

CARBON CALCULATOR

User Guide

What is it?

The Carbon Calculator is a quick and easy way of determining your golf club's carbon footprint. Once complete, the resultant figure indicates your club's baseline carbon footprint level which can be annually monitored and compared following the implementation of energy saving initiatives at the club.

The Carbon Calculator also provides a breakdown of the factors contributing to your club's carbon footprint. This in turn allows the club to develop a more tailored approach to becoming a more efficient and sustainable facility.

What do I need?

In order to obtain an accurate figure from the Carbon Calculator, the following information is required:

- All energy bills (electricity, gas, coal, gas oil, wood pellets, etc.) from the most recent January-December twelve month period.
- Bills/receipts from petrol and diesel purchases throughout the most recent January-December twelve month period.
- Bills indicating water consumption for clubhouse, maintenance facility and golf course irrigation for the most recent January-December twelve month period.

All documentation regarding waste collection and recycling initiatives is available at the club.

How do I use it?

The Carbon Calculator is split into two sections entitled Clubhouse and Golf Course. This allows an independent assessment of the clubhouse versus the maintenance facility/golf course. This degree of flexibility allows the user to determine which sectors of the golf club are making the greatest contribution towards the club's carbon footprint and therefore where the greatest effort should be made to deliver savings.

The following is a question-by-question guide to filling out each of the two sections:

SECTION 1: CLUBHOUSE

Q1 - How do you obtain your electricity?

Electricity usage obtained from a standard electricity supplier for the most recent January-December period should be extracted from the club's energy bills, totalled and entered into box 1a on the Calculator. The figure to be entered should be kilowatt hours (kWh) used and, on a typical energy bill, this is found under a heading kWh Used. Many clubs will have separate electricity bills for the clubhouse and the maintenance facility. If this is the case, please enter electricity usage for the clubhouse only in box 1a. If the club does not have separate electricity bills, please enter the total electricity used in this box. Box 1b should be utilised instead of 1a if the club obtains its electricity from a renewable electricity supplier. This will be indicated on the club's energy bills.

Should the club obtain electricity from on-site renewable sources or from off-site combined heat and power systems, the respective kWh values should be extracted from electricity meter readings for the most recent January-December period and entered into boxes 1c or 1d respectively.

Q2 - Do you use any other energy sources other than electricity?

If the club uses coal, wood pellets, natural gas or gas oil as an energy source, information on quantities or kWh used between January and December should be obtained from bills and invoices and inputted in the appropriate box under Question 2. Note you are presented with two options under the heading Coal and two options under the heading Gas Oil. It is crucial that only one box for coal and one box for gas oil is filled in. Either quantities, in tonnes or kWh used should be inputted into the Calculator.

Q3 - Does the golf club own any road vehicles other than those used for golf course maintenance?

Many clubs will own one or more vehicle for use on the road. Note this does not include golf course maintenance vehicles. For any golf club owned vehicles, please either input the amount of petrol and/or diesel consumed by these vehicles between January and December in litres (obtained from fuel receipts) or input the annual mileage of the vehicles into the appropriate box under Question 3iia, b or c. Note: small car = Ford Fiesta or similar, medium car = Ford Focus or similar, large car = Ford Mondeo or similar.

Q4 - Clubhouse water use

Please estimate the annual usage of water by the clubhouse in litres or cubic metres.



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This information can be obtained from the club's water bills for the most recent January-December period. On a typical water bill the appropriate figure can be found under the heading Amount of Water Used Since Last Reading. If separate data for the clubhouse and maintenance facility are unavailable then please enter the full amount. If water bills cover a period extending outside the January-December assessment period (for example December 1st to March 1st), please make an estimate of the amount of water used within the survey period (i.e. in this case, January 1st to February 28th). Note: a box is provided for the input of litres or cubic metres. It is crucial that only one of these boxes is filled in.

Q5 - Is your waste segregated or not segregated

If clubhouse waste is not segregated, i.e. all waste placed into a general waste bin for disposal, then please estimate the amount of waste (in tonnes) produced by the clubhouse in a typical January-December twelve month period. This figure should then be inputted into box 5ia under either Landfill or Incinerated Waste depending upon its fate.

