Annex C. Assumptions of Low-Carbon Options

C.1. Assumption for Low-Carbon Lifestyle Options based on Current LCF

Table C.1. Assumptions for full implementation of low-carbon lifestyle options, classification by approach, and reduction potential at individual and population level. Reduction potential based on the current lifestyle carbon footprint estimates.

Domain	Option	Key Assumption & Sources	Approach	Reduction impact (rounded values)	
			A=Avoid S=Shift I=Improve	$kgCO_2e$/capita/year	Million tCO_2e/whole population/year
Personal transportation	Avoiding international flights	All international flights are eliminated.	A	1130	6.1
Personal transportation	Replacing all international flights with train	All international flights will be substituted by train trip to Europe instead. Train trip from Oslo to Florence was used as a reference route. Average distances and intensities for different parts of the train trip are based on direct emissions given by the train companies. Emission related to infrastructure (rail tracks, trains and maintenance) was added to the direct emissions for each route (Wernet et al. 2016). Calculation for Olso-Florence trip is based on the following routes: Oslo Central Station - Gothenborg / SJ X2000 (operator) Gotherborg-Copenhagen / SJ X2000 Copenhagen - Hamburg Hbf / EC, DB Fernverkehr AG Hamburg Hbf - Munich Hbf / ICE, DB Fernverkehr AG Munich Hbf-Bologna / Nightjet, Austrian Railways’ (ÖBB) Bologna - Florence / Nightjet, Austrian Railways’ (ÖBB)	S	1100	6.0
Personal transportation	One international return flight per five years	All international flights are limited to no more than once in five years. Assuming that current transport demand does not increase but is distributed evenly to all. Thus, those who fly a lot will have to reduce more, and those who currently don't fly at all will be allowed to one international flight every three/five years. Current average, per capita transportation demand corresponds to the average distance of international return flight.	A	900	4.9

		On an annual scale the distance would be ⅕ of the current distance, from 3040 km to 610 km. 610 km corresponds approximately to a return flight Oslo-Stockholm-Oslo.			
Personal transportation	One international return flight per three years	All international flights are limited to no more than once in three years. Assuming that current transport demand does not increase but is distributed evenly to all. Thus, those who fly a lot will have to reduce more, and those who currently don't fly at all will be allowed to one international flight every three/five years. Current average, per capita transportation demand corresponds to the average distance of international return flight. On an annual scale the distance would be ⅓ of the current distance, from 3040 km to 1010 km. 1010 km corresponds approximately to a return flight Oslo-Berlin-Oslo.	A	750	4.1
Personal transportation	Electric cars (90% by 2035)	By 2035, 90% of the car kilometers driven by passenger cars will be done by electric cars. The starting point for the projection used in this analysis is the projection published in the National Budget for 2023 (NB23). The projections are prepared by the Ministry of Finance in collaboration with relevant ministries and agencies, and are based on forecasts for, among other things, developments in business, population and the economy, as well as a continuation of the current adopted climate measures. (Regjeringen 2022, 2023)	I	560	3.0
Personal transportation	Car-free private traveling with public, cycle and walking	All private car trips for non-commuting and non-leisure (health care, shopping and services and visiting) will be substituted by bus (29%), train (34%), walking (26%) and cycling (11%) among people living in urban areas. Share of non-commuting and non-leisure related car trips is assumed to be 46% of the total car kilometers (Grue et al. 2021). Share of urban resident is assumed to be 83% (Statistics Norway 2023o)	S	440	2.4
Personal transportation	Live closer to workplace	All private car, bus, train and tram/metro trips for commuting to workplace and school among urban residents will be one-fifth of the current distance and be substituted by 50% bicycle and 50% walking. Share of commuting related car trips 26% (Grue et al. 2021). Share of urban resident is 83% (Statistics Norway 2023o).	A	280	1.5
Personal transportation	Replacing weekend trip flights	Weekend trip by flying will be 20% of the original distance and will be substituted by bus and train (75%) and by car (25% for traveling to holiday houses). Oslo-London flight as an average reference route. Average Norwegian makes 0.3 trips to London per year (Avinor 2020).	A, S	260	1.4

