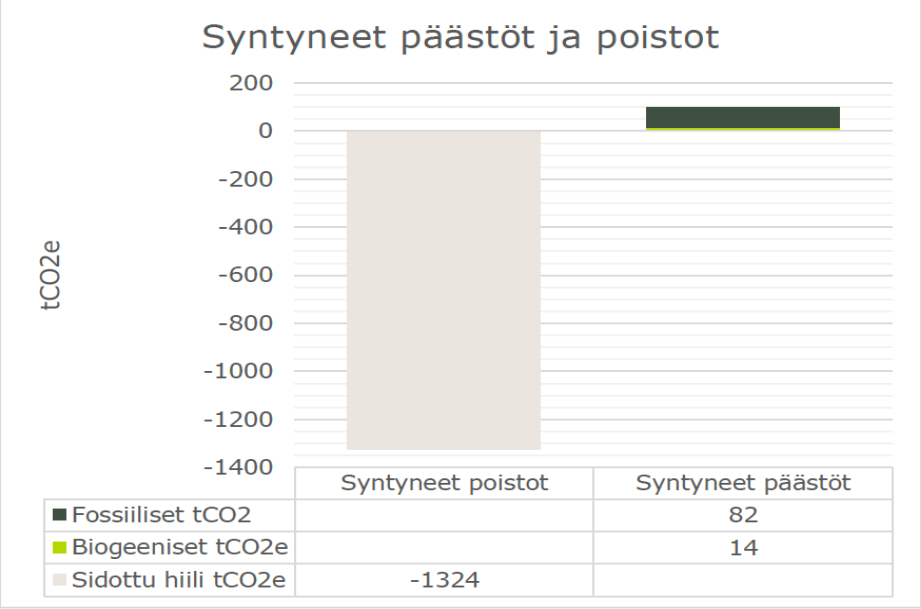
RESPONSIBLE PROCUREMENT

and

WASTE MANAGEMENT



Kuva 3 Cape Laplandin / Hetta Huskiesin koiravaljakkosafaritoiminnassa syntyvät päästöt ja poistumat vuositasolla.

PURCHASING POLICY

Our sustainable purchasing policy covers capital goods, food/beverages, building materials and consumables as well as services, favours environmentally and socially sustainable suppliers and products, and also aims to reduce unnecessary use of resources, waste and transportation[1]. It aims to ensure a common understanding of sustainable purchasing and outlines the general requirements for sustainable purchasing to be followed by the staff of the establishment for all product purchases done through suppliers and directly by the establishment.

The policy includes 'purchase local when possible' since this strengthens the 'local flavour' for customers at the same time. By making use of local services (eg cross-selling products like reindeer farm visits from other companies as well as purchasing food locally as opposed to through online systems[2] or simply suggesting different places and activities for our customers to go to after visiting us) and suppliers (eg our 'fair trade' husky necklaces, made locally and elk hunted by Pasi and our local hunting groups) and cultural components (eg joik performers @ our farm, a tundrada design as the end point of our escape game, the twigs on display from Finland's Easter traditions[3], etc [4]), we build 'authenticity' into our products.

Sourcing sustainably is important to us but so too is utilising short supply chains since this has a huge global impact on resource use. We have to be pragmatic and willing to compromise in this area, since shopping locally is not always so easy when there are only three shops within a 100km radius.

When it comes to consumables, we buy recycled toilet paper, client cups etc. use refillable dispensers for hand soaps, juice, coffee etc whenever possible, attempt to use as little as possible single use plastic (eg bin bags or plastic drinks bottles) within our products.

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1 GreenKey 4.12
2 ECOT B3 and B4 Fair-Trade and Local Entrepreneurs
3 Finns welcome the arrival of Spring by having children dress up as witches with freckles on their faces taking decorated willow branches door to door. They then recite a traditional poem, 'Virvon, varvon, tuoreeks terveeks, tulevaks vuodeks; vitsa sulle, palkka mulle! (In translation: I wave a twig for a fresh and healthy year ahead; a twig for you, a treat for me!) to drive away evil spirits and in return, get treats. This Finnish children's custom interestingly mixes two older traditions – a Russian Orthodox ritual where birch twigs originally represented the palms laid down when Jesus entered Jerusalem on Palm Sunday; and a Swedish and Western Finnish tradition in which children made fun of earlier fears that evil witches could be about on Easter Saturday (Western Finland and Palm Sunday (other regions).
4 ECOT C4 Incorporation of Culture

For a number of years, we had a deal with our local supermarket which meant that we collected their just-out-of-date bread and meat daily and used it with the dogs. Whatever bread we didn't need, we gave either to a nearby horsefarm or stored in bins in our recycling centre ready for collection once per week by a family with chickens who live c. 30km away (and thereby save on fuel usage since otherwise they would have to collect it daily if they were going direct to the supermarket). (All of our own food waste goes into our dog-poop composter).

Wood needs that we cannot meet from our own farm, we get from local sawmills, and monitor carefully the sustainability of use of our own wood resources. We purchase reused or recycled products whenever possible – for instance, the waste material from paper mills that is used as a covering for our kotas - and we reuse and then recycle our own paper and plastics.

We try to buy EU Ecolabel / fairtrade produce when possible. We also try to buy the best quality and best environmentally rated/low emissions items we can find (printers, pcs, ovens, washing machines, freezers (we purchased a large freezer container recently because the smaller freezers were not lasting long enough) etc, so that they will last as long as possible for the use intended) and we purchase recycled and recyclable products when possible.

Staff need periodic training on environmental practices linked to purchasing since otherwise the fact that we are making these efforts is likely to just be unnoticed and then not part of the communication to the customer[5]. We explain that this is why, for instance, we print off new training documents 2 to a page, back-to-back. Even our client information forms are printed like this although we also have a smaller number of larger print forms available for those with poor eyesight.

We seldom buy new vehicles other than snowmobiles and we now purchase 4 stroke machines but may consider electric ones in the future[6]. We cannot afford electric ATVs electric outboard motors (seldom used anyway) but we look at technology and adapt when a) we can afford the investment and b) we believe that it will work for where we are located[7].

We consider the need for motorised transfers carefully, and carry them out in as environmentally friendly a way as possible. Motorised tours do not form a large proportion of our programs although we do use snowmobiles to accompany our husky tours, run sporadic snowmobile safaris timed to opening our trails (which is work that needs to otherwise be done anyway) and transfer clients in shared vehicles to and from the town [8].

At present we have a 4WD VW Caravelle Mini Bus for client transfers in winter and river transfers in summer and for emergency backup use pulling the dog trailer in winter, a Nissan 4 by 4 intended for pulling the dog trailer when transferring the dogs between our main base and our 2nd winter base in Kello and from there to various daybreak locations in December. We have a 4WD Ford Transit Van which again can be used for transporting the dogs and equipment to daybreak locations in December and for river transfers, etc, in summer. We have a Citroen Berlingo car for guide and dog transfer between the guidehouse and farmhouse. Whilst this could provisionally become an electric vehicle in the future I am not sure how economically viable this would be with young and relatively inexperienced staff as the primary drivers.