If waste is segregated and recycling initiatives are undertaken then please estimate the total amount of each waste stream in tonnes and input the final figure into the appropriate box under 5iia, b, c, d or e. If an estimate of waste production cannot be split between the clubhouse and maintenance facility, please input the overall total here.

Once this sheet has been completed, the total carbon footprint for the clubhouse will be presented in the box at the bottom of the page as a figure of kilograms of CO₂e per year.

SECTION 2: GOLF COURSE/MAINTENANCE FACILITY

Q1 - How do you obtain your electricity?

Electricity usage figures for the maintenance facility should be obtained in a similar vein to those for the clubhouse. *Note: if the total electricity usage of the clubhouse and maintenance facility has been inputted in the Clubhouse Carbon Calculator sheet, please leave Question 1 blank.*

Q2 - Do you use any other energy sources other than electricity?

Figures for the use of coal, wood pellets, natural gas and gas oil for the maintenance facility should be entered in a similar vein to those indicated on the Clubhouse Carbon Calculator sheet. *Note: if the total amounts of these energy sources have been entered into the clubhouse sheet, please leave these boxes blank.*

Q3 - Please estimate your annual usage of fuel in litres



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The amount of petrol and diesel used to power equipment for vehicles for use within the maintenance facility or on the golf course should be inputted in boxes 3a and 3b respectively. This information should be obtained from fuel bills/invoices for the most recent January-December twelve month period. *Note: this figure relates to golf club owned vehicles/equipment only.*

Q4 - Water Use

Q4i - Greenkeeping facility

Please estimate the annual usage of water within the greenkeeping facility in litres or cubic metres (m³), but not both. This figure should be obtained from water bills in a similar vein to those indicated on the Clubhouse Carbon Calculator sheet. Note: if separate water bills for the clubhouse and maintenance facility are not available, the total amount of water used by the golf club should be inputted into the clubhouse sheet only. The golf course sheet should be left blank.

Q4ii - Golf course irrigation

How is irrigation water sourced? Please estimate annual use of irrigation water in litres or cubic metres (but not both). If irrigation water is obtained from the mains and independent figures for irrigation water can be extracted, please indicate the amount of water in litres or cubic metres in box 4iia. *Note: if total mains water use has already been inputted in the clubhouse section of the Carbon Calculator, please leave these boxes blank.*

If irrigation water is obtained from a borehole or through surface water abstraction, please estimate the amount used in the most recent January-December twelve month period from application records. *Note: it is crucial to only input values into the litres or cubic metres box but not both.*

Q5 - Is your waste segregated or not segregated

Please estimate the amount of waste that leaves the maintenance facility/golf course for disposal each year (in tonnes). If waste is not segregated then please estimate the total amount of general waste in tonnes and input the figure into the appropriate box under Question 5ia. *Note: this figure should pertain to waste produced from the maintenance facility and golf course, however if the overall total for the golf club has been inputted into the Clubhouse Carbon Calculator sheet, this question should be left blank.*

Q5ii - Waste segregated

If waste is segregated then please estimate the total amount for each waste stream (in tonnes). The amount of paper and card, glass, plastic, kitchen/food waste and garden/plant waste that is recycled by the club should be inputted into the appropriate box under Question 5ii. *Note: these figures pertain to recycling initiatives within the*



maintenance facility and golf course areas of the golf club. If only overall figures as a are available, these should be inputted into the Clubhouse sheet and the Golf Course sheet should be left blank.



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Once all data has been inputted, a figure for the golf club's carbon footprint is presented in the box at the bottom of the sheet. This figure represents the club's carbon footprint in tonnes of CO₂e and forms the baseline figure for the golf club to begin reducing its impact on the environment.

The next step for the club will be to commission a carbon/energy audit which will identify the specific elements of the golf club that contribute to this figure along with detailed recommendations of how carbon and costs can be reduced.