Personal transportation	Smaller private cars	Private cars become smaller, thus reducing 50% of the production related emissions. The full reduction potential of this option could be realised for example by prolonging the lifespan of existing and new cars, by reducing the production related emissions from new cars through production improvement and making the cars smaller, and/or by an overall decrease in new production of cars. The calculations do not consider the effect of resource extraction if current car-pool is replaced towards 2035. The option is used in the scenario in combination with an overall reduction in car-travel and in car fleet.	I	240	1.3
Personal transportation	Car-free commuting with public transportation	All private car trips for commuting to workplace and schools will be substituted by public transportation (33% bus, 33% train, 33% tram/metro). Only urban population included. Share of commuting related car trips is 26% of total car kilometers (Grue et al. 2021). Share of urban resident is 83% (Statistics Norway 2023o)	S	240	1.3
Personal transportation	Biofuels in road traffic (33% by 2030)	The share of biofuels in road traffic will be increased to 33% in 2030 (Klima- og miljødepartementet 2023). Improved fuel intensity for all combustion engines for buses, private cars and motorcycles. Current share for biofuels for diesel is assumed to be 13,9% (Regjeringen 2023). The effect of emissions reduction by replacing one liter fossil fuels with biofuels is assumed to be approximately 70%.	I	210	1.2
Personal transportation	Alternative fuels for aviation (20% SAF by 2035)	Following the RefuelEU aviation initiative, the share of alternative fuels (SAF) will be 20% by 2035 in all flights and 5% of fuel must be synthetic fuels. The obligation for aviation fuel suppliers to ensure that all fuel made available to aircraft operators at EU airports contains a minimum share of SAF from 2025and, from 2030, a minimum share of synthetic fuels, with both shares increasing progressively until 2050. Fuel suppliers will have to incorporate 2% SAF in 2025, 6% in 2030 and 70% in 2050. From 2030, 1,2% of fuels must also be synthetic fuels, rising to 35% in 2050 (Council of the EU 2023) Reduction potential of SAF based on LCA study and the reduction potential is calculated by comparing SAF emissions to conventional kerosene (IATA 2023). The reduction potential is calculated for the year 2030 and onwards, assuming the transportation demand for aviation remains constant.	I	210	1.1
Personal transportation	Ride sharing (2 persons per car)	All private and taxi car occupancy rates will become 2 persons per car. Current occupancy rate 1.7 person/car (Statistics Norway 2019).	A	190	1.0
Personal transportation	Avoiding domestic flights	All domestic flights will be eliminated.	A	190	1.0

Personal transportation	Replacing all domestic flights with train and bus	All domestic flights will be substituted by train (50%) and by bus (50%)	S	180	1.0
Personal transportation	Replacing short, urban, leisure-trips by car with public transportation	Half of the short, leisure-related trips by car in urban areas are replaced with public transportation (bus and train/metro: 50-50). Share of short leisure trips is 71% of all leisure trips (Grue et al. 2021). Share of urban residents is 83% (Statistics Norway 2023o).	S	180	1.0
Personal transportation	Electric cars (38% by 2030)	By 2030, 37.5 % of the current vehicle fleet will be electric vehicles (Government projection) (Fridstrøm 2019). The reduction impact is for the year 2030. Immediate impact (by following linear increase in e-car fleet towards 2030) is around 10kgCO_2e/person. Following the projection: 37.5 % of the car fleet is e-vehicles by 2030. Car fleet will remain constant but the share of fuel types will change.	I	130	0.7
Personal transportation	Car-free commuting with bicycle, e-micromobility and pedestrian (<5km)	All max 5km private car trips commuting to the workplace and schools will be substituted by bicycle/e-micromobility or pedestrian. Share of commuting related car trips and the share of trips under 5 km is assumed to be 36% (Grue et al. 2021).	S	110	0.6
Personal transportation	Replacing long leisure trips by car with staycation	All private car trips over 100 km for leisure will be 20% of original distance and substituted by bus (29%), train (34%), walking (26%) and cycling (11%). Replacing private car-traveling for leisure with bus, train, walking and cycling in the same proportion as they are used currently. Share of long leisure related car trips is assumed to be 29% (Grue et al. 2021).	A	100	0.5
Personal transportation	Electrification, biogas and hydrogen in domestic ferries	Emissions related to domestic ferries and international cruise ships are estimated to reduce by 75%.	I	60	0.4

