



Findhorn Ecovillage Carbon Assessment 2019



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Findhorn Ecovillage Carbon Assessment 2019

Introduction

For the fourth year an assessment has been done of Findhorn Ecovillage's carbon emissions sponsored by Park Ecovillage Trust and using the web-based calculation tool Our Impacts. Ecometrica, the Edinburgh based software company, is kindly sponsoring the use of Our Impacts. Previous assessments were done in 2015, 2017 and 2018.

A web-based survey, introduced last year, was used to gather data from individuals and businesses at the Ecovillage.

Emails of respondents have been used only to send confirmation letters. All individual answers are aggregated and shown as totals. No individual data are shown.

Many people have participated in the data collection and reporting. Special mention goes to Bert Meyer, Duncan Easter, Jürgen Muthmann, Amanda Haworth Wiklund, Roger Doudna, Tim Buist, Iris Toister, Sue Clutterbuck, Lori Forsyth, Megan Searby, Hanna Morjan, Marilyn Hamilton, NFD and the Cluny Focus Team.

*May 2020
Göran Wiklund*

Summary

The total greenhouses gas emissions have been calculated to **3,858tCO₂e** (tonne CO₂ equivalent) compared to 3,957 tCO₂e for 2018, a small decrease of 2.5%. The largest source of emissions is from flying with **2,566 tCO₂**. Cars produce the second largest amount of emissions, **311 tCO₂**.

This year the measuring boundaries have been extended as data for Erraid and Iona are counted. Also, there are emission sources added which have not been calculated previously, such as internet use and meat and fish meals.

Total emissions in relation to the number of household members of the ecovillage is **7.1 tCO₂e** per person, compared to 8.3 for 2018.

It is difficult to make comparisons between the years as more emission sources have been added and data collection has improved. On the other hand, some data has not been available for 2019. In addition, some of the models for calculating guest travel contain uncertainty, which to some extent is handled by the fact that the same models were used in 2018.

All things considered there are areas where emissions are lower, but then others have increased. A complicating factor is that reporting is not consistent. Some areas reported in 2018 were not reported this year and vice versa.

There are signs of a general reduction of emissions when only looking at the emissions that were measured last year, but notice that both co-workers and residents flying went up.

Methodology

The focus has been on calculating the most substantial emissions.

The assessment is done according to the international standard Greenhouse Gas (GHG) Protocol. The Protocol requires measurement of seven potent greenhouse gases. As the gases have different GWP (global warming potential - methane for instance has 25 times higher GWP than CO₂) all gases are converted to carbon dioxide equivalents or CO₂e.

The GHG Protocol differentiates between three Scopes:

- Scope 1: direct emissions from burning fossil fuel (petrol, gas, wood etc.)
- Scope 2: indirect energy (purchased electricity)
- Scope 3: other indirect emissions (travel, food, consumption etc.)

Air travel has been calculated using an RFI factor 2.0 (Radiative Forcing Index). RFI factor means that air travel at high altitude causes larger emissions than the fossil content of the fuel. Factor 2.0 means a doubling of the fuel content emissions.

Upstream emissions have been added for the emissions where such data is available. That means emissions from for instance, petrol and gas where also emissions from production and distribution are calculated. For purchased electricity both upstream emissions and T&D losses (Transmission and Distribution losses) are included for Findhorn Wind Park but not for externally bought electricity.

Emissions have been sourced from six organisational units:

- The Park including co-workers
- Cluny including co-workers
- Park residents (title holders, tenants, mobile homes)
- Businesses with an office &/or operations at the Park
- Iona
- Erraid

Iona and Erraid are included in the assessment but for technical reasons not shown as separate units.

Data from individuals and businesses has been gathered by also using a survey method.

NFA members who are not registered either as residents of the Park or co-workers are not included in the survey and the carbon assessment.

In cases where not all individuals responded to the survey, extrapolations were made to get 100% assuming the emission pattern was similar to those who had responded. It should be mentioned that by doing so uncertainty is added to the final results.

Responses from business were low and no extrapolation was performed, as it is not possible to assume that the emissions from the non-responding businesses would be the same as for the responding ones.

For guests on different Foundation programmes models have been used with assumptions regarding travel, as the destination country is known but not modes of travelling.

It should be mentioned that emission data based on models and extrapolations contain a great deal of uncertainty.

Guests at the Findhorn Bay Holiday Park were not calculated this year due to non-availability of data.

Energy emissions are shown on an aggregated Findhorn Ecovillage level and not calculated for each organisational unit.

Electricity has been calculated using what is called 'market based' emissions factors, which means using emission data from an identified renewable energy source, in this case the Findhorn Wind Park and Hudson Energy for externally purchased electricity.

Results

Total emissions

The measured emissions are **3,858 tCO₂e**, an increase of 4% compared with 2018 when the total was 3,695 tCO₂e.

