1.5-Degree Lifestyle Project

Catalogue of 1.5-Degree Lifestyle Options

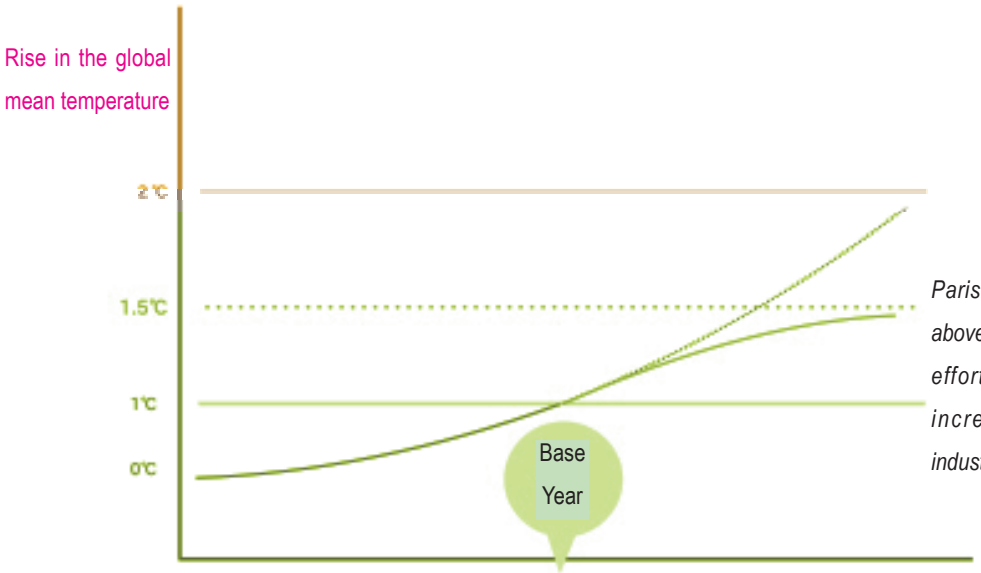
Japan

Ver. Nov. 2020

DRAFT, DO NOT CITE

Introduction

This catalogue has been produced for the workshops and home experiments organised by the 1.5ºC Lifestyle Project. A decarbonised lifestyle to reduce the carbon footprint (CFP), including CO_2 emissions plus CO_2 equivalent of the other greenhouse gas (GHG) emissions, per Japanese person from 7,600 kg per year (2015) to 2,500 kg per year (about 1/3) in 2030 and 700 kg per year (about 1/10) in 2050. The article is available here. The options are divided into five categories: transport, energy, food, products, and leisure, and each page explains the specific details of the option and the amount of CFP that could be reduced if 100% of the options were adopted. If 100% of all options are adopted, the maximum amount of CFP reduction will be achieved, but care must be taken to ensure that this does not result in a society that is difficult to live in, as the pleasures of life are lost.
The options are divided into five categories: transport, energy, food, products, and leisure, and each page explains the specific details of the option and the amount of CFP that could be reduced if 100% of the options were adopted. If 100% of all options are adopted, the maximum amount of CFP reduction will be achieved, but care must be taken to ensure that this does not result in a society that is difficult to live in, as the pleasures of life are lost.
It should be noted that the adoption of some of the options has increased rapidly since the spring of 2020 due to the global outbreak of the novel coronavirus, but it may return to normal as economic activity recovers, and it is fluid as to whether they will remain in place. Please note that for the purposes of this workshop, we have calculated CFP reductions based on 2015, the year before the novel coronavirus epidemic.



Paris Agreement: well below 2ºC above pre-industrial levels, pursuing efforts to limit the temperature increase to 1.5ºC above pre-industrial levels.

Japan's target
CFP Annual Reduction

Mobility

1. Commuting to work/school
2. Other purposes
3. Long distance
4. Car usuage
5. Type of vehicle

Energy

1. Home appliances
2. Air-conditioning
3. Hot water supply
4. Electric power
5. House

Food

1. Reduce food overconsumption
2. Reduce food waste
3. Reduce animal products
4. Vegetable
5. Drinking and smoking

Products

Reduce amoung of new products purchased

Leisure

Enjoying our community

Mobility

1 Commuting to work/school

- Reduce the distance traveled
- Reduce car use

2 Other purposes

- Reduce the distance traveled
- Reduce car use

3 Long distance

- Reduce the distance traveled
- Fly less
- Reduce car use

4 Car usage

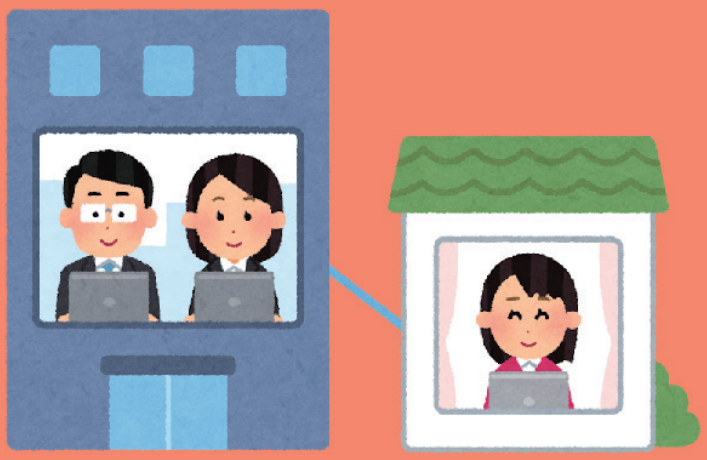
- Reduce car use
- Reduce the number of cars
- Eco-driving

5 Type of vehicle

- Switching to low-carbon vehicles

Mobility	Commuting to work/school	Reduce the distance traveled

01 Telework



CFP reduction level ★★★

Work where you want and have more free time

Per capita per year **280** kg CO_{2e} to be reduced

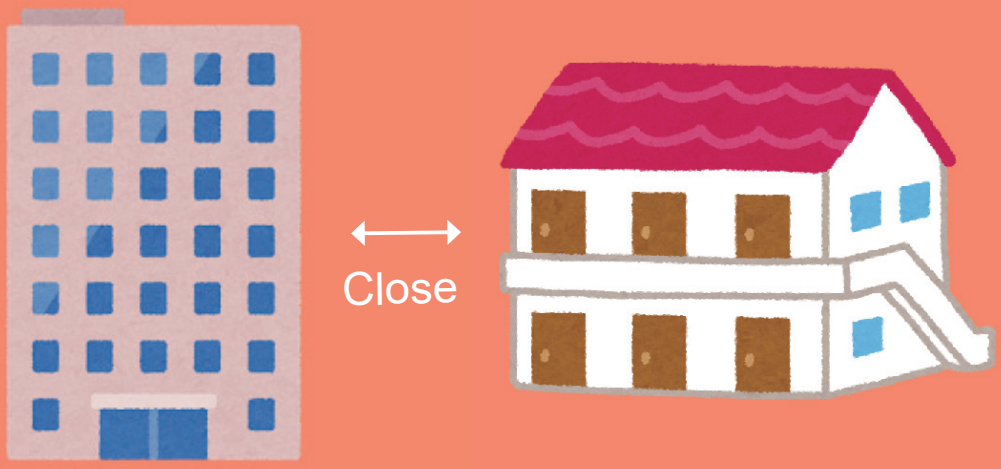
26% of the total distance travelled is for commuting purposes, with each person travelling 2527 person-kilometres per year to work. Of this total, 928 person-kilometres are travelled by private car.

