Narara Ecovillage Carbon Census 2024 Report

Narara ecovillage inspired by life

September 2024

Greenhouse gas emissions at Narara Ecovillage and the Carbon Census 2024

Contents

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Executive Summary

Narara Ecovillage (NEV) Co-operative is a demonstration ecovillage at Narara on the Central Coast of NSW, established in 2010. Strategic Objective 4 of the NEV Strategic Plan is:

"*That Narara Ecovillage households on average achieve a 75% reduction in* ***net annual operational*** *carbon emissions by 2030 when compared to the average for residences in Central Coast Council area in CY2020.* ***Embodied carbon to be offset in 30 years of joining as per our CMS."***

In 2024 CERC undertook a survey, the Carbon Census, to set a baseline level of operational emissions for the village and to compare the current emissions with emissions of other residences on the Central Coast by using Snapshot, a national emissions measurement system which provides emissions data for each local council area.

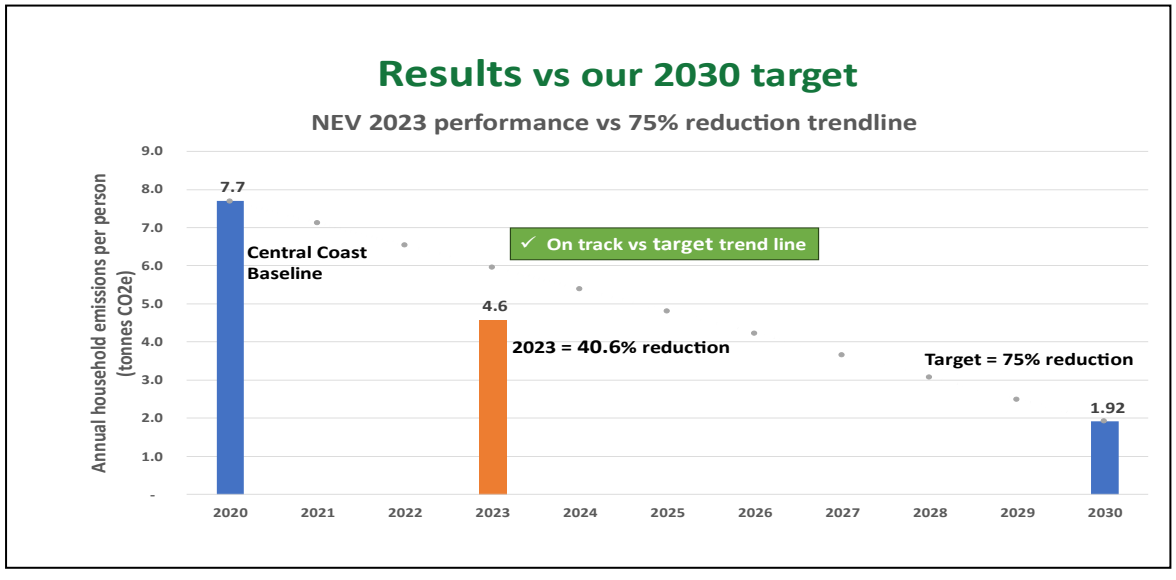
All Co-operative members who reside in the Ecovillage were asked to participate in the Census: 36 households participated, representing 86 residents or 68% of village residents. This produced a credible set of results which the study team is confident represents the emissions of the overall population.

The results of the Census show that Ecovillage residents have already managed to almost halve their carbon emissions by comparison with 2020 data for the Central Coast Council area:

Total NEV emissions per person = **4.6** tonnes CO2e (Carbon dioxide equivalent)

Central Coast 2020 average per person = **7.7** tonnes CO2e

Current NEV reduction achieved vs CCC average = **40.6%** (2030 target = 75%)



Background

Narara Ecovillage (NEV) Co-operative is a demonstration ecovillage at Narara on the Central Coast of NSW. It began in 2010 with purchase of the land and has been growing since. Stage 1 is almost completed and Stage 2 building will start shortly.

One of the aims of the village is to reduce our greenhouse gas emissions. The Carbon Emissions Reduction Coordination Working Group (CERC) was set up to coordinate and monitor our progress toward net zero, and to coordinate activities and monitor progress towards meeting the Strategic Objective 4 of the NEV Strategic Plan:

"*That Narara Ecovillage households on average achieve a 75% reduction in* ***net annual operational*** *carbon emissions by 2030 when compared to the average for residences in Central Coast Council area in CY2020.* ***Embodied carbon to be offset in 30 years of joining as per our CMS."***

In 2024 CERC undertook a survey, the Carbon Census, to set a baseline level of operational emissions for the village and to compare the current emissions with emissions of other residences on the Central Coast by using Snapshot, a national emissions measurement system which provides emissions data for each local council area. At the time of the 2024 Census there were approx. 50 dwellings completed in the Village. The results were expressed as emissions per person.