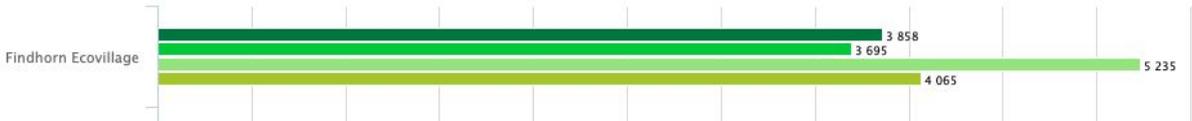


Table 1. Total emissions. Dark green represents 2019 and following years are 2018, 2017, and 2015

Although emissions from Erraid and Iona are added, food data has been expanded and a new emissions source, internet use, has been added, there is only a slight increase in total emissions. However, one large emissions source has not been included this year. It is emissions for travelling for the Findhorn Bay Holiday Park guests, which the year before was 260 tCO₂e. Had these emissions been measured the increase of emissions would have been bigger.

Another emissions source lower than last year is Businesses, as a smaller number of them reported their data.

The results will be further explained in the text below.

Emissions by units

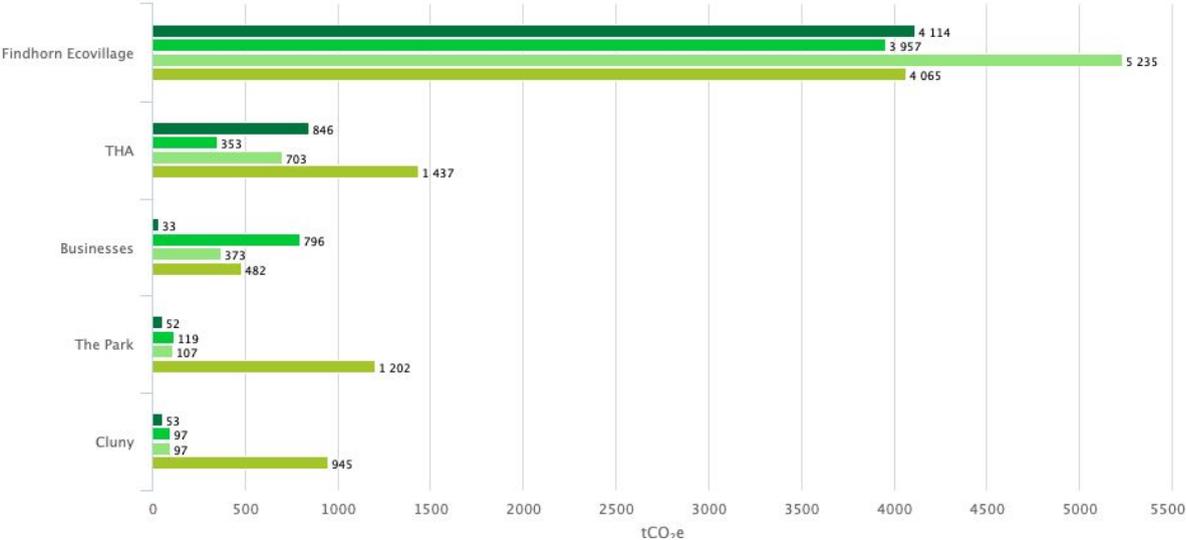


Table 2. Emissions by units

For all units data for energy use and guests are reported under Findhorn Ecovillage. As can be seen, business dropped as a large number of businesses did not report this year. For THA, which is all residents, tenants have been added as a group which adds to emissions, as does data on food at home.