➡

Teleworking eliminates the need to commute to work and therefore the need to travel. There is also less need to buy and maintain cars and motorbikes, as there is no need to travel to work.

Mobility	Commuting to work/school	Reduce the distance traveled

02 Live close to working place



CFP reduction level ★★

Shorter commutes, more time to live

Per capita per year **190** kg CO_{2e} to be reduced

32% of the total distance travelled is for commuting purposes, with 3115 person-kilometres travelled per person per year for commuting purposes. Of these, 979 are made by car.

Changes in town planning and working practices will enable people to live closer to work and school. The net average time spent commuting to work or school (among those who commute to work or school) will be reduced from 79 minutes to 30 minutes per day, a reduction of 38%. The distance travelled will also be reduced accordingly. However, the means of transport will remain the same.

Mobility	Commuting to work/school	Reduce car use

03 Bicycle commuting

CFP reduction level ★★

Turn your commute into cycling time

Per capita per year **220** kg CO_{2e} to be reduced

31% of journeys to work or school are made by car, which amounts to 979 person-kilometres per person per year.

➡

Staggered commuting and more convenient bicycle lanes and parking will encourage people to use bicycles rather than private cars to travel to work or school. However, the distance to work or school will remain the same.

Mobility	Commuting to work/school	Reduce car use

04 Train commuting

CFP reduction level ★★

Avoid the crowds and enjoy your time on a train seat

Per capita per year **200** kg CO_{2e} to be reduced

31% of journeys to work or school are made by car, which amounts to 979 person-kilometres per person per year.

➡

With staggered commuting and more convenient rail services, people will use trains rather than private cars to travel to and from work. However, the distance to and from work will remain the same.

Mobility	Commuting to work/school	Reduce car use

05 Bus commuting

CFP reduction level ★★

Choose your route and time well and make the journey your own time

Per capita per year **150** kg CO_{2e} to be reduced

31% of journeys to work or school are made by car, which amounts to 979 person-kilometres per person per year.

➡

Staggered commuting and more convenient bus services mean that people will use buses rather than private cars to travel to and from work. However, the distance to work or school will remain the same.

Mobility	Other purposes	Reduce the distance traveled

06 Buy in bulk

CFP reduction level ★★

Buy in bulk to reduce travel and waste

Per capita per year **140** kg CO_{2e} to be reduced

12% of the total distance travelled is for shopping purposes and 1134 person-kilometres are travelled per person per year for shopping. Of these, 794 km per person per year are made by car. Currently, on average, people travel 3.4 times per week for shopping purposes.

➡

By buying in bulk and by being selective about the shopping we really need, we can reduce the number of weekly trips for shopping purposes. This will also reduce the distance travelled by car for shopping. The purchase and maintenance of a car will also be reduced as there will be no need to travel.

Mobility	Other purposes	Reduce the distance traveled

07 Compact-city

CFP reduction level ★★★

A city packed with the facilities you need to live.

Per capita per year **260** kg CO_{2e} to be reduced

23% of the total distance travelled is for shopping, hospital, cram school, schooling and transport, and each person travels 2241 person-kilometres per year for these purposes. Of this total, 1,500 person-kilometres are made by car.

The change in town planning will enable people to live closer to the service facilities they need. The time spent on non-commuting activities will be reduced from 29 minutes to 10 minutes per day on a gross average (the average including those who do not travel in the denominator), or 34%. The distance travelled will be correspondingly reduced. However, the means of transport will remain the same.

Mobility	Other purposes	Reduce the distance traveled

08 Fun in the neighbourhood

CFP reduction level ★

Walking and cycling, you can find pleasure in the vicinity

Per capita per year **100** kg CO_{2e} to be reduced

889 person-kilometres are travelled per person per year by car, motorbike, train and bus for entertainment, meals and short-distance sightseeing within the living area. This represents 9% of the total distance travelled. Of this total, 512 person-kilometres are made by car.

➡

More attractive entertainment and dining options in the region will encourage people to spend their weekends happily in their local area; the one-way distance travelled per trip will be reduced from the current weighted average distance of 10km for short distances by car, motorbike, rail and bus to an average distance of 3km by bicycle, a 31% reduction.

Mobility	Other purposes	Reduce car use

09 Private bicycle travel

CFP reduction level ★★★★★

Cycling is a comfortable way to get around the city

Per capita per year **470** kg CO_{2e} to be reduced

64% of short-distance journeys for purposes other than commuting to work or school are made by private car, amounting to 2,081 person-kilometres per person per year.

➡

As a result of more convenient bicycle lanes and parking, people will use their bicycles instead of their cars for shopping, entertainment and meals within their daily life, and to go to school or study. However, the distance travelled will remain the same.

Mobility	Other purposes	Reduce car use

10 Private rail travel

CFP reduction level ★★★★

Make your travel time your free time

Per capita per year **440** kg CO_{2e} to be reduced

64% of short-distance journeys for purposes other than commuting to work or school are made by private car, amounting to 2,081 person-kilometres per person per year.

➡

As a result of the increased convenience of railways, people will use railways rather than private cars to travel for shopping, entertainment and meals within their daily lives, cramming and lessons. However, the distance travelled will remain the same.

Mobility	Other purposes	Reduce car use

11 Private bus travel

CFP reduction level ★★★

The bus journey is part of the fun

Per capita per year **330** kg CO_{2e} to be reduced

64% of short-distance journeys for purposes other than commuting to work or school are made by private car, amounting to 2,081 person-kilometres per person per year.

As a result of the increased convenience of the bus service, people will use the railways rather than their own cars to travel for shopping, entertainment and meals within their daily lives, cramming and lessons. However, the distance travelled will remain the same.