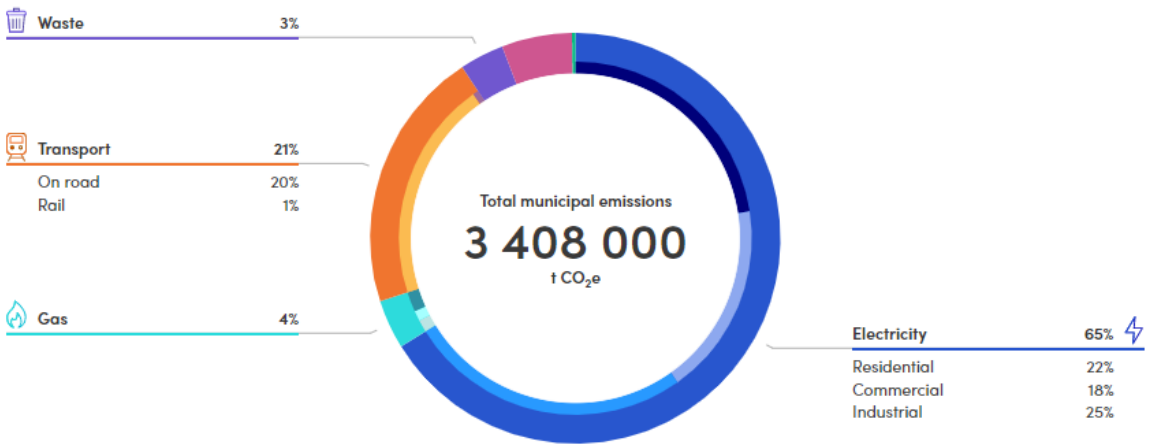
Another census will be carried out in 2025-26 to monitor progress towards the 2030 objective.

Methods

The results of the Census show that Ecovillage residents have already managed to almost halve their carbon emissions by comparison with 2020 data for the Central Coast Council area.

Comparison data was provided by the Snapshot process (https://snapshotclimate.com.au/locality/municipality/australia/new-south-wales/central-coast/)

Central Coast 2020 Municipal Emissions Snapshot:



This Snapshot gave a Central Coast 2020 average per Central Coast resident of **7.7** tonnes CO2e (carbon dioxide equivalent).

In the 2024 Carbon Census, all members who reside in the village were asked to participate: 36 households participated, representing 86 residents or 68% of village residents. This produced a credible set of results which the CERC team is confident represents the emissions of the overall population.

Calculating emissions

The Australian government publishes National Greenhouse Gas Accounts showing emissions data. These accounts use internationally recognized calculation methods for converting different sources of emissions to volumes of carbon dioxide equivalents. For the Census we used the conversion factors provided, called emissions factors. Where there was no usable factor in the national accounts, factors were sourced from the Australian Industrial Ecology Virtual Laboratory (IELab) e.g. for food emissions calculations.

In the few areas where data was not sufficiently accurate, the Central Coast Snapshot average was used. This was usually a higher emissions rate than the Village data suggested. This means that our emissions are higher than they might have been but we

preferred not to give a false picture of low emissions that may or may not exist. Overall, however, the level of detail was sufficient to give a meaningful picture of NEV's emissions.

All participants gave permission for their energy and water usage data to be provided by NEV Power and NEV Water and this data has been incorporated in the final results.

Some participants were keen to be provided with individual comparison data for their dwelling against the village average and individual confidential reports were made available.

Long haul flights have a huge footprint. Many were work trips and business class has higher emissions. CERC agreed that business travel should not be included as it is not within the control of the person.

Results

Energy

Embodied energy: NEV has strict building standards with design approvals required from an internal NEV appraiser. The houses, townhouses and units in Stage 1 have used a wide variety of building methods and materials e.g. hempcrete, straw bale, rammed earth, earthship and modular and more common designs, all with high energy ratings. Embodied energy was calculated as part of the approval process with offsets required by installing excess solar panels, calculated to offset the embodied energy in the Village by 2030. Embodied energy was outside the scope of the census as it is covered by the Building Review Panel's building standards.

Operational electricity: The Village has its own energy grid and excess energy is stored in a 437kWh battery on site. Electricity can also be drawn from the grid when needed. The census used data provided by the Village's power company, NEV Power, to determine external power usage and calculate the consequent emissions.

Other energy sources: there is no town gas connection to the village. Some other sources of energy are used in small quantities such as LPG or wood.

Transport and travel

Public transport to the village is limited. A number of residents have electric or hybrid vehicles which they can charge on site. Others have petrol or diesel vehicles. Still others choose not to have vehicles at all and ride bicycles or walk whenever possible. Many members take the opportunity to use the electrified train network to and around Sydney and Newcastle. It is a very mixed picture. Whilst some people can work from home or nearby, others have to travel for work and may spend time in Sydney or Newcastle during the week. Emissions calculations were based on the type of vehicle used.

Travel for pleasure including by air was included in the census but business travel was not. Emissions from air travel were calculated based on the distance travelled and airline class.

