.xlsx)
- 59 Brown et al. (2021). UK Greenhouse Gas Inventory 1990 to 2019: Annual Report for submission under the Framework Convention on Climate Change. Department for Business, Energy & Industrial Strategy. Accessed on 30/05/2022  
[https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2105061125\\_ukghgi-90-19\\_Main\\_Issue\\_1.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2105061125_ukghgi-90-19_Main_Issue_1.pdf)
- 59a Brown et al. (2021). Annexes to the UK Greenhouse Gas Inventory 1990 to 2019: Annual Report for submission under the Framework Convention on Climate Change. Department for Business, Energy & Industrial Strategy. Accessed on 30/05/2022  
[https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2106091119\\_ukghgi-90-19\\_Annex\\_Issue\\_2.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2106091119_ukghgi-90-19_Annex_Issue_2.pdf)
- 60 Bizarro et al. (2021). Potential carbon footprint reduction for reclaimed asphalt pavement innovations. Sustainability 13(3):1382 <https://doi.org/10.3390/su13031382>
- 61 GHG Protocol (2014). Agricultural Guidance Interpreting the Corporate Accounting and Reporting Standard for the agricultural sector. GHG Protocol Agricultural Guidance. Accessed on 02/03/23  
[https://ghgprotocol.org/sites/default/files/standards/GHG%20Protocol%20Agricultural%20Guidance%20%28April%2026%29\\_0.pdf](https://ghgprotocol.org/sites/default/files/standards/GHG%20Protocol%20Agricultural%20Guidance%20%28April%2026%29_0.pdf)
- 62 Carbon Trust (2021). Certification Letter – British Sugar – 2020 LimeX extension. Carbon Trust CERT-10235
- 63 Warner et al. (2020a). Establishing a field-based evidence base for the impact of agri-environment options on soil carbon and climate change mitigation – phase 1. Final Report. Work package number: ECM50416. Evidence Programme Reference number: RP04176. Natural England.
- 64 Department for Business, Energy & Industrial Strategy (2022) Greenhouse gas reporting: conversion factors 2022. Accessed on 04/01/2023  
<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022>
- 65 Brown et al. (2022) UK Greenhouse Gas Inventory, 1990 to 2020. Department for Business, Energy & Industrial Strategy. Accessed on 05/01/2023  
[https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2206220830\\_ukghgi-90-20\\_Main\\_Issue1.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2206220830_ukghgi-90-20_Main_Issue1.pdf)
- 66 Brown et al. (2022) UK Greenhouse Gas Inventory 2020 annexes. Department for Business, Energy & Industrial Strategy. Accessed 05/01/2023 [https://naei.beis.gov.uk/reports/reports?report\\_id=1072](https://naei.beis.gov.uk/reports/reports?report_id=1072)
- 67 Wilms et al. (2022). Macronutrient profile in milk replacer or a whole milk powder modulates growth performance, feeding behavior, and blood metabolites in ad libitum-fed calves. J. Dairy Sci. 105:6670–6692  
<https://doi.org/10.3168/jds.2022-21870>
- 68 Finnegan et al. (2017). Environmental impacts of milk powder and butter manufactured in the Republic of Ireland. Science of the Total Environment 579 (2017) 159–168 <http://dx.doi.org/10.1016/j.scitotenv.2016.10.237>
- 69 Sánchez et al. (2012). Comparison of Life Cycle energy consumption and GHG emissions of natural gas, biodiesel and diesel buses of the Madrid transportation system. Energy 47(1):174–198  
<https://doi.org/10.1016/j.energy.2012.09.052>
- 70 Smyth et al. (2015) Developing Peatland Carbon Metrics and Financial Modelling to Inform the Pilot Phase UK Peatland Code. Report to Defra for Project NR0165, Crichton Carbon Centre, Dumfries.
- 71 Encirc LCA for wine bottle, green glass, conducted by Carbon Intelligence.
- 72 Budsberg et al. (2020). Production routes to bio-acetic acid: life cycle assessment. Biotechnol Biofuels 13:154  
<https://doi.org/10.1186/s13068-020-01784-y>

- 73 Bellboom et al. (2015). Environmental impacts of phosphoric acid production using di-hemihydrate process: a Belgian case study. Journal of Cleaner Production 108A: 978–986 <https://doi.org/10.1016/j.jclepro.2015.06.141>
- 74 Naukkarinen (2023). Life Cycle Assessment Study of a Sulfuric Acid Manufacturing Process in the Chemical Pulping Industry. Masters thesis, Lappeenranta–Lahti University of Technology LUT. Accessed 27/04/2023 [https://lutpub.lut.fi/bitstream/handle/10024/165170/Thesis\\_Naukkarinen\\_Martta.pdf?sequence=1](https://lutpub.lut.fi/bitstream/handle/10024/165170/Thesis_Naukkarinen_Martta.pdf?sequence=1)
- 75 Origin (2020). RSK ADAS Limited certificate of cradle-to-gate carbon footprint at the plant gate (Origin Newport) of Origin CAN
- 76 Origin (2020). RSK ADAS Limited certificate of cradle-to-gate carbon footprint at the plant gate (Origin Newport) of Origin 14-14-21 + 7SO3 + 0.02B
- 77 Origin (2020). RSK ADAS Limited certificate of cradle-to-gate carbon footprint at the plant gate (Origin Newport) of Origin 16-16-16 + 7SO3 + 0.02B
- 78 Origin (2020). RSK ADAS Limited certificate of cradle-to-gate carbon footprint at the plant gate (Origin Newport) of Origin 10-10-20 + 7SO3 + 0.02B
- Ogle et al. (2019). Refinement to 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4 – Agriculture, forestry and other land use. Chapter 2 – Generic methodologies applicable to multiple land use categories (pp. 2.33) Publisher: Intergovernmental Panel on Climate Change.
- 79 [https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4\\_Volume4/19R\\_V4\\_Ch02\\_Generic%20Methods.pdf](https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch02_Generic%20Methods.pdf)
- 80 Reference not in use
- Baldini et al. (2017) Baldini et al. (2017). A critical review of the recent evolution of Life Cycle Assessment applied to milk production. Journal of Cleaner Production 140(2): 421–435
- 81 <https://doi.org/10.1016/j.jclepro.2016.06.078>
- Evans et al. (2022) Evans et al. (2022). Aligning the peatland code with the UK peatland inventory.
- 82 Report to DEFRA and the IUCN Peatland Programme (updated January 2023). Accessed on 04/09/2023 <https://nora.nerc.ac.uk/id/eprint/534668/1/N534668CR.pdf>