Mobility	Long distance	Reduce the distance traveled

12 Online homecoming

CFP reduction level ★★

The internet brings us closer to hometown

Per capita per year **170** kg CO_{2e} to be reduced

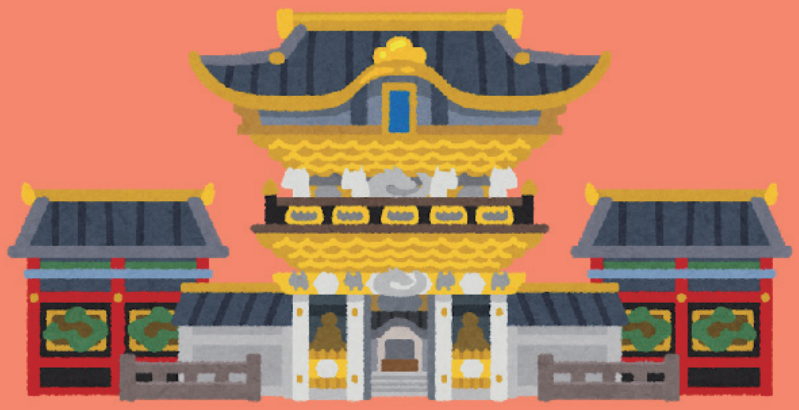
Twelve per cent of the total distance travelled is for the purpose of returning home, and each person travels 1151 person-kilometres per year to return home. Of these, 311 are made by air and 439 by private car.

➡

By returning home online, you will no longer need to travel to do so. The purchase and maintenance of cars, motorbikes, etc. is also reduced as there is no need to travel.

Mobility	Long distance	Reduce the distance traveled

13 Long holidays in Japan



CFP reduction level ★

Rediscover the charm of Japan

Per capita per year **60** kg CO_{2e} to be reduced

7% of the total distance travelled is by international air travel, with 722 person-kilometres travelled by international air travel per person per year. Tourism accounts for 67% of international air travel, with 486 international air travel kilometres per person per year for overseas travel.

➡

With more attractive leisure options at home, people no longer travel abroad for long holidays. The average one-way distance travelled per trip will be reduced from 4498 km for international flights to 917 km for domestic flights, a 20% reduction.

Mobility	Long distance	Reduce the distance traveled

14 Long holidays in the community

CFP reduction level ★★

Rediscover the charm of the neighbourhood

Per capita per year **150** kg CO_{2e} to be reduced

For long-distance tourism, the average person travels 1410 km per year by domestic plane, domestic ferry, car, motorbike, train and bus. This represents 15% of the total distance travelled. Of this total, 295 people travel by international flights and 712 people travel by car for tourism.

➡

With more attractive long holiday leisure options in the region (within the prefecture or up to neighbouring prefectures), people will no longer travel long distances for travel purposes on long holidays. The one-way distance travelled per trip will be reduced from the current weighted average of 264km for domestic flights, international ferries, cars, trains and motorbikes to 90km, the average distance travelled from one prefecture to another in Japan. to 34%.

Mobility	Long distance	Fly less

15 Use train instead of place

CFP reduction level ★

The pleasure of travelling in a train with changing scenery

Per capita per year **40** kg CO_{2e} to be reduced

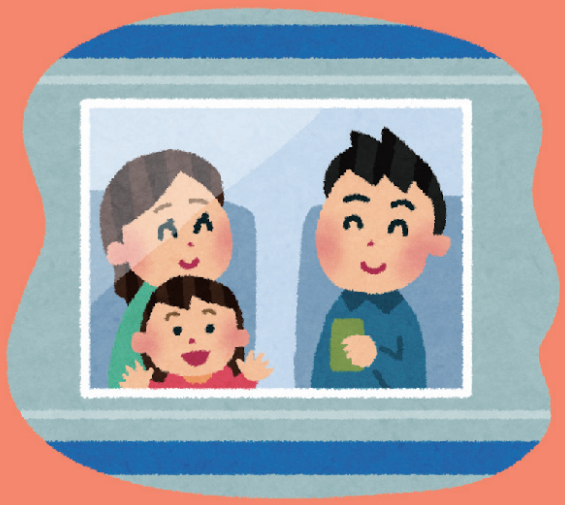
Domestic air travel accounts for 5% of the total distance travelled, amounting to 439 person-kilometres per person per year.

➡

Domestic travel will be by bullet train or rail rather than air. This is regardless of the purpose of the journey. However, the distance travelled will remain the same.

Mobility	Long distance	Reduce car use

16 Use train instead of car



CFP reduction level ★★★

Turn long travel times into free time

Per capita per year **280** kg CO_{2e} to be reduced

Long-distance journeys by car account for 13% of the total distance travelled and amount to 1281 person-kilometres per person per year.

➡

Long-distance journeys by car will be replaced by the use of bullet trains and railways. This is regardless of the purpose of the journey. However, the distance travelled remains the same.

Mobility	Long distance	Reduce car use

17 Use bus instead of car

CFP reduction level ★★

Travel in comfort by express bus.

Per capita per year **210** kg CO_{2e} to be reduced

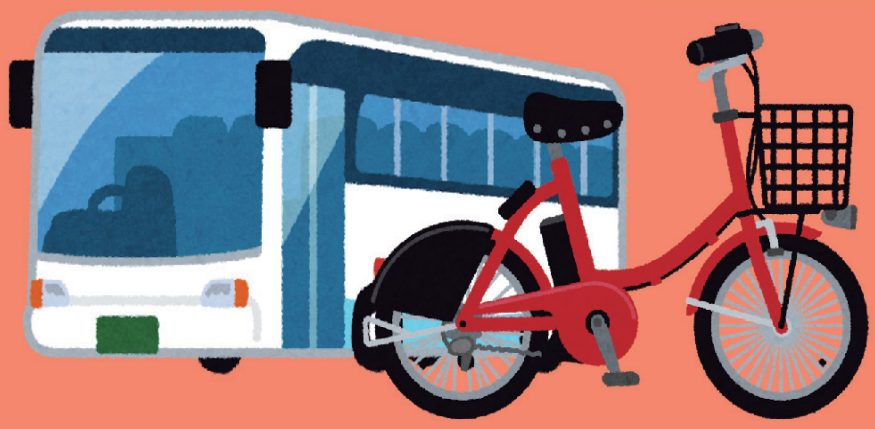
Long-distance journeys by car account for 13% of the total distance travelled and amount to 1281 person-kilometres per person per year.

➡

Long distance journeys by car will be made using long distance buses (e.g. express buses). This is regardless of the purpose of the journey. However, the distance travelled remains the same.

Mobility	Car usuage	Reduce car use

18 Use bus and bicycle instead of taxi



CFP reduction level ★

Buses and bicycles are healthier for you, both

Per capita per year **20** kg CO_{2e} to be reduced

Taxi journeys account for 1% of all intra-city journeys, amounting to 48 person-kilometres per person per year.

➡

With the increased convenience of buses and shared bicycles, people will be able to travel conveniently by bus or bicycle without having to take a taxi (the ratio of buses to bicycles will be half). However, the distance travelled will remain the same.

Mobility	Car usuage	Reduce car use

19 Ridesharing

CFP reduction level ★★★★★

Contact with the people on board

Per capita per year **510** kg CO_{2e} to be reduced

Private cars, rental cars and taxis account for 46% of the total distance travelled, amounting to 4451 person-kilometres per person per year, with an average of only 1.3 passengers per car and 1.7 passengers per taxi, and many seats left empty.