In winter guides pull water canisters and dog foot to the farm by hand using sleds. In summer these are transported back and forth using a quad and another quad is often in use on the homestead for forestry or building or maintenance purposes. In autumn quads supplement non-motorised trollcarts as more efficient methods of training the dogs. At present we have a Blue, Green and white quad in rotational use.

In terms of snowmobiles, we have a skidoo expedition widetrack, a skidoo tundra wide track, a Polaris titan 800 adventure and a Lynx Ranger Wide track. These rotate between the job of pulling track smootheners and opening trails in our two key locations for the majority of the winter. The machines which are used most

5 ECOT D1.1 Purchasing Policy.
6 Greenkeys 5.15
7 Greenkeys 5.15
8 Greenkeys 5.16 and 5.19

frequently by guides on safaris are Lynx Xtrims. We have 3 of these. We also have an Alpina Sherpa and trailer although these have been used twice in 2 years.

We seldom use anything but reusable plates, cups and kitchen utensils with groups (we have been using own-branded Kupilka products already for years), but when we have very large groups, ensure that we buy high quality recycled and recyclable paper ones[9].

We bought c. 70% of our kennels from a cooperative called Team Fix in Kiruna when we first started to operate. It is a company that we supported since it is based upon the principle of work rehabilitation for those who have been outside of normal society (eg ex alcoholics) and who need training and support in order to function in a work environment. The business is run by the municipality of Kiruna as a social action programme intended to give people with different degrees of disability opportunity for employment with the rehabilitative aspects and eventually within the standard labour market. (Whenever we are shopping further afield, or when simply travelling to nearby airports - we communicate with others in the community to see if we can either carpool or shop-pool, thereby reducing community carbon requirements). Nowadays, we tend to make our own kennels in-house using materials purchased locally.

On a similar vein, we minimise waste and foster cooperative attitudes with local businesses by, for instance, buying client meat directly from local reindeer herders and using their left-over bones for the dogs. We also buy the reindeer skins used in our products from the farm next door and utilise unsold meat products from the local shop as treats for the dogs.

We monitor the consumption of the pollutants we use (for instance chemical cleaning products)[10] and choose eco-options whenever possible. We have just one supermarket in Hetta but a lot of their own-brand products (K-market) are eco-friendly in some capacity. Detergents, (hand soap, dishwashing liquids and general cleaning detergents), tissue papers (hand towels, serviettes and toilet paper) etc are purchased whenever possible and this is particularly important when it comes to detergents used out at wilderness cabins in the nature. Ecolabels like The Nordic Swan (Joutsenmerkki) or the EU-Ecolabel (EU-kukka) are the kind of labels we look for when shopping.

9 ECOT D.1.2 Consumable Goods, Greenkey 5.12 and 5.23
10 Green Activities 1.2 (I)

 Save the bees PLANT The Original Wettex Colors Limited Edition Wettex	 WC WC WC-KUKKA WC-GEELI Metsä	 KIILTO koti
 ALL IN 1 KONETISKITABLETTI	 TUMMA TUMMA KIRJO 3,79 3,79 4,59 4,59	 PIRKKA YLEIS
 Xulta Katriina PIKAKAHVI  KIILTO koti	 PIRKKA 0% ASTIAN 500 ml	 SUOMESSA VALMISTETTU PIRKKA SUKLAINEN KAURALASTU 300 g

REDUCING WASTE: Recycling, Repurposing, Re-using

Finland generates the largest amount of municipal waste per person in the EU. This is approximately 20 times as much as Malta, where the amount of waste generated per person is the lowest in the EU. There is a need for Lapland to invest in creating a new mindset and zero waste ideology. Small changes in habits can have a significant impact and lead to direct financial savings or even new solutions which could be the foundation for the emergence of new business models, jobs, and positive effects for the regional economy (Arctic Smartness).

On the other hand, Finland has a very high recycling rate with, for instance, up to 92% of all bottles, recycled[11]. In our area, however, recycling is somewhat limited. We can only recycle aluminium cans, cardboard, magazines, newspapers, glass jars and bottles, plastic jars and bottles. Many other items which can be commonly recycled in big cities, cannot yet be recycled here. However, we can be creative in repurposing and reusing a lot of these.

For instance,

- many of our plastic are taken from restaurants that would otherwise have to discard them, appliances, batteries (we separate them and put them to a designated waste collection point for batteries), building materials (we take more back from the tip than we ever take there), furniture

11 Tips for sustainability communications: A travel industry manual for better marketing and communication' Produced by Visit Finland)

(ditto the previous comment), motor oil, antifreeze, office supplies, paint, plastic buckets, radios, scrap metal, steel containers, carpet (we often take old carpet from the tip to use just one more time in place of dog beds for dogs that are destructive with beds), cooking grease, computers, fluorescent bulbs.

- When we initiated our multiday safaris we used a large number of plastic bags when packing food and gear for the supporting sleighs. However, we have since replaced the need for many of their containment systems by purchasing strong, reusable transport bags. We also use these, rather than supermarket bags, whenever we have to carry items between locations on the farm. In addition, all multiday safari clients are provided with 2 waterproof duffle bags so as to reduce the need for waterproofing materials for their sleeping bags and personal belongings. Similarly, clients and guides issued with water bottles which are then reused for later groups, (as opposed to encouraging plastic drinks bottle consumption).
- Our dog hair is collected and separated by colour and type. Any that has too much sawdust etc in it is put out for birds to collect for their nests. The rest is either spun into wool by us, and sold as a natural by-product of the farm, or sent to a company in Switzerland who puts a lot of effort into sustainable sourcing of their suppliers, who then spin it into yard and make ecological clothing from it (www.huskywool.ch).
- When the dogs do not finish their soup or food in winter, the frozen food disks are collected and broken up and then re-used as cooling snacks on the trails or start-line (as opposed to simply being thrown into the compost). This minimises rodent and crow-infestation by minimising the amount of food wastage from the dog areas.
- We have a 'fizzy-water' carbonation machine in the main eating area to reduce dependency on fizzy drinks and reduce bottle and can waste.
- We collect 'waste' newspapers from our local newspaper and other shops and collect them ready for our annual puppy litters.
- When we make products in-house for our souvenir shop (eg playing cards), we do so on eco-friendly recycled paper and to date, in 10 years, we haven't yet felt that we needed any pamphlet materials but should we do so, we would print on recycled paper.
- We use energy timers for heating and lights that are not needed 24/7 and optimise their use linked to environmental temperature.
- We have a car-sharing scheme for coming to and from work for guides and we issue bicycles to guides in summer. We also car share, with local hotels, the collection of clients from airports and we pick up safari clients in one batch, from all of the local hotels.
- 80% of our snowmobiles were changed from 2-stroke to 4-stroke in 2018.
- We have charging stations for recharging batteries used in headtorches and radios by our guides.
- We encourage guides and clients to reduce their carbon footprint by opting to use public vs private transportation to and from our base and we have a voluntary carbon-offset program for clients that they can pay for, linked to their booking process.
- We have an established, long-term partnership with Vaude which is one of the most forward-looking environmentally aware and socially conscious outdoor equipment providers in Europe. However, a lot of the clothing we use for guides – for instance all of their salopettes - have come from Anna's previous work in which she did a lot of quality control. These €500 items of clothing had all been discarded because of poorly performing zips so she asked if she could reuse and repurpose, and they have now been in use for about 10 years. We want the guide and client clothing to be high quality and to last as as possible before needing replacing. When zips break, we either replace them in-house or turn, for instance, jackets into pullovers.
- We look for Eco labelling options on things like linen – but at the same time we often repurpose (eg all of the linen used in the guidehouse is cast-off linen which would have otherwise been discarded, from one of the local hotels that was upgrading their client supply)[12].
- As mentioned before, we choose high quality goods which should hopefully have a longer life use, compost our dog poop and green waste and have an extensive recycling centre for interim sorting of rubbish so that we can reduce the number of times we need to take it to the central recycling.

