

Data requirements for CALM

It is a good idea to gather all this information together first before starting to enter it into the CALM calculator. The lists and notes below will give you an idea of the information the calculator requires. Clearly you will not use all the data entry fields. More detailed information is given within the calculator when you open the field.

The data entry is in split into two main areas - Emissions and Sequestration. These are divided into 'Sections' (**bold headings** below) and sub-divided into 'Fields', these are listed in the tables. You choose the fields relevant to your business.

EMISSIONS

Energy – most of the information required can be found on invoices to calculate consumption in year. If contractors are used on your farm use the 'Contracting' section to make an estimate of energy used.

Field	Data required
Gas oil (red diesel)	litres
Unleaded Petrol	litres
Electricity	kWh
Diesel	litres
LPG	litres
Heating/burning oil	litres
Natural Gas	kWh
Biodiesel	litres & % biodiesel
Bioethanol	litres & % bioethanol
Renewable electricity	kWh & % renewable
Other biofuels	litres
Propane	litres
Coal	tonnes

Energy used in contracting – Estimate of hours worked by contractors on your farm (or by you off your farm) by tractor horse power range. If complete 'stubble to stubble' operation just include area (hectares) and estimated diesel used per ha.

Field	Data required
Powered machinery under 100 hp	hours
Powered machinery 100 to 150 hp	hours
Powered machinery 150 to 200 hp	hours
Powered machinery 200 to 250 hp	hours
Powered machinery over 250hp	hours
Whole crop stubble to stubble	hectares & litres diesel/ha
Combine harvesting	hectares & litres diesel/ha
Other operations carried out off the farm or on your farm by contractor	litres diesel

Fertiliser (nitrogen only) – Crop records and/or invoices. Default % for nitrogen is given in the calculator for guidance.

Field	Data required
Ammonium nitrate	tonnes applied & % N
Urea	tonnes applied & % N
Liquid N (litres)	cubic metres & % N
Liquid N (tonnes)	tonnes applied & % N
Other nitrogen fertiliser (e.g. compound) 1	tonnes/cu metres applied & % N
Other nitrogen fertiliser (e.g. compound) 2	tonnes/cu metres applied & % N
Other nitrogen fertiliser (e.g. compound) 3	tonnes/cu metres applied & % N
Other nitrogen fertiliser (e.g. compound) 4	tonnes/cu metres applied & % N

Imported or exported organic manures – records may not be available but sensible estimates will need to be made of the amount of manure coming onto or leaving the farm. The % of nitrogen is also required. Default values are suggested if not known.

Field	Data required
Poultry litter (exclude export to power station)	tonnes & % N
Layer manure (exclude export to power station)	tonnes & % N
Pig slurry	cubic metres & % N
Pig FYM	tonnes & % N
Cattle slurry	cubic metres & % N
Cattle FYM	tonnes & % N
Dairy slurry	cubic metres & % N
Dairy FYM	tonnes & % N
Sewage sludge	tonnes & % N
Compost	tonnes & % N
Other	tonnes & kg N
Straw for bedding	tonnes

Lime – Crop records and/or invoices. Default % for nitrogen is given in the calculator for guidance.

Field	Data required
Limestone and chalk (dolomite application)	tonnes tonnes

Dairy cows, cattle and sheep - June Census form and/or farm records.

For each of the fields the data required is:

- the average number of head on farm over the year
- the average number of grazing days per head (for lambs the % time at grass)
- the % of manure (while housed) in each of the following systems,
 1. stored as slurry
 2. spread daily
 3. stored as FYM.

In some cases may need sensible estimation. If short term grazing agreements – include the annual average livestock numbers of the animals grazing on your land and the actual grazing days. E.g. 500 ewes for 3 months equals annual average of 125 ewes with 90 grazing days.

Field

Dairy cows - Friesian/Holstein over 9,000 litres/head/year

Dairy cows - Friesian/Holstein 7,000 - 9,000 litres/head/year

Dairy cows - Friesian/Holstein 5,000 - 7,000 litres/head/year

Dairy cows - Friesian/Holstein under 5,000 litres/head/year

Other dairy cattle

Cattle over 2 years

Cattle 1 to 2 years

Cattle under 1 year

Breeding sheep (ewes and rams)

Other sheep over 1 year

Lambs under 1 year

Other livestock - June Census form and/or farm records.