Due to the increased convenience of services that allow people in the workplace or community to share transport, when people travel by private car, rental car or taxi, they will be ride-sharing (riding together) with people from the same destination. The distance travelled and the means of transport will remain the same, but the number of passengers per car will increase to 4 per car (including the driver) for private cars and rental cars, and 3 per car (not including the driver) for taxis.

Mobility	Car usuage	Reduce the number of cars

20 Car sharing

CFP reduction level ★★

No need to own a car for driving a car

Per capita per year **210** kg CO_{2e} to be reduced

Motorised transport, excluding taxis, accounts for 46% of the total distance travelled, amounting to 4403 person-kilometres per person per year. Of this total, 99% of journeys are made in owned private cars, while only 1% are made in shared car hire or car sharing.

➡

The increased convenience of car-sharing and car rental services means that each household no longer owns a car, even when using a passenger car. The distance travelled and the means of transport remain the same, but the costs of manufacturing and maintaining the vehicle and GHG emissions are reduced.

Mobility	Car usuage	Eco-driving

21 Eco-driving

CFP reduction level ★

Drive friendly to people and the earth in good skills and attitudes

Per capita per year **150** kg CO_{2e} to be reduced

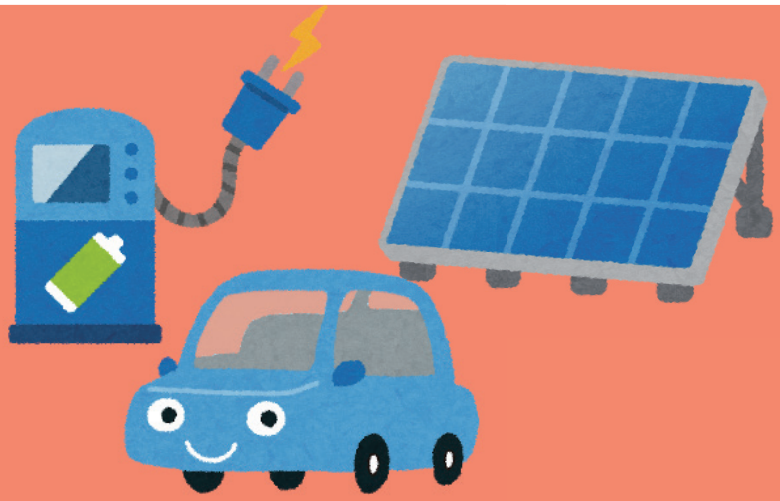
Passenger cars account for 46% of the total distance travelled, amounting to 4403 passenger-kilometres per person per year. Non-electric vehicles, such as petrol, hybrid and diesel cars, account for 99.8% of this total.

➡

They will become more eco-driven when driving passenger cars (private cars and car-sharing). The distance travelled and the means of transport remain the same, but GHG emissions when driving petrol, hybrid and diesel vehicles are reduced.

Mobility	Type of vehicle	Switching to low-carbon vehicles

22 Electric vehicles (renewable energy charging)



CFP reduction level ★★★★★

Electric vehicles powered by renewable electricity

Per capita per year **470** kg CO_{2e} to be reduced

Passenger cars account for 46% of the total distance travelled, which amounts to 4,403 passenger-kilometres per person per year. Of this, only 0.1% is accounted for by electric vehicles.

The increased convenience of EVs, including charging spots and range, will lead to the conversion of passenger cars (including private cars, car-sharing and taxis) to EVs. The distance travelled and the means of transport will remain the same, but GHG emissions from driving will be reduced.

Mobility	Type of vehicle	Switching to low-carbon vehicles

23 Electric vehicles

CFP reduction level ★★★

Electric vehicles

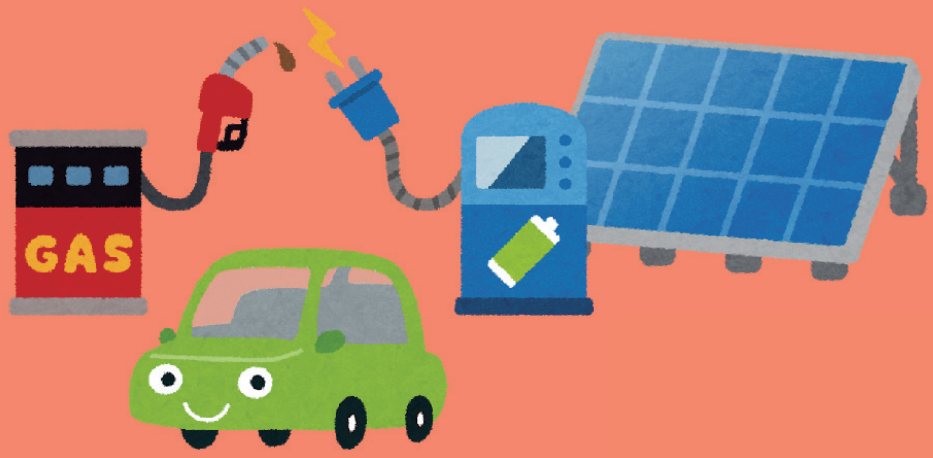
Per capita per year **240** kg CO_{2e} to be reduced

Passenger cars account for 46% of the total distance travelled, which amounts to 4,403 passenger-kilometres per person per year. Of this, only 0.1% is accounted for by electric vehicles.

The increased convenience of EVs, including charging spots and range, will lead to the conversion of passenger cars (including private cars, car-sharing and taxis) to EVs. The distance travelled and the means of transport will remain the same, but GHG emissions from driving will be reduced.

Mobility	Type of vehicle	Switching to low-carbon vehicles

24 Plug-in hybrid vehicles (Renewable energy charging)



CFP reduction level ★★★★

Vehicles powered by engine and motor that can be recharged with renewable energy

Per capita per year **380** kg CO_{2e} to be reduced

Passenger cars account for 46% of the total distance travelled, which amounts to 4,403 passenger-kilometres per person per year. Plug-in hybrid vehicles account for only 0.2% of this total.

➡

Improvements in the convenience of PHVs, including recharging spots and range, will lead to a shift of passenger cars (including private cars, car-sharing and taxis) to PHVs. However, the number of EVs will be maintained. The distance travelled and the means of transport will remain the same, but GHG emissions from driving will be reduced.

Mobility	Type of vehicle	Switching to low-carbon vehicles

25 Plug-in hybrid vehicles

CFP reduction level ★★★

Cars powered by engine/motor that can be recharged at the wall socket

Per capita per year **240** kg CO_{2e} to be reduced

Passenger cars account for 46% of the total distance travelled, which amounts to 4,403 passenger-kilometres per person per year. Plug-in hybrid vehicles account for only 0.2% of this total.

➡

Improvements in the convenience of PHVs, including recharging spots and range, will lead to a shift of passenger cars (including private cars, car-sharing and taxis) to PHVs. However, the number of EVs will be maintained. The distance travelled and the means of transport will remain the same, but GHG emissions from driving will be reduced.

