



What's new?

October Update 2024

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Methodology version 3.1

Data collection spreadsheet version 1.6.1





We provide upgrades to the Farm Carbon Calculator on a regular basis, to ensure that we are reflecting the most recent science, offering additional features and ensuring users have the best experience.

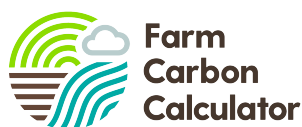
Our latest update includes changes that will give our users more functionality and more accurate carbon reports.

This document outlines changes made, benefits for users, and what to expect in this latest version from October 2024.

Our next scheduled update will be in April 2025.

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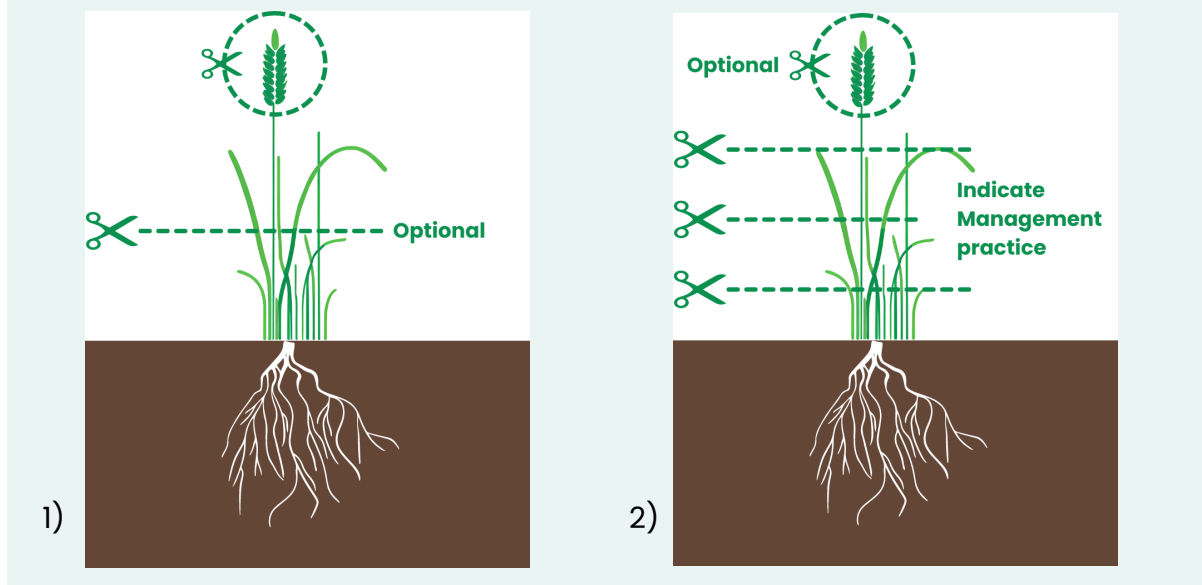
1. Summary

- **New 'Crop' options and residue management options have been added to the calculator.** Emissions produced from crops depend on the management of crop residues. To improve the accuracy of crops emissions, crops will now have a range of residue management options associated with them.
- You can now **account for feed and bedding grown on farm under the 'Livestock' section** in the calculator, as this may form part of your crops residue management practice. After including the crop grown and residue management in the crops section, you can input homegrown feed and bedding in the livestock section.
- In the **'Fuels'** section, Contracted operations on your farm will move under a more general category called 'Operations'. In Operations you will be able to add either yours or your contractors farm operations. **This will allow you to calculate emissions associated with an operation without having to know the exact fuel usage.**
- **In 'Materials', new items have been added**, including agricultural cleaning products and fencing options.
- **More options are available under the 'Waste' category** and more information is available about what emissions each waste option includes.
- **We have expanded the range of items in our 'Processing' section.** You can now input a range of packaging and other items involved in on-farm Processing, for example for dairies and veg boxes.
- **Detailed Greenhouse Gas Emissions split in exports.** Your .csv and .json exports now contain detailed breakdowns of each emissions item by scope and further breakdown by GHG (CO₂, CH₄, N₂O and 'Only CO₂e available'). This allows you to further tailor your results for onward reporting (e.g. if your customer only requires your scope 1 & 2 reporting, or wants to see methane emissions separately from other gases).
- **Improved clarity** of fertilisers and their constituent components under the 'Inputs' section
- You can now **input your hedgerows and field margins in the calculator using length and width** instead of hectares under the 'Sequestration' section.