Many residents purchased offsets for air travel but it was beyond the scope of the census to determine whether these offset schemes are valid offsets for the emissions produced. Therefore, offsets were disregarded in the comparison to the central coast average. However offset calculations were included in individual reports sent to each participating household.

Waste

Village residents are keen recyclers and many waste diversion initiatives are currently in place. Glass, metal, hard plastics and aluminium are recycled through Central Coast Council or commercially. Garden waste is composted as is some food waste. The compost is used in NEV food growing or in individual or other communal gardens.

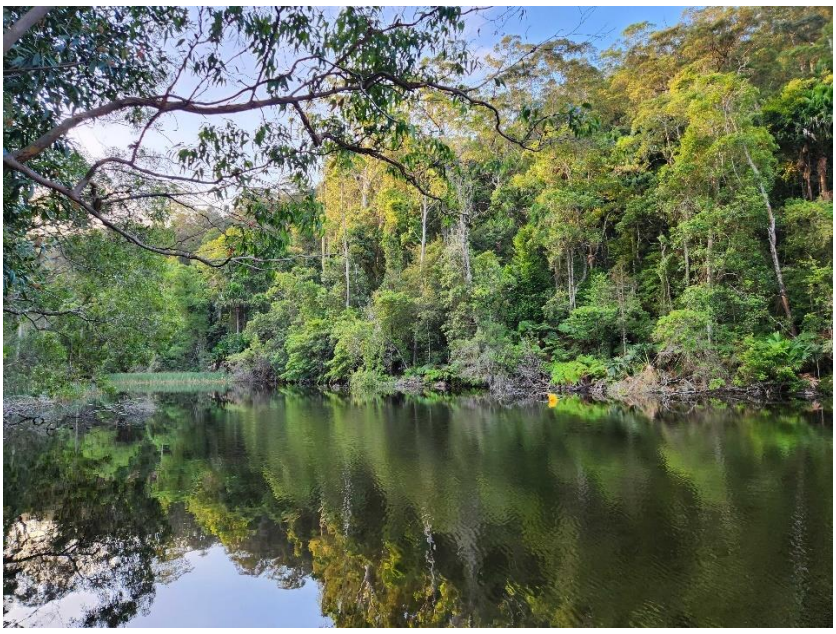
The data available came from waste audits at the common ecovillage bin collection point. The total volume of waste in council general waste (red) bins plus mixed waste and periodic bulk waste collections, was estimated for the annual period.

Totals were then apportioned back to households on a resident full time equivalent basis. National account factors were used to estimate the emissions based on the volume of waste and the waste type.

Emissions from the onward processing of diverted waste such as metals and plastics was not included as industrial emissions were out of scope. Also, it was assumed that all green waste was recovered and composted either within the ecovillage or through the council facilities. Emissions from the composting process e.g. carbon dioxide or methane were not measured. Individual household waste patterns were not canvassed in the census.

Water

NEV is supplied with town water which is pumped up to storage tanks before being distributed to our dwellings. Pipework for distributing recycled water has been installed to all dwellings but the village does not have capacity to run a water recycling scheme at present. Dam water can be used for some irrigation purposes. The energy required to run the water system and the water used by individual households was made available by the Village water company, NEV water, and emissions have been included in the census results.



Food Consumption

The food component of the survey requested data on the typical diet of the household and the weekly estimated spend on groceries. The village grows a variety of vegetables and fruit on site and purchases bulk supplies of some staples. Many people in the

village are vegetarian or vegan, and where village supplies are insufficient, try to buy from local producers to avoid food miles. Others buy at the local supermarkets. Food emissions were calculated from the general information provided by participants and included in the totals.