12 ECOT D.1.2 Reusable, returnable and recycled products

- We have been using reusable Kupilka plates, cutlery, bowls etc for all of our safaris for a number of years already and only use (recycled) plastic /paper plates if we have an unusually large group for which we do not have sufficient Kupilka stock[13].
- We have a designated waste management point both on the farm and in the farmhouse area to facilitate the sorting and recycling of waste according to Municipal Waste Regulations. Waste is always transported back from multiday safaris and sorted at base[14].

DISPOSING OF WASTE

According to our 'materials flow planning' (which looks at what materials can be used both in-house and regionally, both from us and to us)15, we give old cell phones to a local collector who displays the 'ancient' models in his silver shop, the elk hoof component of the elk legs that are often gifted to us by hunting groups, to a local jewelry maker, etc.

Bedding used on multiday safaris is returned to base (as part of our pack in-carry out policy) and added to the compost as roughage if it is not reusable, first, as bedding back at base. In other words, we are constantly trying to minimise waste.

Similarly, the bags the dry food for the dogs comes in, are re-used as garbage bags and the plastic that the meat blocks come in, is cut up and used to separate meat balls as part of our daily dog-food preparation process. In other words, whenever we use plastic, we try to use it as much as possible rather than simply discarding it post use.

Guides are instructed to fill rubbish bin waste bags into other rubbish bin waste bags so that they are as full as possible before they are put out. In that way, the initial bag can be left in the bin to be effectively 'used again'. We also dry bags used for transferring used cups, plates etc from the kota or safari. These pre-used bags are suitable as bin liners.

Whatever we bring into wilderness locations, we take out, including biodegradable foods. Clients and guides both work together to leave the cabins we use, and their surroundings, in as pristine as possible condition on departure, including picking up rubbish from previous groups[16]. How we deal with solid human wastes depends on the time of the year and where we are. We have a wilderness toilet on the farm and in our holiday cabin which we empty when needed and then add to community sewage. Dog poop from wilderness locations is returned to base and composted in our larger compost systems here. Most huts have wilderness or bio-toilets in them and people toileting elsewhere are asked to use snow or rocks instead of toilet paper or to transport their toilet paper back out.

We haven't specifically conducted a waste audit of each of our operational areas, but we have recycling points in each waste area and therefore know how much of each type of rubbish is collected overall, each week, since we take the recycling to the shop at the same time as we do our weekly food shop. We could quite easily do a more in-depth analysis / record keeping of this but I am not sure if it warrants the time.

We also sort our waste daily into separate bins in our farm kota (and clearly inform and label for guests what they should put into what box), in our recycling centre and the recycling from the farm and guide-house gets sorted together at the store on the same day that the weekly guide shop gets down.

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13 Greenkey 5.12
14 Greenkey 5.14: You can refer to the Outdoor Etiquette Guidelines for Litter-free hiking (https://www.nationalparks.fi/hikinginfinland/visitorguidelines/litter) or sorting instructions from your own municipality.
15 ECOT D.2.2 Solid Waste Disposal
16 Green Activities 5.25.

All bottles, cans, glass jars etc are recycled, regardless of money-back status, through a recycling centre and Swedish and Norwegian bottles and cans are collected and then returned in cross-border villages whenever going there for other purposes.

Based on our recycling and waste collection points we know that we produce one standard rubbish bin (c.200L capacity) full of general waste per week. This gets collected by the municipality on a bi-monthly cycle.

We produce c.5L of human food compost per week out of client season and c.10L per week in client season. We produce c.10L of glass and metal jar recycling per week and c.20L of plastic recycling.

We always use any one-sided paper as scrap paper prior to throwing it out but once it has been used front and back, it gets combined with our paper and cardboard recycling, which accounts for c.10L per week. (Most of our cardboard boxes get re-used multiple times, first as 'containers' for food in the pantry, and then as transfer boxes to and from the farm / for containing wood off-cuts for turning into firesticks for burning etc).

We clean our farmhouse, dog kitchen and client toilet to a basic level daily and to an in-depth level, once per week. We clean our client kitchen and pantry and dog medical area after use. We clean our garage whenever we can get our maintenance manager to do so! In the process, we use c.1 bottle of detergent, 1 container of dish-washing soap, ¼ container of baking soda (fridges), 1 container of laundry detergent and some stronger cleaning agent (like vircon) in the dog kitchen, each week. We use our home dishwasher on an eco-cycle c. once per day with a full load and we use the industrial dishwasher only in client season and run, on average, c. 3 loads per day.

Whenever we come across illegal dumping grounds in the area (normally by area kids taking sofas out to sit beside nice spots on the river), we figure out the responsible and make sure that the parents get them removed.

Every two weeks the local tip is open and we often have expert 'dumpster divers' in the group so we have so-far rescued and renovated bikes which the guides use to get to and from work, a set of drums for our toddler, a fuse ball machine which was donated to the local kids club, numerous items of furniture, picket fencing, clean timber and building materials that have been turned into agility obstacles for the dogs, boardwalks etc. One man's trash is another's treasure. We probably take as many items from the tip as we add to it and we only throw away things that we definitely can't reuse or recycle into something else. In the process, we have gradually improved the quality of life on the farm whilst reducing the landfill and without utilising many resources in the process. We figure that this is the ultimate in post-consumer recycling!

Since we do not believe that it is necessary to own everything that is used, we lend equipment like children's snowmobiles, kayaks, car seats etc to families with children of an appropriate age so that they do not need to buy them for themselves. We can simply take them back whenever we have a rental request from clients.