Emissions divided by scope

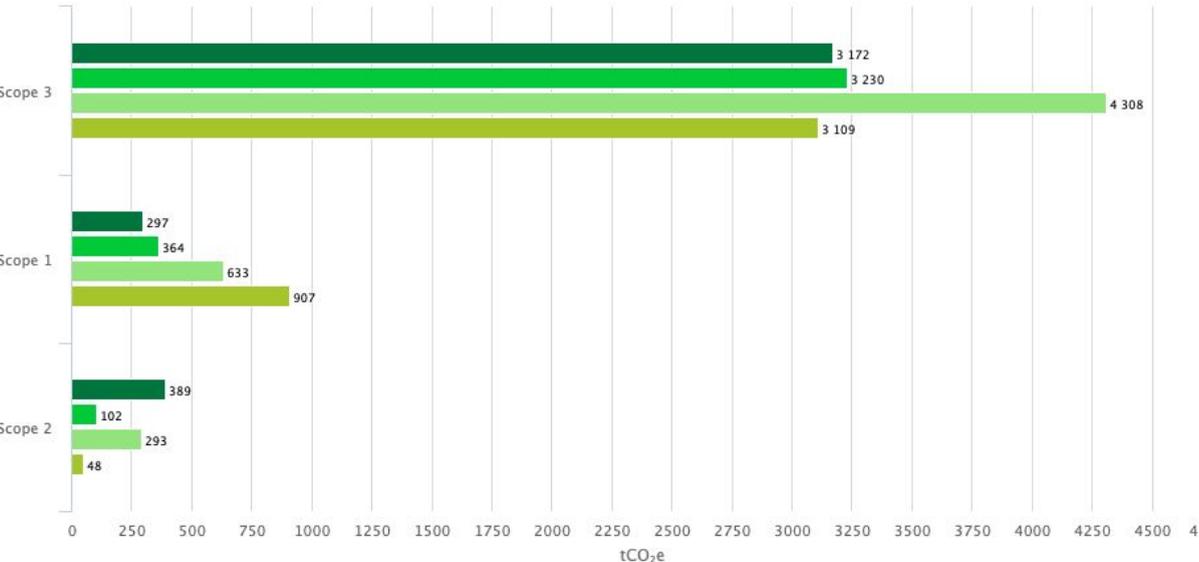


Table 3. Emissions divided by scope

Scope 3, indirect emissions, is the largest at **3,171 tCO₂e** (3,230), or 82%.
 Scope 2, purchased electricity, is **389 tCO₂e** (102).
 Scope 1, emissions directly from burning fossil fuel are **297 tCO₂e** (364).

The increase in Scope 2 has to do with adding more emission sources and with adding use of the internet as an emission source. Lower Scope 1 emissions are mostly explained by less gas consumption.

Analysing emissions from the different scopes is important as it shows that most emissions are indirect, having to do with the *value chain*, mostly the guests. Usually, the largest possibility for reduction is Scope 3 emissions. Indirect emissions are also where most emissions not yet accounted for can be found.

Emissions divided by emission source

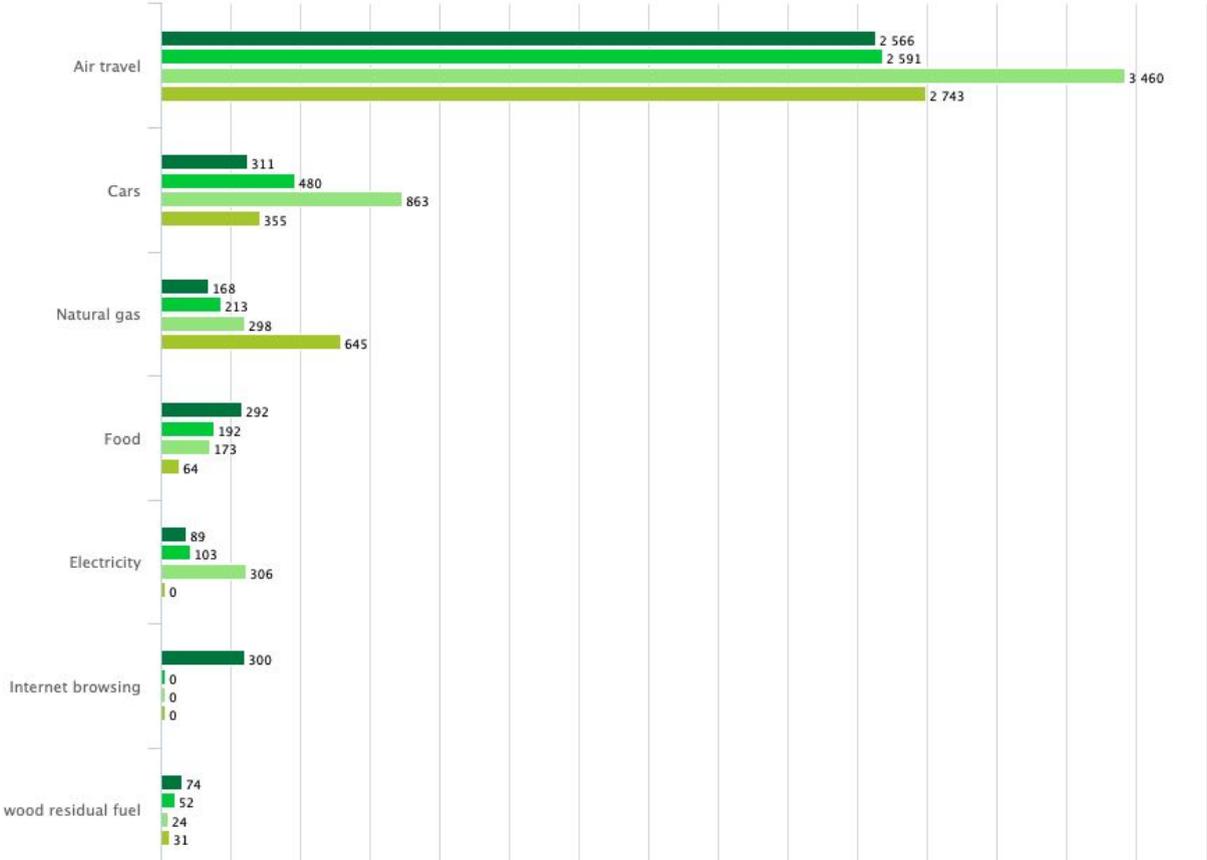


Table 4. Emissions by emission source; shows the largest emissions

Emissions from food, **292 tCO₂e**, have increased and internet use, at **300 tCO₂e**, is measured for the first time.