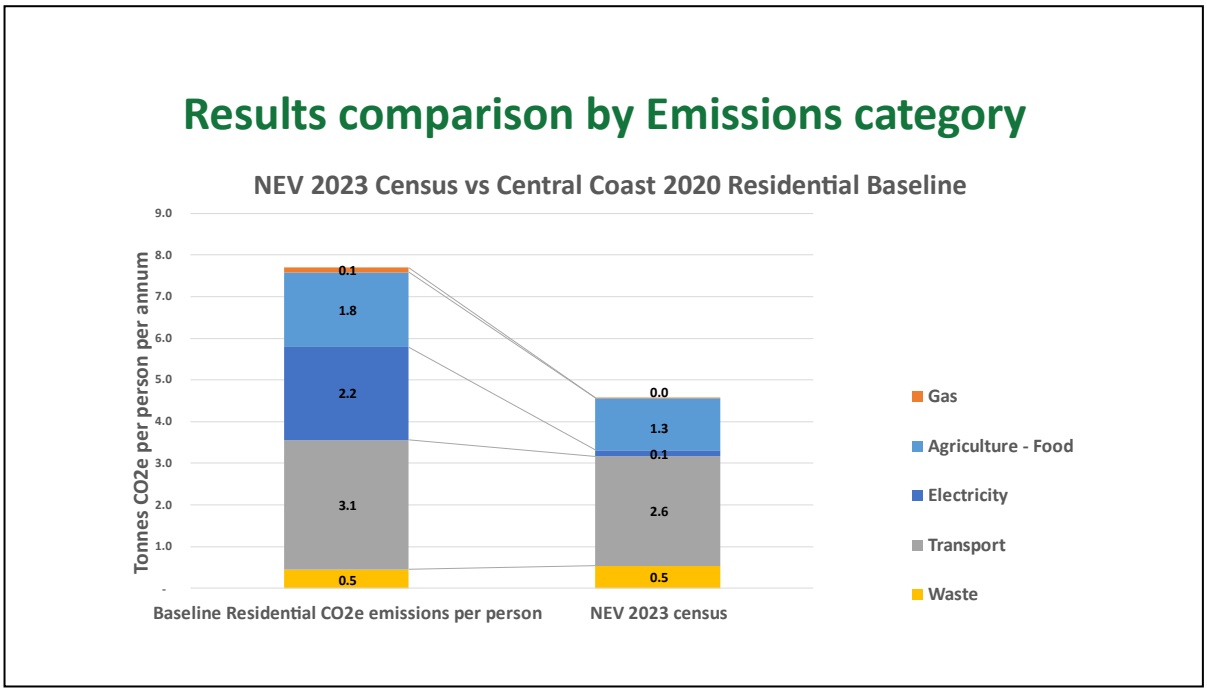
Purchases of goods

The census included questions about capital purchases but the emissions have not been included in the totals due to the complexity of the calculations and it was deemed not to be a sufficient data set for comparison. These emissions would come under industrial or commercial categories in Snapshot and therefore we could not compare like for like. In general the Village tries to reduce, reuse or recycle items, including through sharing, swapping and repairing items to avoid new purchases.

Sectors not included

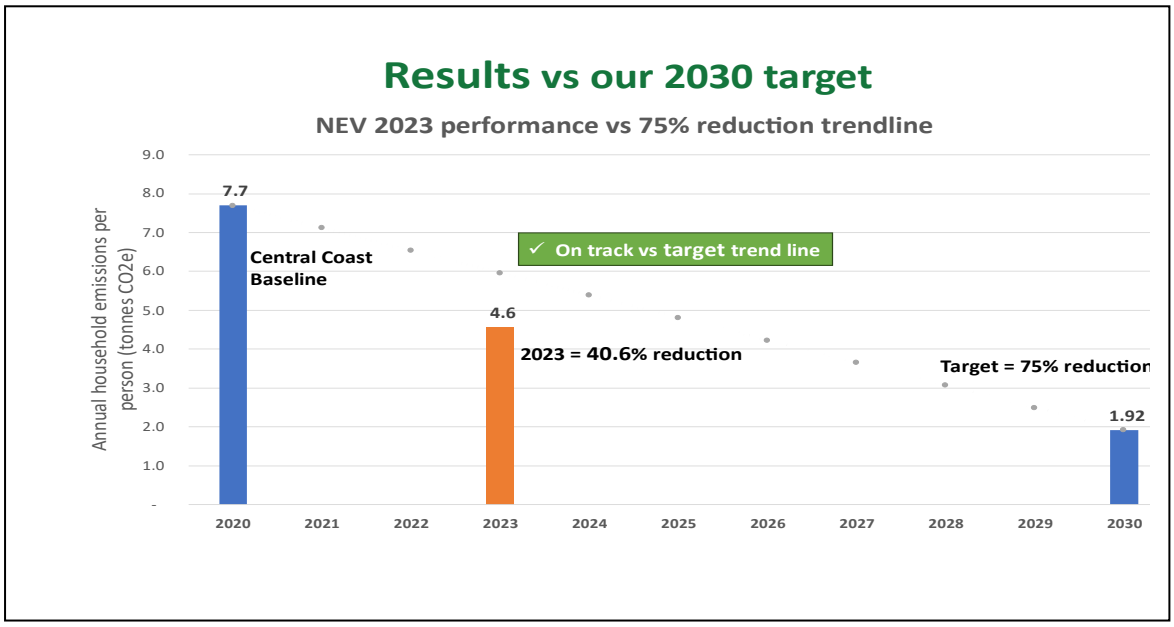
- Recycled Materials including organic waste
- Capital purchases
- Soil and land
- Carbon Offsets

Taking all this data into consideration, the Census found that Narara Ecovillage residents had achieved a 40.6% reduction when compared to the 2020 Central Coast Council area Snapshot results. The total emissions for the Ecovillage were calculated as 493 tonnes, meaning the average emissions per resident was 4.6 tonnes, compared to the Central Coast Council average of 7.7 tonnes. While the average NEV result was 4.6 tonnes, a range was found from 8.8 tonnes down to 1.3 tonnes, meaning some residents are meeting the 75% reduction target (1.92 tonnes).