Food Waste

Finnish households throw away 120 to 160 million kilos of food annually, which comes down to about 20 to 29 kilos per person, every single year / c. 10 to 15 per cent of all edible food. The Natural Resources Institute Finland has calculated that food waste taxes the average Finn €125 every year. Worldwide, around 30% of all food produced goes to food waste. When you think about the environmental, production, transport and manufacture costs of the production of this food, as well as the considerable emissions, this is unacceptable[17].

We have surprisingly little food waste; c. 3L of peels and scraps per week (aka 'edible' food that has to be thrown out or composted). By serving small portions and encouraging people to go back for seconds, buying local ingredients and emphasizing local food and regional cuisine etc, we effectively creating a micro circular

17 Finland' first food waste restaurant LOOP, in Helsinki, is a non-profit organisation called 'From Waste to Taste' which attempts to go against this trend. They run a restaurant with ingredients that would have otherwise been discarded by other wholesalers and producers. Along with utilising food waste, the restaurant practices social responsibility by helping unemployed young adults, immigrants and those battling with long-term unemployment and they donate a great deal of food to charities.

economy with our client food plan in particular, which contributes to an environmentally friendly, sustainable food infrastructure[18].

1 local café sells us food at a very reduced rate on an almost daily basis (because of having a daily menu) that would otherwise need to be thrown out. 3 other restaurants give us food sporadically when they have large quantities that would otherwise go to waste, or when they are doing seasonal store-cupboard clean-outs. With a young and hungry staff, it is great to be able to provide access to otherwise unaffordable restaurant quality food for communal lunches and dinners, and to know that we are contributing to a local circular economy. When we have more than we can use, we in turn gift some of this to elderly in the community[19].

Finland is known for having developed the world's first circular economy roadmap and the Finnish government has set out a strategic plan to develop circular economies, particularly in the north[20].. The concept of a circular economy is one which aims to preserve materials and their value in use for as long as possible. Instead of hawking products, services and smart digital solutions become the key economic driver. Companies within small communities can share products such as sewing machines or snow shoes, or storage spaces. A robust online booking system by one can send customers to another and reduce their costs. (All of these examples, we already participate in…as we do one of the most successful (if potentially controversial) circular economies to date; AirBnB. This is an example of a commercial economy in which money changes hands but other circular economies include economic service models where solutions replace manufacture).

Cars, holiday homes, saunas and tools are some of the commodities that people are sharing, borrowing or renting more these days. Everything that can be produced locally, should be sourced locally. Purchasing Finnish products and services creates jobs and reduces emissions caused by transport. When buying products, make sure they are long-lasting and repairable.

These are all sound and simple operating principles which take little effort to adhere to, and yet can have a huge impact at a local and regional level.

POLLUTION[21]

Air Quality

Clean air is a natural resource that too many have to live without. Changes in the air quality and climate are important indicators of environmental health. The cleanest air ever recorded was sampled in the Pallas-Yllas Natural Park, on Sammaltunturi, at the Pallastunturi end of our national park in our closest air quality monitoring station [22]. Air quality is measured and tracked at 90 different locations in Finland and can be viewed in real time through the Finnish Meteorological Institute's online service.

This purity of environment combined with environmental factors like the midnight sun, brilliant fall colours, northern lights and sparkling spring snow is what attracts tourists to Lapland from every corner of the earth. Winters are especially popular, despite the fact that temperatures can dip down to -40 degrees. The summers are more moderate: temperatures up to +20 are not uncommon.

Overall, Finland ranks's third in the world in terms of air quality according to a *WHO study* which compared measurements from 3,000 locations in 100 countries between the years 2008 and 2014.

Soil Quality

18 Green Activities 1.2 (I)
19 Green Activities 4.13 states that discarded materials and supplies should be re-used or collected and donated to charitable organisations. There aren't really such organisations where we are based but we definitely pass on everything that we can to make sure that things are not put to waste. For instance, if we are gifted elk legs to the dogs from hunters, we then gift forward the hooves to jewellry makers. When we have old children's kit and clothing which we keep on hand as potentially rentable items, we gift them out for free use within the community when not requested for rent (kayaks, children's snowmobiles etc).
20 At the same time, Finland aims to also be a pioneer in bioeconomy and cleantech. Developing, implementing and exporting sustainable solutions has helped improve our current account, increase our self-sufficiency, create jobs, protect our climate and ensure the health of the Baltic Sea.
21 Green Activities 1.2 (I)
22 Tips for sustainability communications: A travel industry manual for better marketing and communication' Produced by Visit Finland)

We monitor the erosion in our farm training paths and have made some walk-ways across the marshes and add compost to the tracks annually[23].

Noise

Unfortunately, with 100+ dogs, it is hard to prevent some non-natural noise[24]. We limit its impact on the local population by having an immediate response policy if we hear (from the noise of the dogs) that there are any issues like escapes on the farm (so as to reduce the noise as quickly as possible). We also ensure that no-one visits the dogs after hours unless in the case of an issue like the one above since that way the dogs are normally calm and quiet in the evening hours. (I have no idea if this significantly exceeds the usual background noise level (60 dBA) in the area, or not.)

We have a new back-up generator which we are in the process of taking into access, in an insulated building to contain noise pollution. Our large freezer container is louder than we would like but only impacts on us.

Harmful Substances

We ensure that the release of solvents and hydrocarbon in the air is minimal[25]. As far as possible, we use cleaning products that are either natural or eco-certified[26]. We clean floors manually (sweeping and scrubbing) as opposed to with a mop since we have found this to be more effective and to need less chemical cleaning products and we use bee-friendly cleaning cloths / microfibre cloths for surface cleaning.

We use mosquito magnets which send CO2 out, in the summers, to attract mosquitos and thereby protect the dogs and the guides in localized areas, rather than using any machines that put out pest repellents with harmful chemicals. We do use an antifly spray treatment periodically on the dogs and the kennels that are having a hard time with the flies (black dogs, pups etc) – usually about 5 % - if the spot-on treatments (Bayvantic) that we apply to c.10% of them are not sufficient. We have tried a whole range of natural eco-friendly mosquito attractants and repellants for both humans and dogs but haven't yet found one that works well enough for where we are to enable the guides and dogs to function outdoors[27].

We use grit rather than de-icing salt for safe passage in key walking areas in winter, thereby reducing harm to soil, water, vegetation and the dogs / wildlife.

When we buy new sun lotions, body lotions, washing gels, dishwashing liquids etc, we buy eco-friendly / biodegradable ones to avoid contamination to spring and surface water.

ENERGY USE

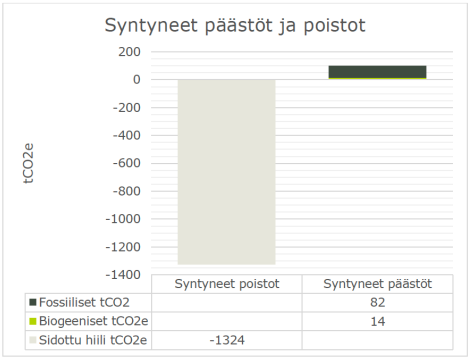
Finland is among the top EU nations in renewable energy. Around 35% of Finland's electricity is produced with renewable energy sources. Our national renewable energy strategy also includes timber and recycled biofuels. Finland aims to have renewable sources make up 50% of our consumption and have 55% of our energy produced domestically by 2030[28].