Emissions by unit

Dividing the total emissions on the measured units shows that THA (residents, MOHO and tenants) are adding most emissions: 846 tCO₂. There are several reasons for this: it being a larger group of people who travel more and eat more meat and fish. Notice how emissions from businesses are down mostly due to many not reporting.

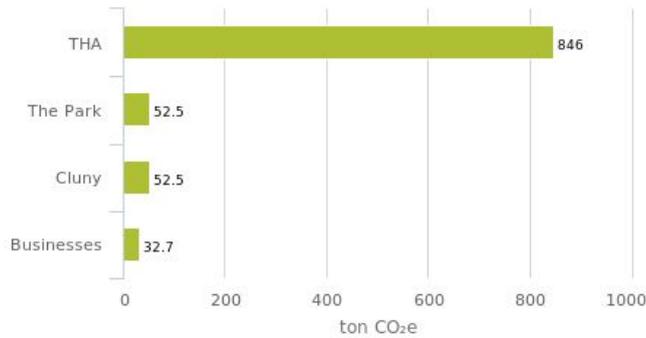


Table 5. Emissions divided per unit

Flying

Flying is the single largest emission source with **2,566 tCO₂e** (2,591). It is about the same level as last year, even though the CConference19 Speakers' travel emissions are added. Flying represents 67% of all emissions. And guests account for more than half of the total emissions, 55%.

Category	Short haul, number of flights	Medium haul, number of flights	Long haul, number of flights	Total emission, tCO ₂
Co-workers	358	48	40	104 (84)
THA/Residents	726	184	149	305 (205)
Guests	3,554	1,646	1,164	2,122 (1,783)
Findhorn businesses	6	30	12	29 (506)
Other				33 (-)
Total				2,566 (2,591)

Table 6. Air travel is divided by time in air. Results do not add up due to the process of rounding them up

Air travels are divided into three distance categories. Emissions per passenger-mile differ in each category. One reason is that flying at high altitudes results in greater emissions caused by the vapour trails. Another is that take-off causes relatively more emissions per distance than cruising. This is why flying is divided into short trips: 2 hours in the air (within the UK), medium trips: 2-4 hours (within Europe) and long trips: more than 4 hours (outside Europe).

It is assumed that all flying is done in economy class, which results in less emissions per passenger-mile than business or first class, as it occupies less space.

Emissions from guests are higher than last year, but that is due to a calculation error last year when guest emissions should have been higher: in one instance return trips were reported as one-way trips.

Co-worker and Residents' flying is up, the latter especially shows a big jump. It is partly explained by data from tenants having been added this year, but it also appears that flying generally has increased. Together these two groups had emissions of **305 tCO₂e**, which together with emissions from cars, makes this group the second largest emission source.

N.B. the business sector appears to have much lower emissions than last year, but that is a distortion created by lack of data submitted by some of the businesses with high emissions.

The total number of guests was **2,149 (3,352)**, down by 36% from last year. The number of guest weeks, however, was **2,149 (1,933)**, an increase of 12%; we had fewer guests but they stayed longer, which from an emissions point of view is positive as it means less travelling.

Guests came from 63 countries, 35% originated from within Great Britain, while large numbers came from the USA, Germany and the Netherlands. The distribution among countries is relatively even over the years.

Meals

In the survey co-workers and residents were asked about meal preferences: *“In a typical week how many times do you eat the following?”*

Meat	Fish	Vegetarian	Vegan
10 %	9%	55%	26%

Table 7. Meal preferences

Vegetarian is the most common meal followed by vegan. As the Community Centre and Cluny serves only vegetarian/vegan with a few exceptions, we can conclude that meat and fish meals either are meals at homes or restaurants. When doing the calculations Vegan was included in the Vegetarian group.

The emissions from meat and fish meals have been extrapolated to estimate emissions for all co-workers and residents. There is no data covering vegetarian and vegan meals outside the Park and Cluny dining rooms, which means the total meal emissions are somewhat underestimated.

Emissions from meals

Number of meals served at the Community Centre, Cluny, Erraid and Iona.

tCO ₂ e	Vegetarian	Meat	Fish	Total
Guests	115	-	-	115
Non-guests	63	26	16	105
Residents, tenants	-	45	27	72
Total	178	71	43	292

Table 8. Meals during 2019

There is no data about resident and tenants’ vegetarian meals. These groups combine doing their own cooking with eating at the CC, and to that extent those meals are included in non-guests. The total emissions from meals are **292 tCO₂e** (192). One reason for this year’s higher figure is that meat and fish use has been added.

Use of internet

For the first time, too, emissions from use of the internet was calculated. The use of computers, ipads and smartphones for internet surfing, watching films, playing games, sending/receiving emails etc. causes emissions at the server operator level, mostly in the form of electricity consumption.