Baseline Calculations - Operational Residential Carbon emissions - CY 2020 - From Snapshot						Performance vs overall Baseline			NEV 2023 Census vs Central Coast 2020 Residential Baseline			
Source	Sector	Central Coast t CO2e pp	NSW t CO2e pp	NSW or CC most reliable?	If not CC, why?	Combined CO2e pp baseline	Data source	Narara figures (t CO2e pp)	Incl in Residential baseline?	Baseline Residential CO2e emissions per	NEV 2023 census	Variation
Electricity	Residential	2.2	2.3	CC		2.2	NEV Power	0.1	Y	2.2	0.1	- 2.1
Electricity	Commercial	1.7	2.0	CC		1.7	Benchmark	1.7	N			
Electricity	Industrial	2.6	3.0	CC		2.6	Benchmark	2.6	N			
Gas	Residential	0.1	0.2	CC		0.1	CERC survey	0.0	Y	0.1	0.0	- 0.1
Gas	Commercial	0.1	0.1	CC		0.1	Benchmark	0.1	N			
Gas	Industrial	0.2	0.2	CC		0.2	Benchmark	0.2	N			
Transport	Automotive	1.4	2.1	NSW	CC appears to be an outlier	2.1	CERC Survey	1.5	Y	2.1	1.5	- 0.6
Transport	Freight	0.6	0.5	CC		0.6	Benchmark	0.6	N			
Transport	Motorcycle	0.0	0.0	CC		0.0	CERC Survey	-	Y	0.0	-	- 0.0
Transport	Bus	0.0	0.0	CC		0.0	CERC Survey	0.1	Y	0.0	0.1	0.0
Transport	Rail	0.1	0.0	CC		0.1	CERC Survey	0.1	Y	0.1	0.1	0.0
Transport	Aviation - Domestic	-	0.1	Other	Snapshot shows CC = 0	0.3	CERC Survey	0.2	Y	0.3	0.2	0.2
Transport	Aviation - International	-	-	Other		0.6	CERC Survey	0.8	Y	0.6	0.8	
Waste	Landfill	0.2	0.4	NSW	CC appears to be an outlier	0.4	CERC measurement	0.5	Y	0.4	0.5	0.1
Waste	Water	0.1	0.1	CC		0.1	NEV Water	0.1	Y	0.1	0.1	- 0.0
IPPU		0.5	1.3	NSW	Significant IPPU is outside CC	1.3	Benchmark	1.3	N			
Agriculture	Food	0.0	1.8	NSW	Significant agri is outside CC	1.8	CERC Survey	1.3	Y	1.8	1.3	- 0.5
			14.1			**14.1**		**11.0**		**7.7**	**4.6**	
Land Use		0.0	0.0	CC		0.0	Benchmark	0.0	N			
Population												
Baseline emissions per person		**9.9**	**14.1**			**14.2**	Total NEV CO2e pp	**11.0**	**Residential only**	**7.7**	**4.6**	- 3.1
							% Reduction achieved	22.0%	% Reduction achieved vs Residential Baseline		40.6%	

These results show that NEV is on target to reduce emissions by 75% by 2030.



Remaining Opportunities for Emissions Reductions

In order of magnitude from highest to lowest, the key opportunities for further reductions include:

- Travel emissions
- General transport emissions
- Food consumption emissions
- Waste emissions
- Energy emissions

Annex 1: Notes on Methodology

FTE basis - Residents per household was based on a full-time equivalent methodology

Electricity – gross electricity imports from the grid were apportioned to households based on their individual gross imports (from NEV power data). However, time of day usage was not considered.

Food – households were allocated a diet category based on their responses (default, vegan, vegetarian, conscious omnivore (occasional) and conscious omnivore (regular)

Travel Emissions – relied on accuracy and completeness of the details provided by the respondents

Landfill Waste – based on surveys of landfill waste (red skip bins) and apportioned to households based on FTE

Waste Water – based on household water consumption data provided by NEV water

Purchases of Capital Items - were deemed to be out of scope for the like-for-like comparison with snapshot

Carbon Offsets - were recorded and have been presented in household summaries, but were not used in the baseline comparison

Annex 2: Gathering the data - do's and don'ts

On the whole, the survey itself was well constructed and used language that was easy to understand. Once participants overcame their concerns about how much detail was required, they were pleasantly surprised at how easy it was to answer and how little time it took. However, the following are suggested for future surveys:

- Explore options to prepare participants to track their emissions well ahead of time, possibly providing a spreadsheet or tool to assist them.
- Reassure participants that where accurate data cannot be provided "close enough is good enough" is sufficient for our purposes.
- Some participants were concerned about privacy and access to their data. It's important to emphasize that the data will be deidentified and the original spreadsheet where individual household's data was recorded, will be deleted, as was done this time. Participants were kept informed throughout this process.
- Explore ways to compile a list of village residents, complete with contact details, rather than owners and members. The village does not currently keep this list.
- Ask which mode of contact would be the most acceptable to each resident.
- Note that much of the resourcing effort was devoted to chasing people up rather than helping participants to fill in the census. Workshops were run in the village to answer questions but they were not well attended.
- Note that a few participants felt the questions were intrusive and too personal e.g. what type of food they ate.
- Communication beforehand seems to be key. Despite the overall desire in the Village to reduce emissions, we can't assume that everyone is in a position to gather the data required given time and family pressures, so making it easy to complete the census was vital.
- Repetition of the reasons for the census is important
- In a few questions the kind of response that was required was unclear. CERC members had reviewed the questions beforehand but next time we should involve people outside CERC to ensure the questions are understood and to get feedback on how things can be misinterpreted.

