ESRAG Rotary Club Carbon Calculator (Oceania)

ESRAG Oceania has commissioned Toitū Envirocare in New Zealand to develop a calculator that can be used by any Club in Australia or New Zealand, to estimate their club's carbon emissions.

Rotary Clubs in Australia and New Zealand are now able to estimate their emissions from meetings, events and projects (if required), using this calculator, with assurance that the methodology has been designed and developed by an international environmental consultancy.

Clubs which are interested in calculating their annual emissions, or for specific events or projects, can access the calculator by the following process:

Complete the **input collection form** which is attached. This will require the collection of data for identified meetings, events and projects. **Input collection instructions** to assist in this process are attached.

The completed **input collection form** should then be submitted to ESRAG at esragcalculator@gmail.com . ESRAG will process the information submitted through the calculator and send the resulting reports back to the Club concerned.

The club concerned will then be entitled (if they wish to) to make the following report, to reference the designers of the calculator and the source of emission factors used:-

'[Club name] has estimated its annual organisational emissions for the measurement period [x-y] from the following sources [x, y, z] using a calculator designed by Toitū Envirocare, which uses emission factors from DEFRA, Ministry for the Environment, Department of Industry, Science, Energy and Resources and other relevant sources."

An example of wording for a New Zealand Club is as follows:

(Club name) has estimated its annual organisational emissions for the measurement period 1 July 2020 to 30 June 2021 from the following sources Electricity, Business Travel, Waste and Catering using a calculator designed by Toitū Envirocare, which uses emission factors from DEFRA, Ministry for the Environment, Department of Industry, Science, Energy and Resources and other relevant sources.'"

Clubs using this form of assurance for their emissions, must advise ESRAG (Oceania) who are required to monitor usage and advise Toitū Envirocare annually.

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Input Collection Form instructions

The Input Collection Form has been designed to assist in gathering the information required for input into the Rotary Carbon Calculator.

In order to minimise the administrative time spent on gathering data, conservative estimates maybe used, and in some instances, defaults are provided.

The primary purpose of the calculator is to enable clubs to estimate their emissions, to arrive at the estimated tonnes of CO2e generated by Club meetings, Events and Projects. For most Rotary Clubs this is likely to be between 5 and 10 tonnes and will be only an estimate so a high degree of accuracy in filling out the Form is not required.

The Input Collection Form cannot be filled in on-line. So, the first step is to print off the form found on the ESRAG Oceania website. The following aim to assist you in filling out the form:

Identification

The name of the Club, and the period for which data is being captured should be filled in. The state in your country is also required to enable identification of the appropriate energy emission factors to be applied.

Meetings, events and projects

Identify all significant sources of emissions. These will typically be Regular meetings, Committee meetings, events and projects (the calculator can handle up to six in one document). These should be named and entered as headings in the columns of the input form (the existing wording can be replaced).

Average no of attendees

Estimate the average number of attendees **per meeting** for each **event type** during the period. This may be estimated if actual records have not been kept or if you are planning ahead

Room size and duration

Estimate the room size for the events - if actual room size is not readily available, estimate it based on 4 sqmtrs per attendee. Duration of each meeting expressed in hours (eg. 1.75).

Meals

Estimate the average number of meals of each category for each event or averaged over the year. For example allocate the number of meals for the average attendees at each meeting, between beef, lamb, poultry, fish and vegetarian over the year. ie if say 50 meals are served to the average number of attendees, and typically one half are beef based and half are fish, allocate 25 to beef and 25 to fish.

The number of meals should usually total the average number of attendees.

If a dessert is served the number of desserts served should be included separately. (The factor for finger food will be applied).

If an entrée is served the number of entrées served should be included. (The emissions will be estimated separately).

The finger food category should be used for meetings in which snack food or where continental breakfasts are served.

Hot beverages

Estimate the average number of hot beverages (tea, coffee etc) per meeting. (The factor for coffee with milk will be applied).