2. Changes to crop emissions

We used to calculate an average that worked well across all farms (1). Now we can accommodate a greater variety of crop residue management practices (2):



All crops will now have multiple residue management options that you can provide depending on whether you:

- Leave most of the crop residues in the field.
- Leave half of the crop residues in the field.
- Leave little / no crop residues in the field (Wholecrop).

Where wholecrops used to be entered separately they now can be entered in the residue management options listed under each crop. If a residue management option is not selected, the default option (indicated in brackets) will be used - based on common practice for each crop. The renewal rate of the below ground residue is now accounted for in the calculations, so calculations for perennial crops are more accurate. The 'Green manures' option has been expanded to include temporary grasses and forage options for when the mown crop is either removed from the field or when livestock forage the residues. Biomass crops have been added to the calculator, where it is assumed that all aboveground residues are harvested and removed from the field.



Table 1. List of changes to crops with corresponding references:

★ = New addition to the calculator

Items	Ref	Notes
Crops		
Agricultural crops	Barley, Flax & Linseed, Field Beans & Dry Peas, Forage and fodder crops, Lupins, Maize, Oats, Oil Seed Rape, Other cereals, Rye & Triticale, Soya, Sugar Beet, Wheat	92b & 94 Different levels of crop residue removal have been added with adjusted emissions factors ★.
Horticultural crops	Vegetables: Beans & peas, Broccoli and cauliflower, Cabbages and general brassicas, Carrots and Parsnips, Lettuce, Onions, Pumpkins and squash ★, Potatoes, Vegetables (general)	92b & 94 Different levels of crop residue removal have been added with adjusted emissions factors ★. Fruits have been split into two categories and if relevant, crop renewal rate (for perennials) has been included in the calculations ★. Crop renewal assumptions are provided in crop titles.
	Fruits (Soft Fruits): Blackberries, Blackcurrants, Blueberries, Cranberries, Gooseberries, Raspberries, Redcurrants, Strawberries	
	Fruits (top fruits & vine fruits): Apples, Cherries, Grapes, Hops ★, Kiwiberries, Nuts, Pears, Plums	
Biomass Crops ★	Willow coppice, Poplar coppice, Miscanthus, Hemp, Switchgrass	92b & 94 Added into the calculator, assumes all aboveground biomass is removed.



	Items	Ref	Notes
Green Manures, temporary grasslands and cut forages	Alfalfa & lucerne, N-fixing forages (annual renewal), N-fixing forages (5 years between renewal), Non-N-fixing forages (5 years between renewal), Non-legume hay harvested as a cash crop (5 years between renewal) Perennial grasses (10 years between renewal), Grass clover mixes [2:1] (5 years between renewal)	92b & 94	Different levels of crop residue removal can be accounted for, as well as different crop renewal rates (for perennials) ★. Crop renewal assumptions are provided in crop titles.

⚠ This update means that estimates of crop emissions have been improved and data in previous reports will change to reflect this. If you would like to retain an old version of your report make sure you lock it. If you copy a report, edit or click 'recalculate' on a report that contains these items, your emissions results will change.

3. Record your on-farm produced feed and bedding

You can now input your homegrown feed or bedding used on-farm in the **Livestock** section of the calculator under **'Feed by-products of on farm cropping'** or **'Bedding by-products of on farm cropping'**. You would need to include the relevant crop that you've grown and residue management practice in the crops section as listed above. Using homegrown feeds and bedding for livestock will not have emissions associated with them when you enter them here since you have already accounted for the emissions associated with their production in the crops/ inputs sections. Residues removed from the field and composted should be accounted for under the Waste section.

4. Calculate your on-farm activities' fuel use

Where fuel usage on-farm is not known or is incomplete you can now enter a wide range of farm operations listed below and the calculator will model the approximate fuel use in order to calculate the associated emissions. Previously we asked users to enter their fuel usage for on-farm operations. If fuel usage is known it can still be entered under Liquid fuels > Diesel > Red Diesel for example so care is needed to avoid double-counting.



This improves users' ability to forecast or model emissions on-farm since any farming activities' associated fuel emissions can be predicted in this way. All of the below options are also available to estimate operations of contractors too - which create scope 3 emissions - by selecting options under 'Contractor Operations (C.O)'.