Personal transportation	Electrification, biogas and hydrogen in international ferries	Emissions related to domestic ferries and international cruise ships are estimated to reduce by 75%.	I	60	0.3
Personal transportation	Telework	All private car, bus & train trips for commuting to work are eliminated among white collar workers, which constitute 24 % of the workforce. The share of commuting (to work) related car trips is 25% and bus & train trips is 42% for both (Grue et al. 2021). Share of white collar workers is assumed to be 30% (Miljødirektoratet 2023). About 30 % of jobs in Norway are office-based, and of these we assume that 80 % have the option of a home office.	A	50	0.3
Personal transportation	Electrification, biogas and hydrogen in leisure boats	Emissions related to domestic ferries and international cruise ships are estimated to reduce by 75%.	I	30	0.2
Personal transportation	Electrification of busses, railway and motorcycles	All combustion engine buses, trains and motorcycles will be electrified.	I	20	0.1
Personal transportation	Electric short-haul domestic aviation	All airplanes operating FoT (short-haul) routes run with electricity instead of conventional kerosine. FoT flights account for 4% of domestic flights (Buus Kristensen and Thune-Larsen 2022). Short domestic flights account for 4% of domestic flights The average intensity for electric short-haul aviation is based on performance analysis of regional electric aircraft (Mukhopadhaya and Grave 2022).	I	<10	<0.1
Nutrition	Plant-based diet	Current average diet is replaced by 100% implementation of a nutritionally balanced plant-based diet. EAT-Lancet report establishes a nutritionally balanced plant-based diet (Willet et al. 2019). A caloric intake of 2250 kcal/d is based on the recommendation of Nordic Nutritional Guidelines 2023 (Blomhoff et al. 2023). EAT-Lancet diet considers only food intake and not beverage consumption. Beverage consumption is assumed to remain consistent with the average current Norwegian diet.	S	1,200	6.5
Nutrition	Vegetarian diet	Current average diet is replaced by 100% implementation of a vegetarian diet, which includes egg and dairy products. EAT-Lancet report establishes a nutritionally balanced vegetarian diet which includes small amounts of dairy and eggs (Willet et al. 2019). A caloric intake of 2250 kcal/d is based on the recommendation of Nordic	S	1,060	5.7

<table>
<tr><td></td><td></td><td>Nutritional Guidelines 2023 (Blomhoff et al. 2023). EAT-Lancet diet considers only food intake and not beverage consumption. Beverage consumption is assumed to remain consistent with the average current Norwegian diet.</td><td></td><td></td><td></td></tr>
<tr><td>Nutrition</td><td>Planetary Diet</td><td>Current average diet is replaced by 100% implementation of the planetary diet, including small amounts of animal-based products such as meat, fish, dairy and eggs.

EAT-Lancet report includes a reference diet which we used to model a planetary diet. This diet is nutritionally balanced and environmentally sustainable (Willet et al. 2019). The diet includes small amounts of animal-based products such as meat, fish, dairy and eggs. A caloric intake of 2250 kcal/d is based on the recommendation of Nordic Nutritional Guidelines 2023 (Blomhoff et al. 2023). EAT-Lancet diet considers only food intake and not beverage consumption. Beverage consumption is assumed to stay the same as in the average current Norwegian diet. Reduction potential assumes 100% implementation of the planetary diet.</td><td>S</td><td>910</td><td>4.9</td></tr>
<tr><td>Nutrition</td><td>Nordic Nutrition Recommendations</td><td><table>
<tr><th>Food Category</th><th>kg/person/year</th></tr>
<tr><td>Cereal</td><td>46</td></tr>
<tr><td>Vegetables, fruit, berries</td><td>292</td></tr>
<tr><td>Potato</td><td>39</td></tr>
<tr><td>Fruit juice</td><td>6</td></tr>
<tr><td>Pulses/legumes</td><td>33</td></tr>
<tr><td>Nuts/seeds</td><td>9</td></tr>
<tr><td>Fish and seafood</td><td>20</td></tr>
<tr><td>Red meat</td><td>18</td></tr>
<tr><td>White meat</td><td>17</td></tr>
<tr><td>Milk and dairy products</td><td>128</td></tr>
<tr><td>Eggs</td><td>11</td></tr>
<tr><td>Fats and oils</td><td>12</td></tr>
<tr><td>Sweets</td><td>9</td></tr>
<tr><td>Coffee and tea</td><td>13</td></tr>
</table>
Current average diet is replaced by 100% implementation of the Nordic Nutrition Guidelines 2023 (Blomhoff et al. 2023).