Drinks

Estimate the average number of drinks consumed (wine, beer, soft drinks etc). The factor for a glass of wine will be applied.

Waste

The default factor for waste is 0.5kg per attendee for each of paper and plastic. If waste in either of these categories is significantly from this enter 0 or the estimated weight if applicable.

Accommodation

Enter the number of attendee days for each meeting for those staying in hotel accommodation.

No of meetings

Enter the number of meetings held during the period. This will be used to gross up the emissions for the period.

Travel

The distance travelled by all attendees should be estimated. This information can be obtained from members who typically attend meetings, by phone, email or survey. There are separate Forms for alternative approaches to assist in recording the information. There is a simple version and a more detailed version. Information for these forms can be obtained from a representative sample of members, in whatever way is most appropriate for your club.

The simple version does not require vehicle type or mode of public transport to be specified, as a medium petrol car will be assumed. It calculates the kms for a representative sample of regular attendees, based on the average return trip allocated between Car and Public Transport. If some members car share, and are passengers, they should be included in the appropriate column as 1. The average kms per attendee should then be calculated, and this can then be multiplied by the average number of attendees to give **the total kms travelled by all attendees attending the meeting.**

If more accurate information is required, a larger sample of attendees can be used, which allows for distance travelled by all the categories of car and public transport for which emission factors can be assigned.

Air Travel

It is suggested that if air travel is involved provide details of the origin and destination airports, number of trips, and whether return. This will enable the distance travelled to be estimated, and the kgCO2e will be calculated.

Other

If there are other emissions which are not provided for above, they should be specified and the estimated kgCO2e entered in the section entitled other.

Worked example

A worked example showing examples of all the completed forms based on a typical Rotary Club follows:

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Rotary Club carbon calculator Input Collection Form		Club Meetings	Committee meetings	Special event	Project 1	Project 2
Name of Club:	Example					
Aus or NZ:	Aus					
Period for the return:	2020-21					
Contact name	TBA					
Contact email	TBA					
Average no of attendees		22	6	20	5	5
Meeting room size (default attendees*4sqmtrs) sqmtrs		60	12	70		
Meeting duration hrs		2	1	16		
Meals - beef based		6		15		
- lamb based						
- chicken based		6				
- fish based		6				
- vegetarian		4		5		
- deserts		22				
- fingerfood				20		
- entrée						
Hot beverages (tea/coffee etc)		18	6	5	10	10
Drinks (glasses wine, beer, etc)		20		40		
Waste - Paper (default 0.5kg/attendee)		0				Yes
- Plastic (default 1.5kg/attendee)		0				Yes
Accomodation (no.of attendee days)				25		
No of meetings for period of the return		36	40	1	3	1
Travel per meeting (Kms for return trip)						
- Car (default - Petrol medium) **				450		
- Public transport (train/tram/bus)						
Airtravel (distance travelled in kms)						
Other (if applicable kgCO2e)						
Other (if applicable kgCO2e)						
Option if more detailed travel information is available						
Kms for return trip						
Petrol - small		17			10	300
Petrol - medium		50			25	300
Petrol - large		22			20	
Diesel - small		0			0	
Diesel - medium		28			0	
Diesel - large		3			100	300
Hybrid - Petrol		44			20	
- Diesel						
- plug-in						
Electric						
Taxi						
Public transport -train		132				
- tram						
- bus		33				

Simple Travel Form example

ESRAG Rotary CLUB Carbon Calculator Simple Travel Form			
Name of Club	**Example**		
Event/Project	**Event**		
Period of return	**20/21**		
	Car	**Public Transport**	**Car passenger**
	Kms return trip	Kms return trip	0
Attendee	30		
Attendee	90		
Attendee	120		
Attendee	30		
Attendee	30		
Attendee	30		
Attendee	60		
Attendee	60		
Attendee			12
Attendee			
Kms per car/PT	450	0	
Attendees/cars in sample	20		
Kms for 20	450		
Kms for			