Finland is committed to the Paris climate agreement and the EU's emissions goals, and discussions are ongoing about the best alternative methods of energy production for these goals. On one hand, bioenergy promises to solve some of the problems, but the preservation of carbon sinks and sequestration of carbon dioxide with longterm solutions are key for the big picture. In addition to bioenergy, other available alternative energy options include solar, thermal and wind energy. The Paris climate agreement places

23 ECOT D.2. 4.3 Other Pollutants: Soil and Air pollution
24 ECOT D.2. 4 Other Pollutants
25 ECOT D.2. 3 Harmful Substances
26 ECOT D.2. With some products used to clean behind the dogs in for instance the dog kitchen or medical area, this is not possible, but we try to use them effectively.
27 Green Activities 1.2 (I)
28 Tips for sustainability communications: A travel industry manual for better marketing and communication' Produced by Visit Finland)

emphasis on truly lowcarbon solutions and proper net efficiency: many alternative energy sources require energy input, which can come from fossil fuel sources.´

Improving our energy consumption patterns and reducing our travel by car and air are by far, the two ways in which we can most easily minimize our carbon footprint and make the biggest positive change towards environmental sustainability[29].



Kuva 3 Cape Laplandin / Hetta Huskiesin koiravaljakkosafaritoiminnassa syntyvät päästöt ja poistumat vuositasolla.

Although we are verified as being carbon neutral as a business[30], we will do more work on this in the coming years since, if we are to reduce our carbon footprint by at least 5% per year, we have to have more accurate baseline information than was provided by the Tobe Carbon project we were part of[31].

In the meantime, we have installed an air heat pump in the farmhouse to supplement our combination of heating by open fire, under-floor heating etc. The headtorches which we buy for guides / encourage them to buy all have rechargeable batteries – although we also use some older headlamps which we have had for a long time as backup client head torches for December.

All energy used on the farm is currently from electricity (from Energiapolar) or wood. 30% of the power supplied by Energiapolar comes from renewables, drawn largely from hydroelectric sources, and 28% from nuclear. They have a sustainability policy on their website: energiapolar.fi

Sustainable Energy Management Plan

Finland has decades of experience in developing solutions that save natural resources, since our cold climate, long distances and lack of fossil fuel sources have taught us to be frugal with both energy and finances. And when cutting-edge technology, efficient use of natural resources and strong environmental know-how are combined, the result is world-class competence[32].

It is obvious that in the far north, heating and cooling large properties often causes the greatest challenges to energy efficiency and reducing carbon footprints. However, heating has to be considered alongside lighting, laundry, water efficiency and cooling, travel and transport logistics etc. It isn't always economically possible to invest in environmentally sustainable solutions and technologies that could increase energy efficiency and lower expenses but for those that have, Finland leads the Nordics in utilising international environmental standards for buildings. According to Green Building Council Finland, there were already more than 120 buildings with LEED and BREEAM certification in Finland in November 2015.

29 ECOT D.2. 3 Harmful Substances and GreenKey 1.6 ®
30 GreenKey 1.10
31 GreenKey 1.7, 1.8 and 1.9 ®
32 Finland placed second on the Global Cleantech Innovation Index in 2017. The Global Cleantech Innovation Index emphasises energy efficiency and the transportation sector. Points were also awarded for prospects in renewable energy as well as networking and financing opportunities for businesses.

As part of our sustainable energy management plan, we use energy timers for heating and lights that are not needed 24/7 (for instance for pre-heating cars, turning on and off our drying shed's heater at the farm, pre-warming some of our wilderness cabins prior to client arrival, etc) and optimise their use linked to environmental temperature. We use energy-efficient light bulbs and keep the house cool by using open windows and blinds in summer, so as to minimize the need for the use of our air conditioning unit (used only with the windows closed). To this end, Anna actually works outdoors on the terrace for much of the summer. However, whenever we have sick dogs indoors we obviously have a need to have the air conditioning unit on and sometimes, also, oxygen machines. The welfare of the animals comes first, so we will do what we need to do to allow healing to take place as quickly and efficiently as possible.

We have a 1-year plan to change to green electricity and a 5-year plan to install sufficient solar panels to help to meet the energy needs of the farmhouse – and possibly some of the wilderness cabins[33]. We already use small solar panels and rechargeable battery packs on some of our wilderness journeys for powering safety and communication equipment. This will greatly reduce our use of non-renewable[34] vs renewable[35] energy sources.

Whilst we would love to use geothermal energy for all new buildings, both from an environmental perspective and to reduce the fluctuations associated with the oil and electricity market, we are probably not a big enough business to really consider this form an economically viable standpoint. Harriniva, by comparison, worked with Adven, a Finnish energy solutions provider specialised in providing environmentally friendly heating for large properties, and drilled 14km of geothermal wells into the surrounding ground when they moved from oil consumption (200,000 litres annually) to geothermal.

Lighting

We only use lights on the farm in winter at key times (feeding the dogs, dog checks, entertaining clients, preparing teams etc)[36]. At these times, such lights are indispensable in terms of orientation, safety, guidance and security. Pathways to less frequently used areas (for instance our red house guest cabin) are fitted with lights that turn on by movement sensing, as is the light about our souvenir shop. We swapped out all of our original farm pathway and area lighting to LED lighting during the summer of 2019. None of our farm our startline lighting points above the horizon.

Once out on safari we often encourage clients to travel without headtorch to experience the light which comes from the moon and stars and reflection off the snowy landscapes. Some clients (normally those who are less comfortable in a wilderness setting), ask why we don't also illuminate our short safari paths but obviously it is good to avoid fixing external lighting as much as possible. Most of our wilderness cabins have no lights or electricity so we are surrounded, in these places, by truly dark skies.

On the flip side, the majority of our buildings have sufficient natural light to provide all of the necessary illumination to all living areas during summer daylight hours. The main exception to this is our converted barn which functions as a dog medical centre, dog kitchen, food pantry, client kitchen, garage and ski store. However, none of these rooms are in constant use. Fluroescent lighting is used where possible.

Heating

We use fires both in the house and in the farm buildings to reduce energy consumption. The wood is primarily taken from our own lands in Spring and Summer from trees which need to be cut anyway, to keep the forest at a healthy density (we monitor the sustainability of use from our lands carefully since trees grow slowly in the arctic). Wood needs for building that we cannot meet from our own lands, are purchased from local sawmills.