The dietary scenario is based on the Nordic Nutrition Guidelines 2023. In the recommendations food are described by quantified amounts or qualitative descriptions. For instance, the guidelines for fish advocate a weekly consumption of 300-450 g (ready-to-eat weight), with a specific recommendation of at least 200 g/week being fatty fish. In the case of legumes, the guidelines simply advise their incorporation as a "significant part of the diet." We used the following scenario to model the diet and aligned the caloric intake to 2250 kcal/day.</td><td>S</td><td>640</td><td>3.5</td></tr>
<tr><td>Nutrition</td><td>Food production efficiency improvement</td><td>Reduction potential assumes 100% implementation of efficiency improvements in agricultural production nationally and internationally, as well as in the food supply chain, while consumption remains unchanged.

This action includes changes in agricultural production nationally and internationally, as well as changes in</td><td>I</td><td>380</td><td>2.1</td></tr>
</table>

		the later stages of the food supply chain such as food processing, transportation and retail. The current consumption amounts remain unchanged. In the current Norwegian food consumption, 45% of the foods are produced in Norway, while 55% are imported from abroad (Nibio 2020). To estimate the reduction potential in domestic production, we relied on estimates outlined in the "Klimatiltak i Norge mot 2030" (Miljødirektoratet 2023) and included the following actions to be implemented in 2030: J03 Livestock manure for biogas J04-1 Cover on pig manure storage J04-2 Environmentally friendly distribution of livestock manure J04-3 Better spreading time and storage capacity for livestock manure J05 Stop new cultivation in dried peatland J06 Catch crops J07 Biochar For imported food, we made a rough estimation based on global agricultural reduction potential values. Due to the challenge of precisely tracing the origin of all imports we utilized global estimations. The method is based on Latva-Hakuni et al. (2023) paper, the detailed description of the import's agricultural reduction impact is provided in the Methods brief. The estimation considers the following actions in agricultural management. - Nitrogen management - Biochar - Agroforestry - Enteric fermentation - Energy efficiency - Carbon sequestration for agricultural land **Difference between global and Norwegian assessment** Global assessments indicate greater potential for reducing greenhouse gas (GHG) emissions through agricultural management compared to estimates specific to Norway. The Norwegian assessments do not account for actions related to fertilizer management aimed at mitigating the high carbon intensity associated with nitrogen fertilizer production. The Norwegian Environment Agency has also solely considered catch crops as a method for carbon sequestration. Additionally, the cultivation in dried peatland remains constrained to the existing area and is not estimated to decrease. Norway already has high agricultural efficiency compared to global efficiency. Furthermore, land use emissions in tropical and rainforest regions are higher than in Scandinavia, particularly during land clearing for agricultural purposes. Thus the potential for mitigating GHG emissions is greater in tropical areas when implementing alternative methods such as agroforestry systems. **Supply chain mitigation potential** To evaluate the potential for reducing carbon emissions in supply chains, we utilized Norwegian values for			

		domestic production and global data for imports. The share of food processing, transportation and retail sector from food carbon footprint is estimated based on data from Crippa et al. (2021). The mitigation potential for domestic production is based on Norwegian climate change targets (Klima- og miljødepartementet 2021).This involved assessing the anticipated reductions in emissions within the Norwegian energy and transport sectors. For imported foods, we estimated the mitigation potential following the targets set by the Paris Agreement, reflecting global goals for carbon reductions.			
Nutrition	One more vegetarian day per week	Current average diet is modified by one more vegetarian diet in a week, which includes egg and dairy products, throughout the year. Based on a calculation method for vegetarian diet. Impact of a full vegetarian diet divided with the number of week days.	S	150	0.8
Nutrition	Reduction of alcohol and sweets	100% of current consumption of alcohol and sugar is eliminated. Alcohol and sugar consumption is eliminated.	A	130	0.7
Nutrition	Food waste reduction (supply side)	Reduction potential assumes that supply side food waste, nationally and internationally, is reduced -50%. Reducing food waste from the supply side involves cutting down on edible food wastage in agriculture, food processing, transport, and retail. The agriculture phase does not include harvest losses. For domestically produced food, we used Norwegian food waste values (Stensgård et al. 2021) and for imports, global food waste values were used (Lipinski 2023). The overall supply-side food waste is currently at 56.9 kg/person/year. We assumed that supply-side food waste is reduced -50% in alignment with Norwegian food waste reduction targets (Regjeringen 2021a).	I	110	0.6
Nutrition	Food waste reduction (household side)	Reduction potential assumes that household side food waste is reduced -50%. Reducing household food waste involves cutting down on edible food waste produced in households (amounts sources from Stensgård et al. 2021). The overall household food waste is currently at 40.2 kg per person per year. We assumed that household food waste is reduced -50% in alignment with (Regjeringen 2021b).	A	70	0.4
Nutrition	Reduction of coffee	50% of current coffee consumption is substituted by black and herbal tea. Black and herbal tea have lower carbon intensity than coffee (Wernet et al. 2016, Agribalyse 3.1).	S	30	0.2