For each of the fields below (pigs) the data required is:

- the average number of head on farm over the year
- the % of period outside
- the % of manure (while housed) in each of the following systems,
 1. stored as slurry
 2. spread daily
 3. stored as FYM.

Field

Breeding pigs over 50 kg

Other pigs over 50 kg

Pigs 20 - 50 kg

Pigs under 20 kg

For each of the fields below (poultry) the data required is:

- the average number of birds on farm over the year
- if free range estimate period when housed (one day equals a 24 hour period).
- the % of manure (while housed) in each of the following systems,
 1. burnt (including transfer from unit to power station)
 2. spread daily
 3. produced as poultry litter or other

Field

Broiler breeders

Broilers

Growing pullets

Layers

Ducks

Turkeys

For each of the fields below the data required is:

- the average number of head on farm over the year
- if free range estimate period when housed (one day equals a 24 hour period).
- the % of manure (while housed) in each of the following systems. Not applicable to deer.
 1. burnt (horses only)
 2. spread daily
 3. produced as litter

Field

Horses

Goats

Deer (stags)

Deer (hinds)

Deer (calves)

Crops and grass - Cropping history from farm records and/or June Census forms. Sales receipts or estimate of crop stored for total yield.

For each of the fields below the data required is:

- the tonnes of crop harvested

where crops produce straw:

- the tonnes of straw moved off farm or estate to another business

grass & soft/top fruit:

- area of crop (hectares)

Field

W Wheat

Oilseed Rape

W Barley

S Barley

Oats

Sugar Beet

S Wheat

Other cereals

Maize

Potatoes

Other roots

Brassicac and leafy vegetables

Onions

Linseed

Other non-legume arable crops

Vining peas

Broad beans

Phaseolus beans

Dry peas

Field beans

Other legume arable crops

Grass (and herbage seed)

Soft fruit

Top fruit

Land use change (loss of soil carbon) – Cropping history and farm records. This may be difficult to accurately assess if historical ownership not known, but a good estimate should be possible.

Field	Data required
Grass to arable	hectares
Woodland to arable	hectares
Woodland to grass	hectares
Grass to development	hectares
Arable to development	hectares
Woodland to development	hectares

Organic soil (peat/fens) – farm records for areas.

Field	Data required
Drained thick peat (over 1m deep)	hectares
Drained thin peat (less than 1m deep)	hectares
Cultivation of peat soils	hectares

SEQUESTRATION

Land use change (gain in soil carbon) – Cropping history and farm records. This may be difficult to accurately assess if historical ownership not known, but a good estimate should be possible.

Field	Data required
Arable to woodland	hectares
Arable to grass	hectares
Grass to woodland	hectares

Farm woodland (for general farm use) - use farm records.

Field	Data required
Conifer under 10 years	hectares
Conifer 10 - 20 years	hectares
Conifer over 20 years	hectares
Broadleaved under 10 years	hectares
Broadleaved 10 - 20 years	hectares
Broadleaved over 20 years	hectares

Forestry (for commercial forests) – the calculator gives space for up to ten compartments for each period. You will require the following data:

- the area of woodland compartment (hectares)
- the annual timber increment (cubic metres)
- the volume of timber harvested (cubic metres)
- the stem density (tonnes per cubic metre)
- the biomass expansion factor (various given at point of data entry)

Field

Compartment 1 (less than 20 years)
 Compartment 2 (less than 20 years)
 Compartment 3 (less than 20 years)
 Compartment 4 (less than 20 years)
 Compartment 5 (less than 20 years)
 Compartment 6 (less than 20 years)
 Compartment 7 (less than 20 years)
 Compartment 8 (less than 20 years)
 Compartment 9 (less than 20 years)
 Compartment 10 (less than 20 years)
 Compartment 11 (more than 20 years)
 Compartment 12 (more than 20 years)
 Compartment 13 (more than 20 years)
 Compartment 14 (more than 20 years)
 Compartment 15 (more than 20 years)
 Compartment 16 (more than 20 years)
 Compartment 17 (more than 20 years)
 Compartment 18 (more than 20 years)
 Compartment 19 (more than 20 years)
 Compartment 20 (more than 20 years)