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33 ECOT D.1.3 Energy Consumption
34 Fossil fuels, coal, natural gas, crude oil, uranium
35 Hydropower, wind power, solar power, energy from biomass, geothermal
36 ECOT D.2. 4 Other Pollutants

It is obviously important to use well-insulated and efficient building materials during construction and renovation (insulation of exterior walls and the roof / attic floor) and to choose durable over cheaper materials whenever building, in an attempt to consume fewer resources over time.

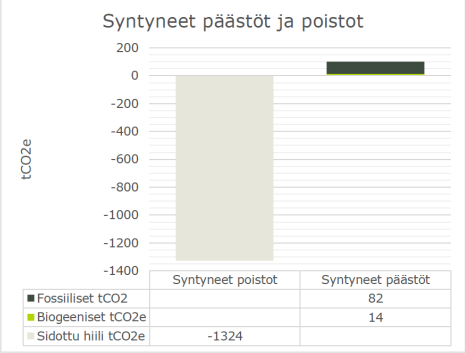
When we plan to purchase new windows, we will consider heat insulation glazing and we try to reduce wind catches at main entrances. On a similar note, we build all of our dog cages as elements that can be reassembled in new locations or used in different ways, should we have to ever move the cages in the future.

On a day-by-day level, we operate in accordance with Enontekiö municipality's environmental protection regulations with respect to buildings, waste disposal, where dogs are kept overnight on long safaris, etc. More importantly, we drive best practices in our business activities and habits and see these as simple steps in the right direction. As part of this, we use well insulated building materials during construction and renovation and generally choose durable over cheaper materials whenever building, in an attempt to consume fewer resources over time. Local builders who can communicate with our staff are brought in to help lead more complicated building projects so that our staff can improve their wood-based building skills in the process[37].

In our main building, we use a mixture of log-fire heating, under-floor heating and traditional electricity-based heating and an air heat pump which captures and stores heat and then blows it back out to keep the house at as stable as possible a temperature in winter. We have planned rain-water collection systems and have trialled using them for basic cleaning purposes.

We have talked about greening some suitable flatter and pitched roofs but haven't had the time to look into its viability. We have also talked about looking more at a combined heat and power unit for electricity and heating needs and a heat recovery system for refrigeration systems, but such things are for the future.

We also use thinned wood for temporary track markings although we deliberately leave a large amount of our 65 hectares of forest area untouched as a carbon sync. We have commitments against some plots of land that it will not be managed in the foreseeable future. So, too, is an energy survey carried out by an energy engineer or other expert or a full EMAS (Environmental Management and Audit System) – although we had an assessment made of our work in the early years of our operation by Forum for the Future and used that as a benchmark for future planning[38].



Kuva 3 Cape Laplandin / Hetta Huskiesin koiravaljakkosafaritoiminnassa syntyvät päästöt ja poistumat vuositasolla.

Reducing Vehicle Use

As part of our attempt to conserve energy where possible, we have been campaigning for the local footpath from the town to be extended past our farm to the last main road of habitation in the village since this will increase the number of clients who come to us by non-motorised means as well as increasing safety for our staff and village children who currently have to cycle to and from work / school and friends' houses along a

37 ECOT A6.3 Sustainable Construction
38 ECOT D.1.3 Energy Consumption

road which is frequently used by large transport trucks travelling at 100kmph. In summer, for instance, we try to have our child bike to school rather than taking him by car, unless we need to purchase something from the local shop at the same time.

We keep information about public transfer services (bus, train etc) to our area as up to date as possible on our website so as to encourage the use of public transport and discourage private car transfers. Whenever we have groups arriving at non-standard bus times, we endeavour to provide access to shared taxis to again reduce the environmental impact. We consider the timings at which people can arrive to us by public transport in the development of our products (for instance, in terms of recommended check-in and check-out times, course starting times etc) [39].

In the winter, we understand that buses need, to an extent, to keep engines running in super cold temperatures but we often have to remind the drivers to simply switch off their engines as we give briefings. This is a campaign we started c.10 years back but we have pushed it again in the last year[40].

These kinds of simple steps keep money and goods circulating within the local community and economy and reduce emissions created by the transport of goods over long distances. When back in the UK, we support forums like freecycle and wrap.org.uk and we are part of a local facebook goods-sharing / selling scheme in our own area.

We could also do more in terms of informing staff and guests about all of the small steps we take towards being energy efficient but staff, at least, are expected to follow defined codes of conduct / processes in their everyday actions (switching lights off behind them, not using equipment in stand-by modes but rather switching machines off in-between use, etc) – all of which contribute towards the goal of reducing energy consumption.

In summer, for instance, bicycles (many of which have been restored to use from the local tip) are offered to guides for transport to and from work and in the winter, staff can issue themselves BC or XC skis for the same reason[41]. We also supply one guide car which does one loop each day between the guidehouse and farm since this is needed to ensure the to and from transfer of the dogs that need to stay inside for the night.

This also increases the physical wellbeing of the staff – by encouraging an active, mobile lifestyle, and thereby reduces sick leave. Similarly, we encourage post- and during-work activities like kayaking, bikjoring, fatmaxing etc every week in the off-season and skiing in the main season[42].

For our individual clients – the majority of whom stay locally – we offer shared shuttles from town pre-safari so that we can reduce the number of individual journeys taken between the farm and our base43. We have the capacity to charge electric cars[44] and we provide a hand drawn map to facilitate client access to other local landmarks and activities so that they can do as much as possible in a local area without needing to travel a long way for similar activities. Public transport timetables and possible route guides are easily accessible to customers on our website although there is a plan to revamp their presentation in 2022-2023.

Water Consumption

Finland has the richest water resources on Earth. There are 187,888 lakes, 336,000 km of shoreline, 178,947 islands, 32,383 springs and 647 rivers in Finland. 10% of Finland's land area is covered with fresh water[45]. Finland also has the world's cleanest water and yet we invest a lot in making sure that we protect this water purity. Indeed, we are a pioneer in water technology and engineering and in future years, this knowledge will likely be in high demand globally given that by 2050, the world's population will require approximately 70% more food and 50% more water than in 2010. At the moment, around 60% of all of our drinking water is

39 Green Key 5.26 and 5.19 (I)
40 Green Key 3.8
41 Green Key 2.6 (I)
42 Green Key 2.7 (I)
43 Green Key 3.5 (I)
44 GreenKey 5.28
45 Tips for sustainability communications: A travel industry manual for better marketing and communication' Produced by Visit Finland)

sourced from ground water and the rest from surface waters, i.e. lakes and rivers. Up to 80% of all lake water and 40% of our river water is classified as good or excellent in quality - in other words, we are blessed by having an abundance of high-quality natural water[46].

Although we joined our farmhouse to the Municipality's water and waste system a number of years ago[47], the dog kitchen operates from our original groundwater well. We know the approximate volume of water used each day since we have minimum drinking targets for each of the dogs. If we get this wrong by 10-20 litres per day, this water is then added to the blue barrels or used for watering plants (this is always done at the end of the day, after feeding, to reduce water loss through evaporation). In general, guides are expected to be frugal with water use and to not waste it by letting taps run unnecessarily.