Table 2. List of on-farm operations available

Operations	Options
Soil Preparation	Mouldboard plough, Add furrow press, Sub soiling, Mole ploughing, Flat lifting, Stubble cultivations (light), Discing shallow, Discing deep, Power harrowing, Spring tine, Pressing, Tillage train, Min till cultivator, Rolling, Potato Bed Preparation.
Drilling	Flat lift rape drilling, Conventional drilling, Power harrow drill, Cultivator drill, Direct drill, Potato Planting
Applications	Solid fertiliser distribution, Spraying, Liquid fertiliser spreading, ATV spreading, Lime spreading
Slurry & FYM	Muck spreading, Slurry spreading, Umbilical spreading
Harvesting	Combining, Add for straw chopping, OSR swathing, Potato destoning Potato Harvesting - Trailed, Potato Harvesting - Self Propelled, Forage harvester, Hay tedder, Mower, Silage trailer / carting
Baling	Bale wrapper, Baling by the bale - Small rectangular bales, Baling by the bale - Round bales, Baling by the bale - Heston bales, Baling by area ~250 Small rectangular bales per ha, Baling by area ~15 Round bales per ha, Baling by area ~ Heston bales per ha, Baling by area (general)

5. Summary of new items added or terms changed

Excluding crops listed in Section 2.

Our team has researched and added a range of items under 'Materials', 'Waste' and 'Processing' to make accounting for new items and consumables even easier. In addition to the updated crop factors, these items in the Calculator are new or re-organised, offering users an increase in the range of inputs and processes to the business. New items added in processing will be particularly useful for dairies and veg boxes schemes.

We constantly review and add more items into the calculator where possible to mirror items regularly being used on-farm. If you use something on-farm and can't find it - [get in touch](#) and our



team can help you enter it, or record your request for our next update. More information is provided in the Calculator alongside the items in the form of tool-tips.

Table 3. Items added, or terms changed, for v1.6.2 (October 2024)

Items	Ref	Notes
Fuels		
'Contractors' to 'Operations'	86	Operations will now include a 'Contractors Operations (C.O)' and 'My Operations' drop down menu so that fuel use can be calculated per operation. If fuel usage is known, this can be entered under Liquid fuels > Diesel > Red Diesel and do not double count it here.
Materials		
Fencing > <ul style="list-style-type: none"> • Sheep hurdles (4ft) • Sheep hurdles (5ft) • Sheep hurdles (6ft) • Cattle hurdle (10ft) 	2a	
Cleaning products, detergents, etc.	103	A range of cleaners and descalers, detergents, disinfectants and teat dips added.
Livestock		
Feed by-products of on farm cropping > <ul style="list-style-type: none"> • Home grown hay as feed • Home grown haylage as feed • Home grown silage as feed • Home grown straw as feed 		Included in the calculator so users can keep track of homegrown feed. Ensure to enter relevant information into the Crops section.
Bedding by-products of on farm cropping > <ul style="list-style-type: none"> • Home grown hay as bedding • Home grown haylage as bedding • Home grown silage as bedding • Home grown straw as bedding 		Included in the calculator so users can keep track of homegrown bedding. Ensure to enter relevant information into the Crops section.
Waste		



Items	Ref	Notes
Construction Waste > Insulation - Recycled	86	Assumes closed loop recycling.
Construction Waste > Metals - Recycled	86	Assumes closed loop recycling.
Construction Waste > Soils - Recycled	86	Assumes closed loop recycling.
Construction Waste > Mineral oil - Recycled	86	Assumes closed loop recycling.
Construction Waste > Plasterboard - Recycled	86	Assumes closed loop recycling.
Construction Waste > Tyres - Recycled	86	Assumes closed loop recycling.
Construction Waste > Wood - Recycled	86	Assumes closed loop recycling.
Books, Glass and Clothing Waste > Clothing - Recycled	86	Assumes closed loop recycling.
Paper and board waste > Board - Recycled	86	
Paper and board waste > Mixed - Recycled	86	
Paper and board waste > Paper - Recycled	86	
Processing		
Dairies > Bottles and Containers	86	
Dairies > Packaging and labels	86	Some calculated values based on assumed weights
Dairies > Cleaning products	103	This section is using the same cleaning products introduced under Materials > Cleaning products, detergents, etc and is repeated here for ease of use for dairies.
Dairies > Sugars	17 & 62	
Dairies > Water (dairies)	86	
Dairies > Refrigeration	12	
On farm processing (i.e. veg boxes) > Jars and bottles	86	Some calculated values based on assumed weights
On farm processing (i.e. veg boxes) > Crates & packaging	86, 2a & 95	



Items	Ref	Notes
On farm processing (<i>i.e.</i> veg boxes) > Water (on farm processing)	86	
On farm processing (<i>i.e.</i> veg boxes) > Refrigeration	12	
On farm processing (<i>i.e.</i> veg boxes) > Sugars	17 & 62	



6. Improved user features and guidance

Some other improvements have been included for Calculator v1.6.2.