In the survey to co-workers and residents the following question was asked: *"How many hours per day is your household connected to the internet via different devices?"* Businesses were asked the same question but without referring to households.

The results from the survey responses have been extrapolated for co-workers and residents. Businesses weren’t extrapolated; but had they been, their emissions would have gone up. As has been mentioned before, extrapolation creates a great deal of uncertainty.

It is assumed that private use of the internet is based on 360 days/person whereas business use is 220 days/year.

Use of internet	Total hours per year	Average hours/person/day	Emissions tCO ₂ e
Co-workers	113, 004	5.5	81
Residents	254,722	5.8	210
Businesses	54,456	7	8
Total			299

Table 9. Use of internet

The weighted average daily use of internet devices is about 5.7 hours/day all days of the year. Total emissions of 299 tCO₂e means another large emission source has been added to the analysis. We have assumed that the electricity used in server operations is not renewable.

Use of vehicles

In the carbon assessment we collected information about owned or leased cars and rented or shared cars. Questions were asked about distance travelled. That means that one or several people could have been travelling in a car. The questions were divided up on small, medium and large cars and for each size further questions were asked about fuel: diesel, petrol, electric or plug-in hybrid cars.

Individual responses have been extrapolated to include the owners not responding. For businesses no extrapolation was done. A reason for the large difference between the years has to do with the fact that some large emitting businesses did not participate in the survey this year.

Vehicles	co-workers Miles	Residents, tenants Miles	Total
Owned, leased cars	72,487 (76%)	386,139 (91%)	458,626
Rented, shared cars	23,212 (24%)	39,946 (9%)	63,158
Total	95,699 (100%)	426,085 (100%)	521,784

Table 10. Use of cars

Cars are the second largest emissions source after flying. Emissions from guest travel to and from Findhorn are included. Compared with last year the emissions from cars went down (table 4) from 480 to **311 tCO₂e**.

Total distance travelled was 521,784 miles. Most journeys were made in private or leased cars. Co-workers used rented or shared cars to a larger extent than residents.

Emissions from cars are lower when rented or shared cars are used. Private cars are not used 95% of the time, whereas rented or shared are more frequently used.

Emissions from small cars are lower per mile than larger cars. Electric or hybrid cars have lower emissions than petrol or diesel cars.

Energy

Emissions from different energy sources amounts to **353 tCO₂e** (376), a reduction from the year before.

Source	2019	2018
Gas	168	213
Electricity grid	79	76
Electricity renewable	10	24
Fuel Oil	13	12
Fuel wood/pellets/chips	73	51
Coal	10	-
Total energy emissions	353	376

Table 11. Energy distributed over sources

The emissions are **353 tCO₂** (376) a reduction from the year before. The reason is mostly due to lower consumption of gas **168 tCO₂e** (213), which could have to do with a relatively mild winter and maybe to some extent with the increased use of fuel wood.

Gas is used at Cluny and in most households at the Park for heating and cooking. Erraid's and Iona's consumption of gas is added.

The Findhorn Wind Park produces energy for local use at the Park and exports its excess to the grid. There is also an import from the grid when the wind isn't blowing. The import is also renewable electricity. Together they emit **10 tCO₂** (24). However, as

mentioned earlier, Hudson Energy (our grid supplier) does not report its upstream emissions.

The Park wood-chip boiler provides heating for the Universal Hall, the Park Building, the Community Centre and adjacent bungalows. Soillse has its own wood pellet boiler. Many households rely on wood burning stoves for heat. There is a local production of fuel wood, but we haven't got any quantities. Fuels from wood (covering firewood, pellets and chips) emit **73 tCO₂e** (51).

Energy emissions for Erraid are added this year, where they use fuel wood and gas, and for Iona who use coal. The Inclusion of these two units adds emissions of **33 tCO₂e**.

Responses to the surveys

The number of respondents can be seen from the table below in relation to the total number of surveys that were sent out.

Survey link for	sent to	Reponse numbers	Response rate	Average household size	Number of individuals
Co-workers	125	33	26% (23%)	1.9	238
Residents (THA, MOHO, tenants)	182	98	54% (62%)	1.9	345
Total	307	131			583
Businesses	26	7	27%		

Table 12. Number of responses and response rates

The number of respondents increased this year because we asked tenants to respond. In case co-workers are also residents of any other category they have been defined as co-workers.

The number of individuals in Findhorn Ecovillage was calculated based on the reported household size for each category to which the survey was sent out. Based on this information the average household size is 1.9 members. The total then is 583 individuals. This is based on the assumption that individuals and households that didn't respond have a household size equal to the ones who responded. That might not be correct.

From the table one can see that the number of co-workers who responded is low. There is no clear explanation for this. There are probably several explanations such as being busy, having difficulties filling in the survey, not being interested in responding, or even being shy to tell. If there were difficulties filling in the survey, that is not reflected in feedback received. The percentage of answers is also lower than last year.