Mobility	Type of vehicle	Switching to low-carbon vehicles

26 Hybrid vehicles

CFP reduction level ★★

Cars that charge while running and run on engine and motor

Per capita per year **190** kg CO_{2e} to be reduced

Passenger cars account for 46% of the total distance travelled, amounting to 4403 passenger-kilometres per person per year. Of these, only 11.2% are hybrid vehicles.

➡

Passenger cars (including private cars, car-sharing and taxis) will be increasingly converted to hybrid vehicles (not including plug-in hybrid vehicles). However, the number of PHVs and EVs will be maintained. The distance travelled and the means of transport will remain the same, but GHG emissions from driving will be reduced.

Mobility	Type of vehicle	Switching to low-carbon vehicles

27 Light-duty vehicle

CFP reduction level ★

Small is good for the environment

Per capita per year **130** kg CO_{2e} to be reduced

Passenger cars account for 46% of the total distance travelled, which amounts to 4403 person-kilometres per person per year. Although mini cars are more fuel efficient than larger petrol cars, they only account for 36.8% of all petrol cars.

➡

Passenger cars (including private cars, car-sharing and taxis) will be increasingly converted to mini cars. However, the number of hybrid, plug-in hybrid and electric vehicles will be maintained. The distance travelled and the means of transport will remain the same, but GHG emissions from driving will be reduced.

1 Home appliances

Cookware to induction cooktop

Change lighting to LED

2 Air-conditioning

Switch to air-conditioning

Insulation

Saving

3 Hot water supply

Reduce use of fossil fuels

4 Electric power

Use of renewable energy

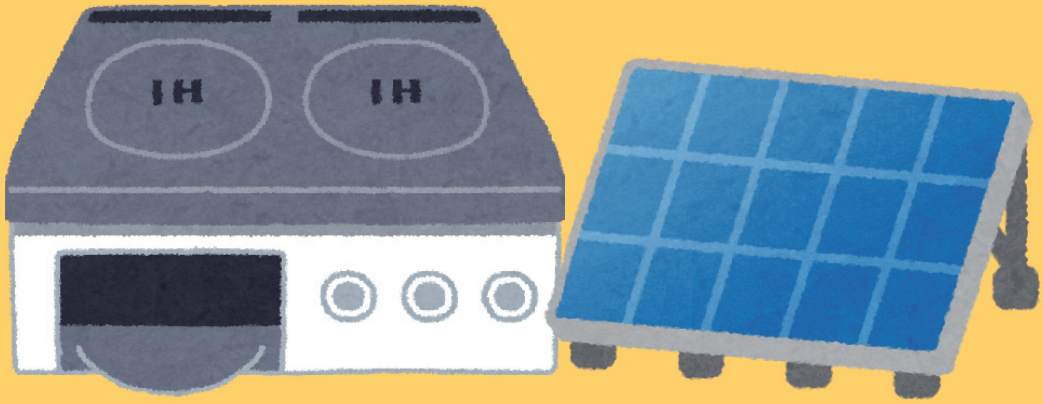
5 House

Switching to low-carbon housing

Energy

Energy	Home appliances	Switching to IH cooking heater

28 Electrification with IH cooking heater + renewable energy (electrification of cooking)



CFP reduction level ★★★★★★★★★★★★★★

Bringing benefits of solar power to cooking

Per capita per year **1350** kg CO2e to be reduced

Energy consumption for cooking in a dwelling is about 390 kWh per person per year, which is 15% of the total energy consumption in a dwelling. Of this, energy consumption for cooking with gas, etc. accounts for 271 kWh, so even if 100% of the electricity used in the house is from renewable energy sources, the greenhouse gas emissions from cooking with gas stoves cannot be reduced.

➡

By installing solar panels on the roof of the house, virtually all of the electricity used in the entire house is provided by renewable energy sources, and the cooking is done by electricity using induction cooktops. In this way, greenhouse gas emissions from cooking and other electricity use can be reduced to zero at the point of use.

Energy	Home appliances	Change lighting to LED

29 LED Bulb

CFP reduction level ★

Turn electricity into light efficiently

Per capita per year **90** kg CO2e to be reduced

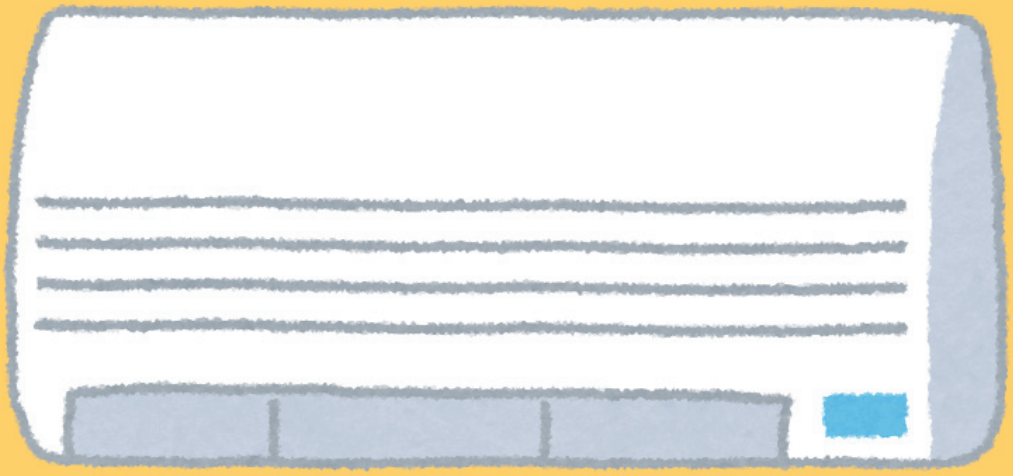
Energy consumption for lighting in dwellings is about 307 kWh per person per year, which is 12% of the total energy consumption in dwellings.

➡

Switching all lighting fixtures in a residence to LEDs will reduce greenhouse gas emissions to achieve the same brightness.

Energy	Air-conditioning	Switch to air-conditioning

30 Heating by air-conditioner



CFP reduction level ★

Air conditioning is more efficient than gas or kerosene

Per capita per year **120** kg CO2e to be reduced

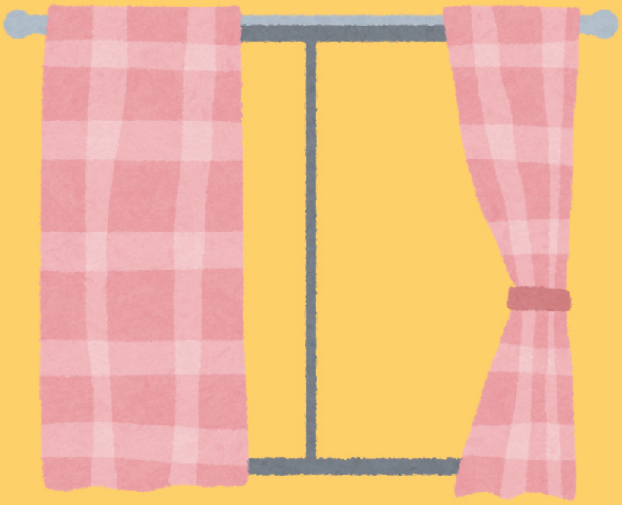
Energy consumption for heating in dwellings is about 932 kWh per person per year, which is 37% of the total energy consumption in dwellings. Of this, energy consumption for heating with gas and kerosene accounts for 746 kWh, but gas and kerosene heaters, which burn fossil fuels directly, emit more greenhouse gases than air conditioners, which use temperature differences in the air.