We go as far as possible to reduce water consumption for non-vital tasks like cleaning by implementing systems by which we, for instance, wash food buckets into each other rather than individually (and in the process, also reduce the amount of fat going into the system) and having water-efficient dual-flush toilets with no more than 6 litres per flush and water efficient taps and sensor mixer taps, water efficient dishwashing machines etc[48]. We explain the concept of the dual-flush toilets to staff and clients since this is new technology to some, we inspect pipes and joints regularly for leaks and do a lot of dog-related laundry by hand to ensure the longevity of the machines[49]. We use water from drying machines to wet drains or clean baths rather than simply pouring it down the toilets and we don't flush inside the farmhouse in the night according to the YnB principle[50].

We re-use the water canisters filled in the mornings, in the evening feeds in summer. (We cannot do this in winter, since the water needs to be hot when it goes to the farm or it will freeze too quickly.) Any additional water remaining is then added to the water collection systems around the farm, to be used for composting or cleaning, rather than simply being thrown out. (It is not re-used day on day for health reasons).

We have a series of blue barrels positioned around the farm close to eg our compost boxes and our floored cages so that it can be used for activating compost, cleaning the floors etc (a job which is deliberately done, in summer, on rainy days for that same reason).

We do not yet measure and monitor our overall consumption of water across each of our buildings or install timers in watering systems but we reduce, as far as possible, the amount of groundwater used by re-using treated waste water, collecting rainwater etc. We aim to develop a better guttering and linked rain-water collection system within the next 5 years. We do not have our own water treatment system (biological clarification plant with subsequent sedimentation pond or irrigation system).

Dog food is very fatty – so we have to be super careful about putting fat down the drains or it will clog them up and impact the wastewater disposal system. We use fat separators to filter any water used for cleaning the buckets or floors which inadvertently goes down the drains. (which are, anyway, primarily cleaned from one to the next and the final bucket emptied onto the compost).

We have a wilderness toilet on the farm and in our holiday cabins which we empty as needed. Sewage sludge and residue from safaris is always disposed of through the local sewage plant[51]. On multi-day safaris all dog poop waste from overnight stops at cabins gets carried out and sorted back at the farm.

CARBON OFFSETTING

Climate change is our greatest global challenge – now and tomorrow. It's deceleration is one of the goals of environmentally sustainable tourism. At the current rate, our global average temperatures are expected to rise by up to 5C during the 21st century although the UN's goal is to stop global warming at two degrees Celsius compared to the pre-industrial age. Initially it was thought that a 40% cut in greenhouse emissions

46 Tips for sustainability communications: A travel industry manual for better marketing and communication' Produced by Visit Finland)
47 ECOT D.2. 1 Wastewater
48 Maybe the new taps, which do not exceed more than 8 litres per minute, are one reason why filling of the dog canisters is so inefficient?
49 ECOT D.1.4 Water Consumption
50 'If it is yellow, let it mellow…if it is brown, wash it down
51 ECOT D.2. 2 Solid Waste Disposal

(compared to the 1990s) by the year 2030 would be sufficient to achieve this. Now, the international agreement on climate action aims to reduce greenhouse gas emissions by 50% in time for 2030 and them to get rid of fossil fuels altogether. However, given that the world's population is 7.6 billion at the moment and the UN predicts the number to reach 9.8 billion by 2050, all nations have to reduce their emissions more than they have so far agreed to, if we hope to reach the goals set in the Paris climate agreement.

All is not doom and gloom, however. Some scenarios still picture a carbon neutral society being a reality as soon as in the 2050s and Prime Minister Sanna Marin's Government has set the objective that Finland will be carbon-neutral by 2035 and carbon-negative soon after that.

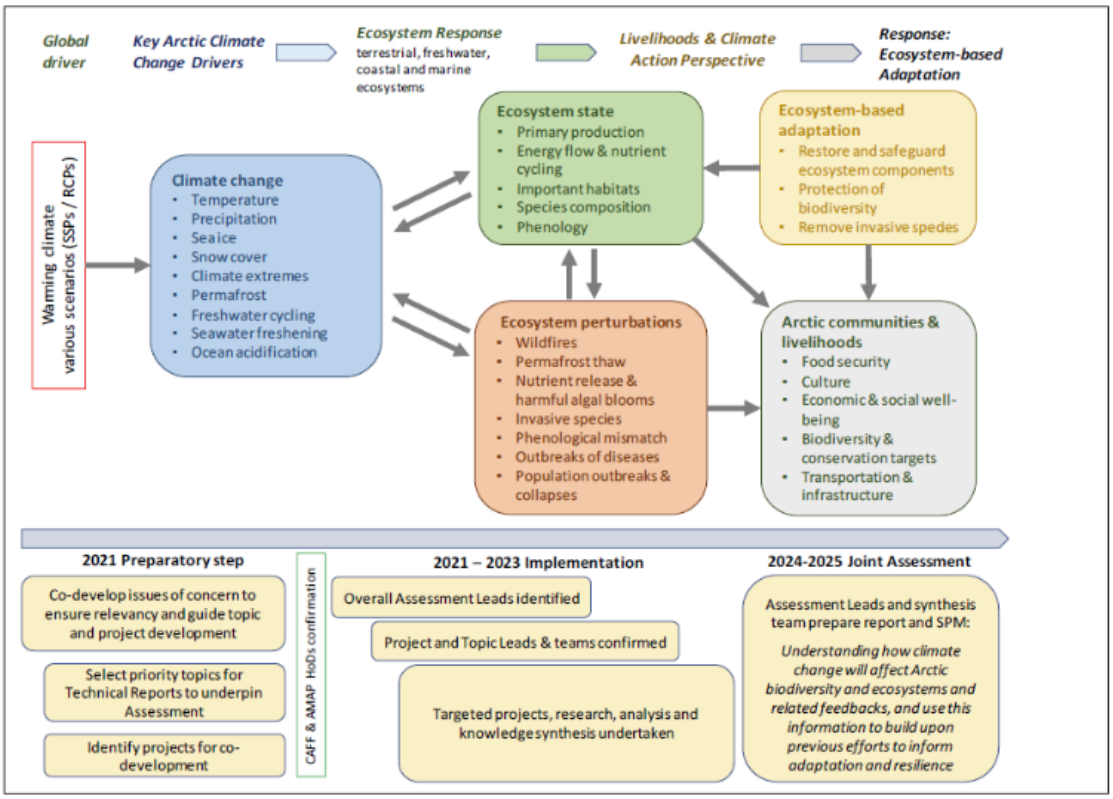
This is particularly pertinent to Finland given that the change in average temperatures is most prominent above the Arctic Circle, and could be up to eight degrees Celsius by the end of the century. The Arctic ecosystem is said to have reached a "new normal", which means rising sea levels, changes in weather patterns and more extreme weather events. Scientists agree that climate change has become a clearer cause or catalyst behind certain types of natural disasters. As glaciers melt, they affect sea levels and temperatures around the world – possibly even changing ocean currents. Natural disasters, such as hurricanes, heat waves, floods, wildfires and monsoon rains, also affect an estimated 40 million people each year.