The number of participating businesses is far too low to extrapolate a total number, in light of the fact that non-responders may have considerable emissions (which was the case 2018).

The goal for this year’s carbon calculation was to set a baseline, so that future calculations and carbon reductions could be measured against the 2019 result. However, due to the low participation, that goal was not achieved. We would have needed at least 75-80% response rate to be able to get a reasonably good quality baseline emission.

Emissions per capita

The number 1.9 members per household is used to estimate the total number of household members which is **583 individuals** which can be seen from table 12. That is a number with a great deal of uncertainty due to the fact that relatively few individuals who were asked to respond actually did so.

With total emissions of 3,858 tCO₂e it means a per capita emission of **7.1 tCO₂e** per person. The corresponding number for 2018 was 8.3 tCO₂e.

Solar energy

Residents, co-workers and businesses were asked if they have photovoltaic and/or hot water (thermal) solar collectors. From the survey answers there are **118 m² PV** collectors and **101 m² thermal (hot water)** collectors in the Park. The combined energy output from these collectors are estimated to be 79,000 kWh. No extrapolation was made which means that solar collector energy from individuals who didn’t respond are not calculated.

Of the respondents, 14 reported that they have a feed-in tariff, which means they deliver excess electricity to the grid and are paid for it. Others, who didn’t respond might also have feed-in tariffs, but the number is not estimated.

Composting

Questions were asked to understand to what extent we do composting. Three types of composting were covered:

- Non-cooked food and leftovers
- Cooked food and leftover
- Garden waste either in brown bins or elsewhere.

From the responses, the following percentages were reported:

Non-cooked food and leftovers	Cooked food and leftovers	Garden waste
64%	69%	88%

Table 14. Composting

We don’t know if those who didn’t answer yes to the food questions cook or not. And we don’t know if those who do cook ever have any leftovers to compost. However, the impression is that there are high numbers for food composting and it is probably enhanced by the food composting equipment which is now provided.

Carbon storage and avoided emissions

The Findhorn Ecovillage is situated on sand dunes. Over the years organic material has been added to create a layer of soil suitable for plants. When organic material accumulates year after year the top layer binds carbon. Organic gardening in particular has the capacity to build up the organic content of the soil, especially when green material is not removed after harvesting, by adding compost and by not ploughing or digging. It is impossible to assess the carbon that has been stored in the soil at the ecovillage without taking samples, but normally 1 hectare (1ha.=100m x 100m), which is similar to the garden at Cullerne, can store 1 tonne of carbon per year, which means drawing down 3.6 tCO₂ annually from the atmosphere per year. The total size of the managed land is larger than 1ha. as communal and private gardens and lawns increase the area that stores carbon.

In the survey households were asked if they make compost, and a large number answered in the affirmative. Composting has become easier with the composting centre started by Evelyn Rodenburg, which is available for all to use, and the stations for composting cooked food. No calculations of amounts have been done. This is an area to get emission data on in the future.

Planting trees is another way to store carbon. When they grow they store carbon. This will be released into the atmosphere if they are subsequently used as firewood or rot, but then new trees are planted. Carbon storage in wood should be seen at a forestry level, i.e. a forest that is kept over time, where single trees are removed and new planted. One hectare of forest can draw down 3 tCO₂ from the atmosphere per year. In Wilkie's Woods trees are removed and new planted and debris are to some extent left to rot which adds to the carbon layer.

Tree planting by Trees for Life (TfL) stores carbon. After discussions with TfL we were informed they did not want to include their trees as part of the carbon storage in this survey.

Another carbon sink is building material and furniture made from wood. The carbon is locked-in even though the tree is cut down. Building with wood in the new houses will then result in a carbon sink.

The import of electricity was 638 MWh and the export 543 MWh. By exporting electricity from the wind turbines the grid is fed with lower emission electricity than the UK average emissions. It can be said that **127 tCO₂e** were avoided this way.

Using Moray Car Share is a way of avoiding emissions as they have a fleet with electric cars. The 2019 use of electric cars to travel 33,447 miles results in avoided emissions of **4 tCO₂e** compared by using average UK cars.

Data quality

The survey was sent to residents, co-workers and businesses in the Park. The response rate for residents was 54% (61.6), while for co-workers it was 26% (23).

Based on these responses extrapolations were made to cover the non-responding residents and non-responding co-workers, assuming that non-responders have the same emission pattern. The response rate for co-workers is unfortunately so low it makes the total numbers most uncertain as it assumes that non-respondents have the same 'emission behaviour' as the ones responding.

For businesses and organisations, the survey was sent to those with office/operations in the Park. 26 businesses were invited to respond; 7 did. Energy consumption for all businesses is included as they buy energy from NFD. But as no extrapolation is made for travelling, use of cars, use of the internet etc. These are emissions that would certainly add to the total.