➡

The use of air conditioners for all heating instead of gas or kerosene heating will be more efficient in maintaining a comfortable room temperature. The electricity mix, including the percentage of renewable energy, will remain unchanged.

Energy | Air-conditioning | Insulation

31 Simple window insulation



CFP reduction level ★

Insulate windows for more efficient heating and cooling

Per capita per year **50** kg CO2e to be reduced

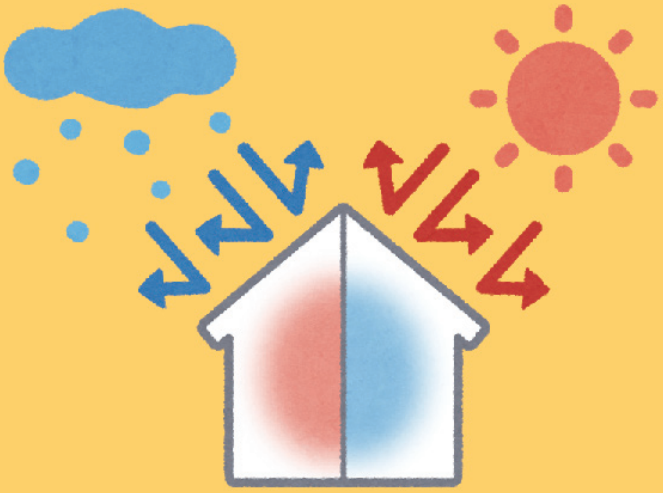
Energy consumption for heating and cooling in dwellings is about 1022 kWh per person per year, which is 24% of the total energy consumption in dwellings. Only about 8% of homes meet the latest insulation standards. Homes with no insulation (not meeting the 1980 standard) account for 35%, and those with only the 1980 standard insulation performance (not meeting the 1992 standard) account for 37%.

➡

By insulating windows with simple internal windows (made of resin), insulating film (packaging material), insulating curtains, etc., which can be done even by renters, even in houses with old insulation standards (houses that do not meet the 1992 insulation standards), the energy consumption of heating and cooling in dwellings can be reduced by about 15% on average (about 21% in houses with old insulation standards, which are the target of particular efforts). (21% for homes with older insulation standards, which are particularly vulnerable), thereby reducing greenhouse gas emissions associated with heating and cooling.

Energy	Air-conditioning	Insulation

32 Thermal Insulation Renovation



CFP reduction level ★★

Insulate an entire house to make heating and cooling more efficient

Per capita per year **140** kg CO2e to be reduced

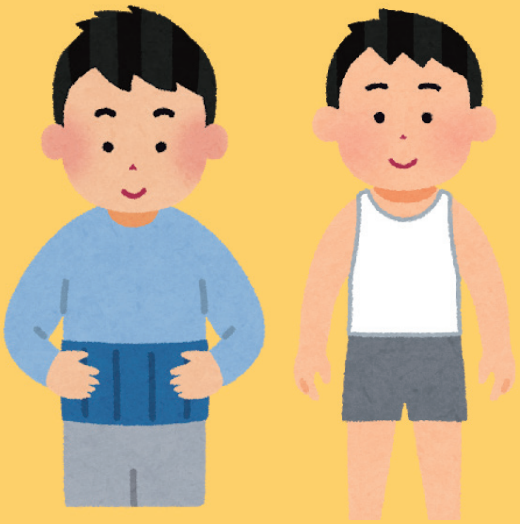
Energy consumption for heating and cooling in dwellings is about 1022 kWh per person per year, which is 24% of the total energy consumption in dwellings. Only about 8% of homes meet the latest insulation standards. Homes with no insulation (not meeting the 1980 standard) account for 35%, and those with only the 1980 standard insulation performance (not meeting the 1992 standard) account for 37%.

➡

By renovating the thermal insulation in accordance with the latest thermal insulation standards (Grade 4 housing under the 1999/2015 standards), the consumption of energy for heating and cooling in the residence will be reduced by about 48% on average, and greenhouse gas emissions associated with heating and cooling will be reduced.

Energy	Air-conditioning	Saving

33 Regulate temperature by clothing



CFP reduction level ★

Dress according to each season to make your heating and cooling more efficient

Per capita per year **110** kg CO2e to be reduced

Energy consumption for heating and cooling in dwellings is about 1022 kWh per person per year, which is 24% of the total energy consumption in dwellings.

➡

Dressing warmly in the winter (Warm Biz) and coolly in the summer (Cool Biz) at home can reduce energy consumption for heating and cooling by about 29% on average (about 21% in homes with old insulation standards, which are the target of this initiative), and reduce greenhouse gas emissions associated with heating and cooling.

Energy	Air-conditioning	Saving

34 Nudging saves energy

CFP reduction level ★

Something which unintentionally conserves energy (Nudging)

Per capita per year **60** kg CO2e to be reduced

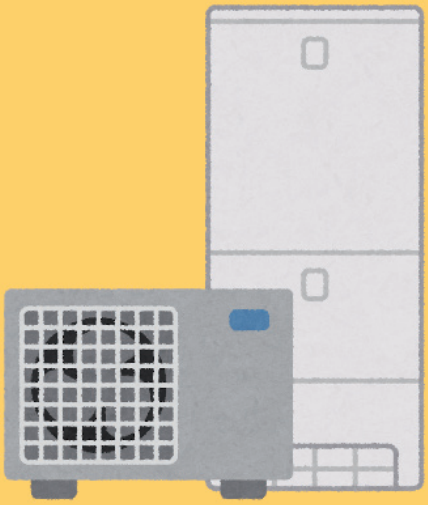
Energy consumption for heating and cooling in dwellings is about 1022 kWh per person per year, which is 24% of the total energy consumption in dwellings.

➡

Visualization of energy consumption and nudging through messages via smartphones will reduce energy consumption in dwellings by 3% (about 21% in homes with old insulation standards, which is the target of the innovation), and reduce greenhouse gas emissions from heating and cooling.