Annex 3: Carbon Census Questions

Narara Ecovillage Carbon Census – offline version

Welcome to the offline version of the Narara Ecovillage Carbon Census. The purpose of this census is to estimate household carbon emissions, and help us measure our progress towards Strategic Objective 4 of the NEV Strategic Plan:

That Narara Ecovillage households on average achieve a 75% reduction in net annual operational carbon emissions by 2030 when compared to the average for residences in Central Coast Council area in CY2020. Embodied carbon to be offset in 30 years of joining as per our CMS.

Before completing this census for your household, please ensure you have to hand relevant information about your household's travel, day-to-day transport, wood fuel or LPG usage, consumption, large capital purchases and any carbon offsetting activities.

Please note:

- **This tool is intended for people living at the ecovillage. If you live offsite and want to calculate your emissions, please use another tool, such as https://carbonpositiveaustralia.org.au/**
- **If you have the relevant information on hand, this census will take 10 - 20 minutes to complete**
- **One response per household only please. NB: by "household" we mean people you live with and are responding on behalf of. There may be more than one "household" per Lot (and therefore more than one response to this census) where people share a Lot**
- **Please provide your name in case we need to ask follow up questions**
- **Results will be deidentified before they are shared**
- **You can complete this census without signing into a google account. However, you can only save progress and come back later to complete the census if you are signed in to google**
- **Please complete on a 'best estimates' basis - "Done is better than perfect".**

For multiple choice questions, please circle your response (or mark in bold if completing on a computer). For free text questions, please type your responses in the light grey boxes provided. Please email your completed Carbon Emission Reduction Coordination: cerc@nararaecovillage.com

Respondent Demographics

1. Please enter your name (so we can contact you if we need to follow up)	
2. What street address are you completing this census for?	
3. When was this Lot (or Cluster Unit) first occupied? *(approximate is fine if unknown)*	
4. How many people in your household live at Narara Ecovillage? *(by "household" we mean people you live with and are responding on behalf of)*	
5. Is there another household/person who shares your lot that you are not including in your responses? *(please provide their names)*	
6. On average, what proportion of the year do you and other members of your household live at NEV? *e.g. if you live at NEV permanently (100%), and your partner lives 50% at NEV, 50% off-site, enter 75%. This is calculated as (100%+50%)/2.*	
7. Do you consent to CERC receiving data about your household's energy usage from NEV Power *('yes' improves the accuracy of our calculations of emissions from energy, 'no' means broad averages will be used)*	**a) Yes** **b) No**
8. Do you consent to CERC receiving data about your household's water usage from NEV Water *('yes' improves the accuracy of our calculations of emissions from water usage, 'no' means broad averages will be used)*	**a) Yes** **b) No**
9. Do you consent to CERC receiving data about the embodied carbon in your build from BRP *('yes' improves the accuracy of our calculations of embodied emissions, 'no' means broad averages will be used)*	**a) Yes** **b) No**

Extended travel (e.g. holidays or business travel)

10. Have you, or anyone in your household, travelled (excluding day to day transport) in the past year?	**a) Yes** **b) No** ***(NB: if "No" you can skip to the "Day to Day Transport" section)***

Travel: Road trips

11. Over the past year, have you, or anyone in your household done any road trips (by motor vehicle you own, or have hired)? *e.g. any trips for work or holidays where you stayed overnight and travelled by car*	**a) Yes** **b) No** ***(NB: if "No" you can skip to the "Travel: Domestic aviation within Australia" section)***
12. What best describes the vehicle used for road trips	**a) A small to medium sized car (small hatchbacks, sedans & station wagons)** **b) A large car (Sports utility vehicles, 4WDs, People movers)** **c) A motor cycle** **d) Other (please specify): _____**
13. How was the vehicle powered?	**a) Petrol** **b) Diesel** **c) 100% electric** **d) Hybrid** **e) Other (please specify): _____**
14. Approximately how much fuel (in litres) did the vehicle consume in road trips in the past year? *Please leave blank if not known, or if your vehicle was 100% electric*	

15. Approximately how many kilometres has your household driven in road trips in the past year? ***Please leave blank if not known***	
16. What is the approximate fuel efficiency (in litres / 100km) of the vehicle? ***Please leave blank if not known***	
17. FOR HYBRID AND 100% ELECTRIC CARS ONLY - Approximately how much electricity <u>from outside NEV</u> (in kWh) did the vehicle consume in road trips in the past year? ***Please leave blank if not known***	