No attempt has been made to count the number of B&B guests in the Park. One reason is that many of them come to attend FF programmes and are therefore already covered when it comes to travel and food. Furthermore, the emissions they cause through their stay are to some extent included in the B&B households' energy use. Emissions that are not calculated are thus those from B&B guests not participating in any programme. These B&B guests should be included in the future.

Although attempts were made this year to increase participation by giving more time to respond, sending out reminders and offering personal assistance for filling in the questionnaire, the result is not encouraging. Although there might be a general increase of individual carbon consciousness, it doesn't show up as an increased willingness to assist with giving personal data.

The data that the assessment is based upon has been expanded and more emission sources added. But there are still other emission sources to be explored and included: a big one is the Findhorn Bay Holiday Park. For other data, the quality needs to be improved. This is the case for guests' travelling patterns, where at the moment we have information from where they come but have no information about how they travel.

Findhorn Ecovillage going carbon neutral

Last year, cities and communities in Scotland declared a climate emergency and some also set goals to become carbon neutral, as did the Moray Council; we had more reports from scientists telling us we are off-track to reach the 1.5°C goal; and the Swedish teenager Greta Thunberg challenged us to actively listen to the scientists and change our behaviour.

At Findhorn the Climate Consciousness Conference took place in 2019. There were several Sunday Slots about DrawDown and the climate crisis as well. Discussions about what it would mean for the Findhorn Ecovillage to become carbon neutral took place. A decision was taken in the Collaboration Circle to explore for two years the possibility for Findhorn Ecovillage to become carbon neutral by 2030.

This carbon assessment for 2019 was intended to be a baseline for comparing future attempts to reduce carbon emissions and steer our path towards mitigation and adaptation. Unfortunately, the result is too uncertain to serve that purpose. Unless there is a change in the willingness to respond and deliver data the picture looks a bit gloomy,

as an unwillingness to respond probably also means an unwillingness to change behaviour and invest efforts in reducing emissions.

In order to be carbon neutral, more Scope 3 (indirect) emission sources must be added, the data quality of what is currently measured must be improved (increased response rate) and must include emissions from building & production of building materials, transportation of food, textiles, electronic equipment and furniture that are bought in shops, as well as transportation of supplies to Phoenix Shop and Café.

Carbon Offsetting

Carbon offsetting is one way to take responsibility for emissions that can't be avoided in the short term. However, it is not a way of reducing emissions. That can only be achieved by consuming less fossil energy directly or indirectly. When becoming carbon neutral a certain amount of carbon offsetting will be accepted within carbon neutrality standards.

The Park Ecovillage Trust (PET) has set up a [carbon offsetting service](#) which gives individuals and organisations the opportunity to support projects in developing countries while at the same time offsetting their own carbon emissions. It is also possible to support tree planting in Scotland.

As at 2020-05-09, the total quantity of emissions offset by the Findhorn Ecovillage since PET's service was launched end 2017 is **620 tCO₂**. During 2019 **342 tCO₂** was offset compared to 247 tCO₂ in 2018 (+38%). To date **141 individuals** (**57** in 2019 vs. 71 in 2018) have offset with an average amount of **4.4 tCO₂** (2019: **6** ; 2018: 3.5 tCO₂).

The following graphs show the results to end March 2020:

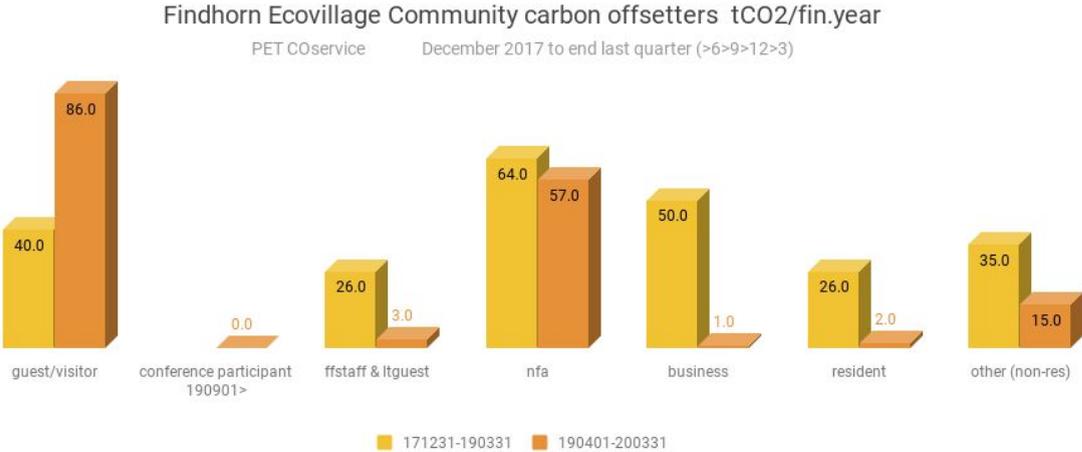


Table 15. Offsetter tCO₂e per financial year

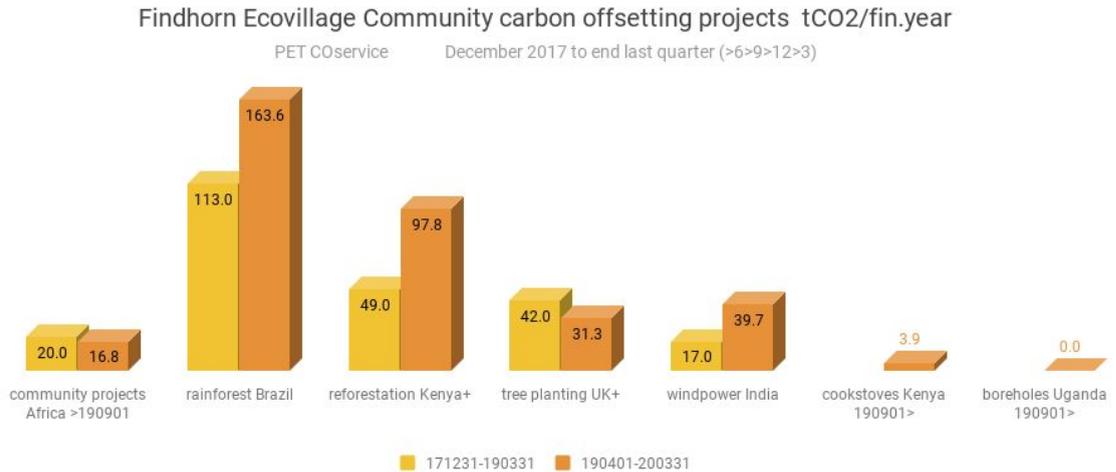


Table 16. Offsetting project tCO₂e per financial year

Reducing emissions further

Direct steps could be taken both at Ecovillage and individual level to reduce carbon footprints. Based on the result of this carbon assessment the following steps are suggested

at the Ecovillage level:	at the Personal level:
<ul style="list-style-type: none"> - Replacing gas with electricity - Moving over to green gas certificates - Reducing the energy requirements by installing superior insulation of buildings - Investing in a new wind turbine - Using geo-thermal heat pumps - Installing solar PV in new buildings. Design and locate new buildings to take advantage of the sun's radiation - Make sure builders are following the most recent standards for carbon free buildings - Using more electric cars and garden machines; 	<ul style="list-style-type: none"> - Reduce flying and using buses or trains for short trips and avoiding stopovers when flying - Reducing car driving, by using buses and trains, bicycles and doing car sharing - Move towards meat-free diet - Using less gas e.g. by using fuel wood for heating - Using less electricity e.g. by not using drying tumblers - Turn off unnecessary internet connection - Use video meetings instead of travelling - Reuse, recycle and upcycle - Sharing building and garden equipment.

Thoughts on Climate and the Corona Pandemic

Looking at the current situation with a Corona pandemic and the present lock-down, the community's carbon emissions will no doubt go down considerably in 2020.

Will that be a temporary reduction, or will the effects of the Corona mean an adjustment to a sustained lower level of carbon emissions? Will we pick up where we were when the outbreak happened, or will there be adjustments in the way Findhorn Ecovillage is run? Will Findhorn's 'operational model' with physical guests work after the pandemic is over?

Looking at 2019, 62% of the carbon emissions came from flying, with guests coming from 63 countries accounting for 52% of the total.

Already before the pandemic flying was going down in many parts of the world. Climate awareness, very much carried by the younger generation, was growing.

During the lock-down people all over the world are learning to use the internet for meetings, conferences and contacts. Airlines are facing lower demand, resulting in fewer departures, less destinations and more bankruptcies. Travel by rail is politically promoted as one way to achieve national carbon reduction goals in line with the 1.5° scenario advanced by the UN's Paris Agreement. Even if lock-downs are lifted it's not clear the same 'market' will be there after Corona.

However, Corona is here to stay for a long time — a second wave is possible — and changed behavior will take place in many groups of people, in particular the young, educated and climate conscious, who comprise a large part of our community's guests.

From a climate perspective it means Findhorn Ecovillage will have reduced emissions for years to come, and the present 'operational model' no doubt will have to change. Such a change will affect more than just reducing emissions from flying; the repercussions will be deep. Fewer programmes calling for physical presence and fewer guests will mean that fewer co-workers will be needed (until an alternative low carbon operational model is set up). That means lower emissions from the use of energy, food, flying, driving, etc.

A scenario is not unlikely where the present emissions level of 4,000 tCO₂e goes down to a sustained level of about 1,500 tCO₂e. However, internet use will entail more emissions than present.

It should be said that a decrease of that size is neither intentional nor a result of mitigation efforts, but it will nevertheless make it necessary to adapt to new circumstances.



Donations to cover our Carbon programs (such as this annual assessment) can be [made here](#). Thank you for your support.



UN Sustainable Development Goal



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