Energy	Hot water supply	Reduce use of fossil fuels

35 Hot water supply by heat pump (Eco-Cute)



CFP reduction level ★

Boiling water without burning gas

Per capita per year **120** kg CO2e to be reduced

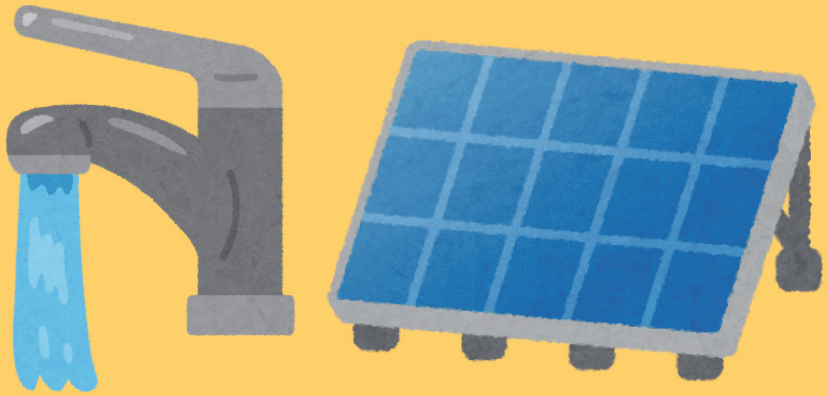
Energy consumption for hot water supply in dwellings is about 1213 kWh per person per year, which is 48% of the total energy consumption in dwellings. Of this, energy consumption for hot water supply by gas and oil accounts for 992 kWh, but gas and kerosene heaters, which burn fossil fuels directly, emit more greenhouse gases than heat pumps (Eco-Cute), which use temperature differences in the air.

➡

By using a heat pump to supply hot water (Eco-Cute) instead of a water heater based on direct combustion of fossil fuels such as gas, hot water can be supplied more efficiently and greenhouse gas emissions for hot water supply are reduced. The electricity mix, including the percentage of renewable energy, will remain unchanged.

Energy	Hot water supply	Reduce fossil fuel use

36 Hot water supply by solar water heater



CFP reduction level ★★

Boiling Water with Sunlight

Per capita per year **180** kg CO2e to be reduced

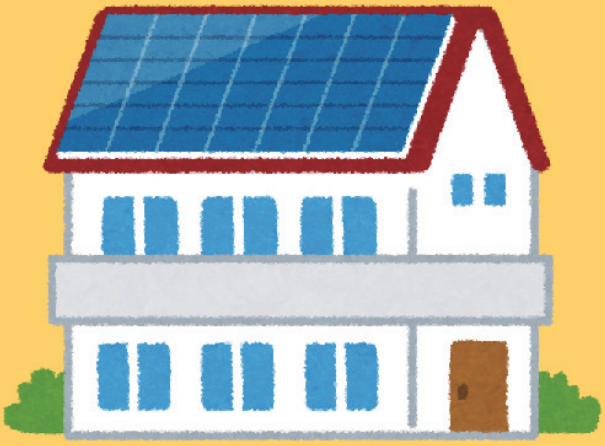
Energy consumption for hot water supply in dwellings is about 1213 kWh per person per year, which is 48% of the total energy consumption in dwellings. Of this amount, energy consumption for hot water supply by gas or oil accounts for 992 kWh.

➡

By installing solar water heaters, hot water is heated by solar energy, reducing the percentage of water heaters that use gas or other fossil fuels. Although gas and other water heaters will still be used for some heating, the greenhouse gas emissions from the hot water supply will be greatly reduced. The amount of hot water used will remain the same.

Energy	Electric power	Use renewable energy

37 Power generation by rooftop solar panels



CFP reduction level ★★★★★★★★★★★★★★★

Generating Renewable Energy at Home

Per capita per year **1280** kg CO2e to be reduced

Electricity consumption in dwellings is about 2156 kWh per person per year, which is 51% of the total energy consumption in dwellings. Of this, 82% is generated by fossil fuels, and only 17% by renewable energy sources such as solar, wind, hydro, geothermal, biomass, and waste power. In particular, electricity generated by solar panels at home accounts for less than 2% of the total.

➡

By installing solar panels on the roof of your home and essentially using renewable energy to generate your own electricity to power everything you use at home, greenhouse gas emissions will be reduced to zero at the point of use. Even so, emissions from the construction and maintenance of the power generation facilities will remain, but on average, the reduction will be more than 90% per kWh.

Energy	Electric power	Use renewable energy

38 Switching to100% renewable energy electricity

CFP reduction level ★★★★★★★★★★ ★★

Living only on renewable energy

Per capita per year **1230** kg CO2e to be reduced

Electricity consumption in dwellings is about 2156 kWh per person per year, which is 51% of the total energy consumption in dwellings. Of this, 82% is generated by fossil fuels, and only 17% by renewable energy sources such as solar, wind, hydro, geothermal, biomass, and waste power.

➡

By switching to an electricity plan that uses 100% renewable energy, the amount of greenhouse gas emissions from the electricity used at home will be reduced to zero during the usage phase. Even so, emissions from the construction and maintenance of power generation facilities will still remain, but on average they will be reduced by more than 90% per kWh.

Energy	House	Switching to low-carbon housing

39 Compact housing

CFP reduction level ★★

Share space to be energy efficient

Per capita per year **240** kg CO2e to be reduced

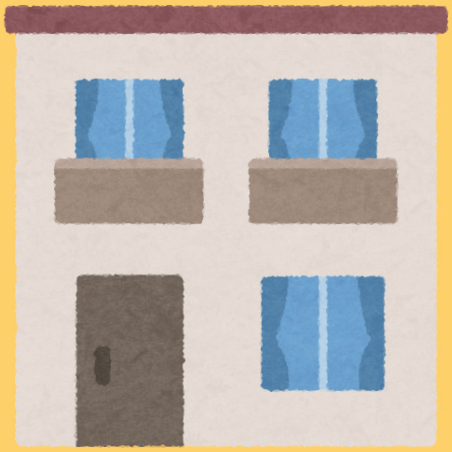
On average, each person lives in a dwelling of about 39 m2 . To heat, cool and light a room of this size, each person uses about 1329 kWh of energy (including electricity, gas and kerosene) per year, which is about 32% of the total energy use in a dwelling. When comparing people living in single-family houses and those living in apartment buildings, the living area per person in apartment buildings is about 43% smaller.

➡

Living in a compact dwelling, comparable to the current average of communal dwellings, and sharing the space with others living together, will reduce the energy used for heating, cooling and lighting. In addition, greenhouse gas emissions for the construction and maintenance of the dwelling will be reduced.

Energy	House	Switching to low-carbon housing

40 Life Cycle Carbon Minus Housing



CFP reduction level ★★★★★★★★★★★★★★★★★★★★

Greenhouse gas emissions could be negative

Per capita per year **2090** kg CO2e to be reduced

Energy consumption in dwellings is about 4187 kWh per person per year, which results in energy-related greenhouse gas emissions of about 1972 kg CO2e per person per year. In addition, an average of about 110 kgCO2e of greenhouse gases per person per year are emitted for the construction and maintenance of housing.

By living in a Life Cycle Carbon Minus (LCCM) home, energy consumption for heating, cooling, lighting, etc. in the home is significantly reduced (assumed to be 20% compared to the latest insulation standards), and all remaining energy is generated from renewable energy sources at home. In addition, greenhouse gas emissions from construction and maintenance will be virtually zero.