Goods	Reduced consumption of goods (50%)	This option considers 50% reduction of the monetary value of current spending on consumer goods.	A	690	3.7
Goods	Reduced emissions from goods production (50%)	This option considers 50% intensity improvement due to improvements in the production side.	I	690	3.7
Goods	Buy only 5 new clothes per year	The fashion report (Coscieme et al. 2022) suggests that adopting sustainable fashion practices entails limiting the purchase of new clothing to a maximum of five items per year. This recommendation excludes underwear, accessories, and small clothing items like scarfs. Considering the average price of clothing in 2023 is 720 NOK (Cost Of Living 2024), this information was utilized to calculate the reduction potential achievable by scaling down the current clothing consumption levels to five items annually.	A	170	0.9
Goods	Less refurbishing/ new furniture (75%)	We assumed that unnecessary refurbishing and the purchase of new furniture is reduced by 75%. In the Byggmonitor report (Prognosesenteret AS 2023) states, that 62% of respondents admitted to undertaking interior refurbishing projects that were unnecessary. This percentage was utilized to quantify and address unnecessary consumption for this action.	A	120	0.7
Goods	Buy less electronics (50%)	We assumed a 50% reduction in the consumption of electronics.	A	110	0.6
Housing	Smaller living space	Size of living space will be 23% smaller assuming that the constructed space and the energy & electricity used for heating is approximately reduced due to reduced size of housing. Reduction in living space is based on average size of apartment (55m^2/person in 2022) (Oppøyen 2023).	A	230	1.3
Housing	Energy efficiency improvement in existing buildings	Maintain existing buildings (efficiency improvement of old buildings). Improve thermal insulation of structures, increase the efficiency of the heating system, install smart management systems to reduce consumption, ensure appropriate ventilation, correct indoor temperatures and reduce energy consumption with smart, centralized control systems. Energy only for heating was reduced with efficiency improvement. In Norway, space and water heating make for a significant share of total energy use in the residential sector, sharing 78% of the total residential energy consumption (Malka et al. 2023). Efficiency improvement considered were: 1) Smart management systems at home reduce electricity consumption by 10% (Motiva 2024)	I	150	0.8

		2) Lowering room temperature 1 degrees is equivalent to 5% saving in heating energy consumption (Motiva 2024). 3) Install air heat pump to control room temperatures (energy for heating replaced with the air heat pump). Heat pump performances and the most typical models used in Norway were taken into account (Sadeghi et al. 2022). 4) Improving the air tightness of a building: sealing windows, increasing insulation and improving heat recovery from ventilation, for example, heating savings can be as high as several tens of percent (10%) (Motiva 2024). Overlaps of the introduced efficiency improvement are taken into account.			
Housing	Rent a guest room to a tourist	Renting $20m^2$ space for 12 weeks. Assuming that the one will save constructed space, electricity used for heating and lighting, and energy used for heating used for the rented space by creating more efficient use of space	A	70	0.4
Housing	Replacing fireplaces	Removing fireplaces and replacing them with air heat pumps. The most typical heat pump types used in Norway were taken into account. (Sadeghi et al. 2022).	S, I	20	0.1
Housing	Saving water	Water use and energy energy related to water heating is reduced by 35% (same rate as a water saving shower, e.g. Oras 2023). Assuming that about a third of the water consumed is hot water (Motiva 2023) and the amount of energy and electricity used for water heating is estimated to account for 10% of the total energy consumption.	A	20	0.1
Leisure	Reduced consumption of leisure activities (50%)	This option considers 50% reduction of the monetary value of current spending on leisure activities.	A	140	0.8
Leisure	Reduced emissions from leisure services production (50%)	This option considers 50% intensity improvement in the leisure related services.	A	140	0.8
Services	Reduced emissions from services production (50%)	This option considers 50% reduction of the monetary value of current spending on services. Healthcare, social services and education are not included in the calculations.	A	120	0.6

Services	Reduced consumption of services (50%)	This option considers 50% intensity improvement of consumed services. Also healthcare, social services and education were included in the calculations.	A	100	0.5

Table C.2. Assumptions for options measuring prevented emissions, classification by approach, and reduction potential per consumption unit and total annual reduction potential.