Table 4. Other recent improvements to the Farm Carbon Calculator

Section	Feature	Notes
Split of results by GHG and scope	Split of emissions by scope and GHG included in .csv and .json exports	When you download your results as .csv or .json each emissions item will give results split by scope and further split by GHG so that if you need to exclude, recompile or itemise certain scopes or GHGs you can access the data you need. See example in figure 1 below.
Inputs	Improved clarity of naming for fertiliser products (including % components added into names)	<i>E.g.</i> Generic solid fertilisers (average) <ul style="list-style-type: none"> • Ammonium Nitrate (Product with 34.5% N)
Sequestration	Improved input of hedgerow and margins areas using width and length (m)	You can now input your hedgerows or field margins areas with length and width values (metres) alongside the previously used hectares value. This is to improve ease of input for our users and is available for: <ul style="list-style-type: none"> • Field Margins (Uncultivated) • Countryside stewardship > BE3 - Management of hedgerows (by width and length)

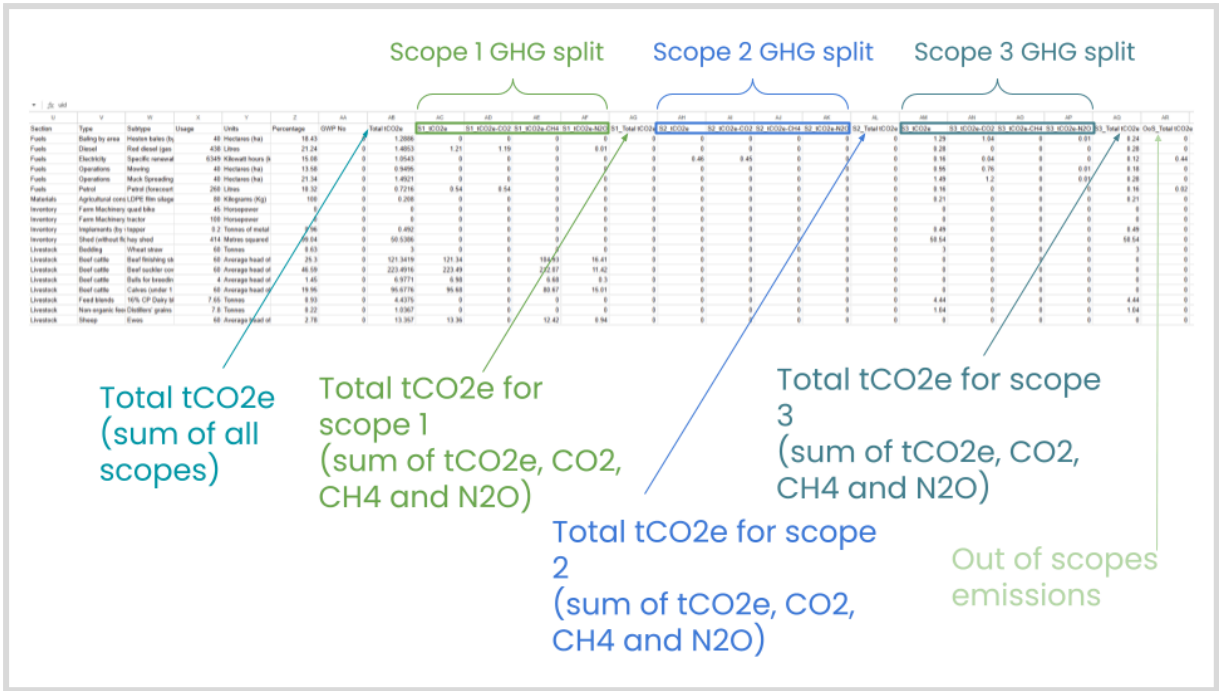


Figure 1. Example of .csv export of report with annotation of how to interpret the new columns to extract GHG and scope split information for each emissions item.



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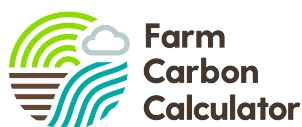
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