Travel: Domestic air travel (flights within Australia)

18. Over the past year, how many hours has your household travelled <u>domestically by air in economy class</u>? (*Remember to multiply flight time by the number of people from your household on each flight, and please include all flights irrespective of whether any were offset)*	
19. Over the past year, how many hours has your household travelled <u>domestically</u> by <u>air in business or first class?</u> (*Remember to multiply flight time by the number of people from your household on each flight, and please include all flights irrespective of whether any were offset)*	

Travel: International air travel (flights outside Australia)

20. Over the past year, how many hours has your household travelled <u>internationally by air in economy class</u>? (*Remember to multiply flight time by the number of people from your household on each flight, and please include all flights irrespective of whether any were offset)*	

21. Over the past year, how many hours has your household travelled <u>internationally by air in premium economy</u>? (*Remember to multiply flight time by the number of people from your household on each flight, and please include all flights irrespective of whether any were offset)*	
22. Over the past year, how many hours has your household travelled <u>internationally by air in business class?</u> (*Remember to multiply flight time by the number of people from your household on each flight, and please include all flights irrespective of whether any were offset)*	
23. Over the past year, how many hours has your household travelled <u>internationally by air in first class?</u> (*Remember to multiply flight time by the number of people from your household on each flight, and please include all flights irrespective of whether any were offset)*	

Travel: Other travel

24. If you have completed any other travel, please provide the mode (e.g: coach, train, cruise ship), the class (if relevant), and the duration of travel (*Remember to multiply duration by the number of people from your household who travelled)*	

Day to day transport

This section of the census asks questions about your household's ownership and typical weekly usage of motor vehicles (including motorcycles). It also explores your household's usage of public transport (including taxis).

25. Does your household own or use one or more vehicles (including motor bikes / motor scooters)?	**a) Yes** **b) No**

	(NB: if "No" you can skip to the "Day to Day Transport: Public Transport" section)

Day to day transport: First motor vehicle

Please provide information on your household's usage of your first motor vehicle

26. What best describes this vehicle's size?	**a) A small to medium sized car (small hatchbacks, sedans & station wagons)** **b) A large car (Sports utility vehicles, 4WDs, People movers)** **c) A motor cycle** **d) Other (please specify): _____**
27. How is the vehicle powered?	**a) Petrol** **b) Diesel** **c) 100% electric** **d) Hybrid** **e) Other (please specify): _____**
28. Approximately how much fuel (in litres) does this vehicle consume in a typical week? *Please leave blank if not known, or if your vehicle is 100% electric*	
29. Approximately how many kilometres does this vehicle drive in a typical week? *Please consider both regular (e.g. daily commute) and occasional (e.g. visiting the beach) driving in this calculation. Please leave blank if not known*	
30. What is the approximate fuel efficiency (in litres / 100km) of this vehicle? *Please leave blank if not known, or if the vehicle is 100% electric*	
31. FOR HYBRID AND 100% ELECTRIC CARS ONLY - Approximately how much	

electricity <u>from outside NEV</u> (in kWh) does this vehicle consume in a typical week? *Please leave blank if not known*	

Day to day transport: Second motor vehicle

Please provide information on your household's usage of your second motor vehicle. If you do not have a second motor vehicle, please skip to the "Day to Day Transport: Public Transport" section

32. What best describes this vehicle's size?	**a) A small to medium sized car (small hatchbacks, sedans & station wagons)** **b) A large car (Sports utility vehicles, 4WDs, People movers)** **c) A motor cycle** **d) Other (please specify): _____**
33. How is the vehicle powered?	**a) Petrol** **b) Diesel** **c) 100% electric** **d) Hybrid** **e) Other (please specify): _____**
34. Approximately how much fuel (in litres) does this vehicle consume in a typical week? *Please leave blank if not known, or if your vehicle is 100% electric*	
35. Approximately how many kilometres does this vehicle drive in a typical week? *Please consider both regular (e.g. daily commute) and occasional (e.g. visiting the beach) driving in this calculation. Please leave blank if not known*	
36. What is the approximate fuel efficiency (in litres / 100km) of this vehicle? *Please leave blank if not known, or if the vehicle is 100% electric*	
37. FOR HYBRID AND 100% ELECTRIC CARS ONLY - Approximately how much electricity <u>from outside NEV</u> (in kWh) does this vehicle consume in a typical week? *Please leave blank if not known*	

Day to day transport: Third motor vehicle

Please provide information on your household's usage of your third motor vehicle. If you do not have a third motor vehicle, please skip to the "Day to Day Transport: Public Transport" section