Climate change is also directly altering Arctic ecosystems and biodiversity. These ecosystem changes feed back to the climate system, with a potential to dampen or accelerate local to regional changes in climate and greenhouse gas emissions. The resulting impacts on ecosystem services, livelihoods and well-being are accelerating and will have far-reaching consequences for Arctic communities.

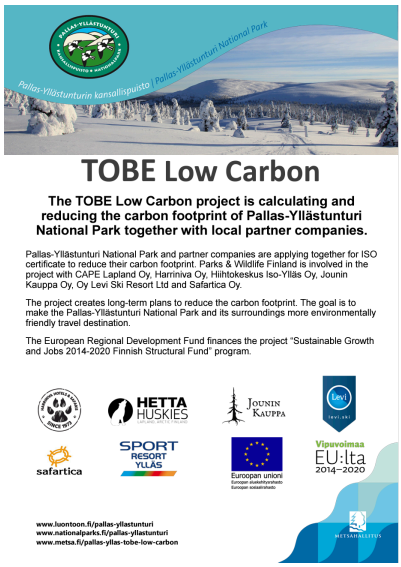
CAFF – a working group of the Arctic Council targeting the conservation of Arctic Flora and Fauna - and AMAP – another working group of the Arctic Council, focusing on arctic monitoring and assessment, together monitor the ways in which climate change is altering Arctic ecosystems and biodiversity and inform strategies for adaptation and resiliency[52].

A Scoping Paper defining the framework for a climate change initiative was completed in 2020 and the project accepted at the 2021 Arctic Council Ministerial as part of the CAFF and AMAP workplans for the 2021-2023 Chairmanship period. The following figure illustrates the organizational framework within which the scoping process was undertaken[53].

52 Unfortunately, since Russia is currently the Arctic Council Chair, its activities have been temporarily suspended given Russia's violation of the principles of sovereignty and territorial integrity, based on international law, which have long underpinned the work of the Arctic Council. In the interim, the Council and its subsidiary bodies are giving urgent consideration of the necessary modalities that can allow us to continue the Council's important work.
53 From https://caff.is/climate-change



We have been suggesting that clients offset their carbon footprint in the correspondence that they are sent, post booking, pre tour, already for c. 5 years[54]. However, we have not yet fully identified the cost of one night's stay and linked activities. We were hoping that we would learn more about this through the TOBE project we participated in, but it didn't really happen so we will have to research this more in the future.



To some of our travellers, values-based decision making is increasing in importance against purely economic decision making[55]. Others. may not yet be interested in the carbon footprint of their journey but regardless of the questions asked, we are free to communicate and educate[56].

We believe that our clients appreciate suggestions as to how to reduce their environmental impact but of course there are many options..donating to organisations that plant trees, taking part in reforestation, using forests for alternative commercial purposes, etc).

We hoped to be able to provide up to date advice on what we considered to be the best options available at preset, having joined the ***TOBE Low Carbon Project***. This was designed to calculate and reduce the carbon footprint of Pallas Yllästunturi National Park together with local partner companies who would together apply for ISO certification to reduce their carbon footprint. Parks & Wildlife Finland were involved in the

54 Green Activities 1.11® and 1.2 (I)
55 'Modern tourism should be sustainable, both environmentally and socially responsible and equally beneficial for the traveller and the destination", travel researcher Auliana Poon. She states that A business cannot claim to sustainable until all the factors of sustainability (economic, environmental and socio-cultural sustainability) are truly taken into account in practice. Social responsibility also includes safety and ethical practices. Travel is an industry that has the potential to help protect endangered animals, cultures and nature.
56 Green Activities 1.11 (I)

project alongside CAPE Lapland Oy, Harriniva Oy, Hiihtokeskus Iso Kauppa Oy, Oy Levi Ski Resort Ltd and Safartica Oy.

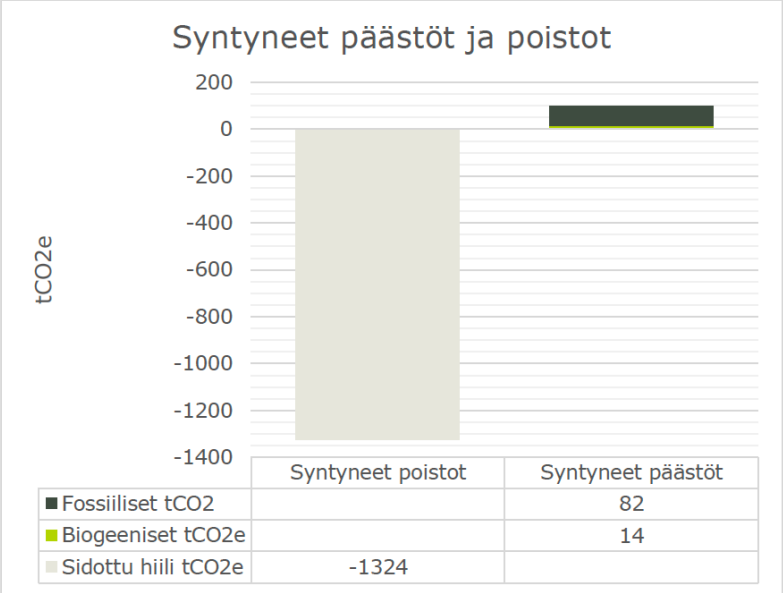
The project was designed to create long-term plans to reduce the carbon footprint with the goal of making the PallasYllästunturi National Park and its surroundings a more environmentally friendly travel destination. The European Regional Development Fund committed some matched financing towards the project through Jobs 2014-2020 Finnish Structural Fund.

Unfortunately, most of the communication and outcomes of the project were in Finnish so the project wasn't as useful as we had hoped but we will relook at the data and findings and try to do something with them in the near future. There were some over simplistic diagrams presented in the findings – but nothing that I had hoped to actually be able to use.

One action plan for the following year would be to translate the report to English and then to identify concrete steps that we should take as a business – including the carbon footprint measurement tool we intend to use moving forwards in order to reduce our carbon footprint in the next 12 months.

Green Key expects each business to reduce its carbon footprint / carbon emissions by 5% per year by a combination of reduction in energy consumption, increasing efficiency measures and/or installing onsite renewable energy systems. It also expects that greenhouse gas emissions are offset by an offsetting project with international certification (eg verified carbon standard, gold standard or plan vivo). For this to be possible, all direct and indirect emissions need to be identified and documented.

At present, our establishment is verified as being carbon neutral[57].



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57 Green Activities 1.10 (G)