Domain	Option	Key Assumption & Sources	Approach	Reduction impact	
			A=Avoid S=Shift I=Improve	$kgCO_2e$/capita/year	
Personal transportation	Car sharing/leasing	Prevented emissions are calculated by dividing the annual number of cars not purchased by the population. Total of 153 890 of newly registered private cars in 2018-2022, resulting in an average annual increase of 30,800 cars in the car fleet. The emission reduction potential reflects the emission from production and dismantling of 30,800 new cars not being produced yearly. The kilometers traveled remain constant, i.e. sharing doesn't increase or decrease transportation demand. The number of shared cars follows the average increase of newly registered private cars in 2018-2022 (Statistics Norway 2024c). The composition of cars not purchased follows the estimated changes on the composition of the car fleet. Main variable is the government's estimate on the growth share of electric cars in the car fleet (Fridstrøm, 2019). The composition of the remaining car fleet follows the current, relative proportions of petrol, diesel, gas and other cars (Statistics Norway 2024c).	A	100 $kgCO_2e$/capita/yr	0.6 million tonnesCO_2e/year
Housing	Low carbon and reused materials in new buildings	Prevented emissions by re-using (rehabilitating) old construction materials from existing buildings and new low-carbon construction materials for the remaining share in newly built buildings. Domestic low-carbon materials are whenever possible/according to availability (Enova SF 2020). Share for re-used construction materials from existing buildings is assumed to be 50% and the rest construction materials are new, low-carbon construction materials. The emissions are divided evenly on the assumed 80 years lifespan of the building with a yearly saving of 100 $kgCO_2e$ per $30m^2$. Average increase in utility floor space in dwellings between (2018-2022) (Enova SF 2020) is used as a	I	100 $kgCO_2e/30m^2$	11.8 $ktCO_2e$/annual increase in living space of newly built buildings.

		reference for calculating the impact for living space with current intensity (impact_current) and improved intensity (impact_improved). Reduction potential is calculated as a difference of impact_old & impact_improved.			
Housing	Re-use of old construction materials in new buildings	Prevented emissions by re-using (rehabilitation of) old construction materials in newly built buildings. Other building materials are “conventional”, i.e. not considered to be low-carbon. (Enova SF 2020) Average increase in utility floor space in dwellings between (2018-2022) (Enova SF 2020) is used as a reference for calculating the impact for living space with current intensity (impact_current) and improved intensity (impact_improved). Reduction potential is calculated as a difference of impact_old & impact_improved.	I	60 kgCO_2e/30m^2	7.6 ktCO_2e/annual increase in living space of newly built buildings.
Housing	Energy efficiency improvements in new buildings	Efficiency improvement of new buildings (passive house concept) decreases heating demand by 38%. The share of new buildings from the total building stock follows the conservative scenario for Norwegian building stock. (Nord et al. 2021) Rate for constructing new building stock remains constant and the composition of building types follow the "normal" projection for 2050. (Nord et al. 2021) The assumption for the efficiency improvement is estimating the amount of prevented emissions, thus not causing an immediate reduction to lifestyle carbon footprint.	I	30 kgCO_2e/30m^2	3.5 ktCO_2e/annual increase in living space of newly built buildings.
Leisure	Renting instead of building new cabin	The avoided emission of newly built holiday houses. The average size of newly built cabins between 2018-2022 (Statistics Norway 2024a) multiplied with the average carbon intensity for holiday houses (Finnish Environmental Institute 2019). It is assumed that the average annual increase in new cottages will be around 5,500 cottages (based on total increase of newly built cabins between 2017 and 2022). The emissions are divided evenly on the assumed 50 years lifespan of the building with a yearly saving of 700 kgCO_2e per 100m^2.	A	700 kgCO_2e/100m^2	3.8 ktCO_2e/annual increase in living space of newly built cabins.