38. What best describes this vehicle's size?	**a) A small to medium sized car (small hatchbacks, sedans & station wagons)** **b) A large car (Sports utility vehicles, 4WDs, People movers)** **c) A motor cycle** **d) Other (please specify): _____**
39. How is the vehicle powered?	**a) Petrol** **b) Diesel** **c) 100% electric** **d) Hybrid** **e) Other (please specify): _____**
40. Approximately how much fuel (in litres) does this vehicle consume in a typical week? *Please leave blank if not known, or if your vehicle is 100% electric*	
41. Approximately how many kilometres does this vehicle drive in a typical week? *Please consider both regular (e.g. daily commute) and occasional (e.g. visiting the beach) driving in this calculation. Please leave blank if not known*	
42. What is the approximate fuel efficiency (in litres / 100km) of this vehicle? *Please leave blank if not known, or if the vehicle is 100% electric*	
43. FOR HYBRID AND 100% ELECTRIC CARS ONLY - Approximately how much electricity <u>from outside NEV</u> (in kWh) does this vehicle consume in a typical week? *Please leave blank if not known*	

Day to day transport: Fourth motor vehicle

Please provide information on your household's usage of your fourth motor vehicle. If you do not have a fourth motor vehicle, please skip to the "Day to Day Transport: Public Transport" section

44. What best describes this vehicle's size?	**a) A small to medium sized car (small hatchbacks, sedans & station wagons)** **b) A large car (Sports utility vehicles, 4WDs, People movers)** **c) A motor cycle** **d) Other (please specify): _____**
45. How is the vehicle powered?	**a) Petrol** **b) Diesel** **c) 100% electric** **d) Hybrid** **e) Other (please specify): _____**
46. Approximately how much fuel (in litres) does this vehicle consume in a typical week? ***Please leave blank if not known, or if your vehicle is 100% electric***	
47. Approximately how many kilometres does this vehicle drive in a typical week? ***Please consider both regular (e.g. daily commute) and occasional (e.g. visiting the beach) driving in this calculation. Please leave blank if not known***	
48. What is the approximate fuel efficiency (in litres / 100km) of this vehicle? ***Please leave blank if not known, or if the vehicle is 100% electric***	
49. FOR HYBRID AND 100% ELECTRIC CARS ONLY - Approximately how much electricity <u>from outside NEV</u> (in kWh) does this vehicle consume in a typical week? ***Please leave blank if not known***	

Day to day transport: Public transport usage

50. Approximately how far (in kilometres) does your household travel by taxi or rideshare	

(e.g. uber) in a typical week? *Please consider both regular (e.g. daily commute) and occasional (e.g. visiting the beach) driving* in this calculation.	
51. Approximately how far (in kilometres) does your household travel by bus in a typical week? (*Remember to multiply the distance by the number of people from your household who travel)*	
52. Approximately how far (in kilometres) does your household travel by light rail in a typical week? (*Remember to multiply the distance by the number of people from your household who travel)*	
53. Approximately how far (in kilometres) does your household travel by train in a typical week? (*Remember to multiply the distance by the number of people from your household who travel)*	
54. Approximately how far (in kilometres) does your household travel by ferry in a typical week? (*Remember to multiply the distance by the number of people from your household who travel)*	

Energy

We are sourcing information on electricity from NEV Power. This section asks about other energy sources your household may use.

55. Over the past year, approximately how much LPG has your household consumed (in kilograms)?	
56. Over the past year, approximately how much firewood has your household consumed (in kilograms)?	
57. If your household has used any other energy source than electricity, firewood, or LPG (e.g. 2-stroke, shellite, butane etc),	

please name the energy source and state the approximate quantity your household has consumed in the past year	

Consumption: Food and drink

58. What does your household spend (in $) on food and drink, including for your pets, in a typical week? *(Include groceries, dining out, take-away and alcoholic and non-alcoholic drinks)*	
59. Please provide a brief overview of your household's food consumption habits, considering factors that affect food emissions such as red meat consumption and food miles. (For example: *Our household is omnivorous. We eat red meat about twice a week and vegetarian dinners twice a week. We eat out about once a week, grow about 10% of our food ourselves, and about 20% of our spend on food is sourced from local growers, and the rest is packaged food from supermarkets).*	

Large Capital Purchases

60. If your household has made any large capital purchases of $300 or more *(such as vehicles, white goods, etc)* in the past three years (aside from building your home), please list those purchases here *(please be specific - e.g. we purchased a 3 year old Nissan Leaf in 2021, and a family-sized fridge in 2022)*	

Carbon offsetting

61. I If your household has purchased any carbon offsets in the past year, please list those offsets here *(please be specific – e.g. we purchased offsets equivalent to X tonnes of CO2, or we purchased offsets covering all International flights)*	

Sharing of results

62. Would your household be interested in receiving a simple report on its emissions, and how they compare to average NEV household emissions? (NB: Your household results would only be shared with the person who completed this census).	**a) Yes** **b) No**

This completes the NEV Carbon Census. Please email your completed response to Carbon Emissions Reduction Coordination: cerc@nararaecovillage.com.