Energy	House	Switching to low-carbon housing

41 Zero-energy house

CFP reduction level ★★★★★★★★★★
★★★★★★★★★

Virtually zero greenhouse gas emissions

Per capita per year **1820** kg CO2e to be reduced

Energy consumption in dwellings is about 4187 kWh per person per year, resulting in energy-related greenhouse gas emissions of about 1972 kg CO2e per person per year. On average, only about 40 kWh of energy per person per year is generated in the dwelling by rooftop solar panels, which is 2% of the electricity consumption and 1% of the total energy consumed in the dwelling.

➡

By living in a zero-energy house, the consumption of energy for heating, cooling, lighting, etc. in the house is greatly reduced (assumed to be 20% compared to the latest insulation standards), and all the remaining energy is generated from renewable energy sources at home. As a result, the greenhouse gas emissions associated with energy consumption will be virtually zero.

Energy	House	Switching to low-carbon housing

42 Nearly zero energy housing

CFP reduction level ★★★★★★★★★★★★★

Reduce greenhouse gas emissions to near zero

Per capita per year **1430** kg CO2e to be reduced

Energy consumption in dwellings is about 4187 kWh per person per year, resulting in energy-related greenhouse gas emissions of about 1972 kg CO2e per person per year. On average, only about 40 kWh of energy per person per year is generated in the dwelling by rooftop solar panels, which is 2% of the electricity consumption and 1% of the total energy consumed in the dwelling.

➡

By living in a Nearly Zero Energy House, energy consumption for heating, cooling, lighting, etc. in the home is significantly reduced (assumed to be 20% compared to the latest insulation standards), and 75% of the remaining energy is renewable energy generated at home. 75% of the remaining energy will be renewable energy generated at home. In addition, 75% of the remaining energy will be generated by renewable energy sources in the home. This will reduce greenhouse gas emissions from energy consumption to virtually zero.

Food

1 Reduce food overconsumption

Home cooking
Beverages and Confectionery
Deli foods and lunch boxes
Eating out

2 Reduce food waste

At home
At restaurants

3 Reduce animal products

Switch to mainly :

- Vegetables and legumes
- Vegetables,legumes, dairy products and eggs
- Alternative meats
- Seafood
- Chicken

4 Vegetable

Eat what is in season
Eat local foods

5 Drinking and smoking

Food	Reduce food overconsumption	Home cooking

43 Balanced and healthy home cooking

CFP reduction level ★

Eat less at home for healthier planet and body

Per capita per year **40** kg CO_2e to be reduced

On average, 363 kg of food is purchased per person per year for home cooking. On average, 827 kg CO_2e of greenhouse gases are emitted per person per year for the production and transportation of these ingredients, which is 48% of the total food consumption including eating out. On the other hand, the average Japanese diet lacks vegetables and fruits, and is high in carbohydrates, fat, sugar, and salt, resulting in an unbalanced diet, and some of the greenhouse gases are attributed to this unhealthy diet.

➡

By cooking healthy food on your own according to the Food Balance Guide, you will increase the amount of dairy products by about 100 percent, fruits by about 80 percent, potatoes by about 90 percent, vegetables by about 10 percent, legumes by about 30 percent, and eggs by about 40 percent, while reducing grains by about 30 percent, meat and fish by about 30 percent, and fats, oils, and sugars by about 80 percent according to the recommendations. This will improve health as well as reduce greenhouse gas emissions from excessive food intake.

Food	Reduce food overconsumption	Beverages and Confectionery

44 Balanced, healthy drinks and snacks

CFP reduction level ★

Reduce sweets, alcohol and juices for the earth and your health

Per capita per year **130** kg CO_2e to be reduced

On average, 21 kg of snacks such as sweets are purchased per person per year, and 319 kg of beverages such as alcohol and soft drinks are purchased per person per year (liquid equivalent). On average, 278 kg CO_2e of greenhouse gases are emitted per person per year for the production and transportation of these materials, which is 16% of the total food consumption, including eating out. On the other hand, the average Japanese diet lacks vegetables and fruits, and is high in carbohydrates, fat, sugar, and salt, resulting in an unbalanced diet, and some of the greenhouse gases are attributed to this unhealthy diet.

➡

Consume healthy drinks and snacks according to the Food Balance Guide. To reduce fats, oils, and sugars while maintaining healthy staple foods, reduce snacks (sweets) and sugar-rich drinks (alcohol and soft drinks) by about 80%. This will not only improve their health, but also reduce the amount of greenhouse gas emissions caused by the excessive consumption of food. However, the consumption of tea and coffee will remain the same (excluding sugar).

Food	Reduce food overconsumption	Deli foods and luch boxes

45 Balanced and healthy taking-in meal

CFP reduction level ★

Reduce overeating of deli foods and lunch boxes for the earth and your health

Per capita per year **20** kg CO2e to be reduced

On average, 40 kg of food materials are purchased per person per year for ready-made meals (Deli foods and lunch boxes). On average, 158 kg CO2e of greenhouse gases are emitted per person per year for the production and transportation of these ingredients, which is 9% of the total food consumption including eating out. On the other hand, the average Japanese diet lacks vegetables and fruits, and is high in carbohydrates, fat, sugar, and salt, resulting in an unbalanced diet, and some of the greenhouse gases are attributed to this unhealthy diet.

➡

Choose healthy prepared foods and lunch boxes based on the Food Balance Guide. As with self-catering, increase dairy products by about 100 percent, fruits by about 80 percent, potatoes by about 90 percent, vegetables by about 10 percent, legumes by about 30 percent, and eggs by about 40 percent, while reducing grains by about 30 percent, meat and fish by about 30 percent, and fats, oils, and sugars by about 80 percent as recommended. This will improve health as well as reduce greenhouse gas emissions from excessive food intake.

Food	Reduce food overconsumption	Eating out

46 Eating out in a balanced and healthy way

CFP reduction level ★

Reduce overeating at restaurants for the earth and your health

Per capita per year **30** kg CO2e to be reduced

On average, 160,000 yen per person per year is spent on eating out at restaurants, coffee shops, and drinking establishments, and 466 kg CO2e of greenhouse gases are emitted per person per year from the production of food ingredients for eating out, transportation, and the provision of food and drink, which is 27% of the total food consumption including eating out. On the other hand, the average Japanese diet lacks vegetables and Fruits, and is high in carbohydrates, fat, sugar, and salt, resulting in an unbalanced diet, and some of the greenhouse gases are attributed to this unhealthy diet.

➡

Switch to a healthier style of eating out based on the Food Balance Guide. As with home cooking, increase the amount of dairy products by about 100%, fruits by about 80%, potatoes by about 90%, vegetables by about 10%, beans by about 30%, and eggs by about 40% compared to the current level, while following the recommendations to reduce grains by about 30%, meat and fish by about 30%, and fats, sugars, and sweets that contain a lot of these, as well as alcohol and soft drinks by about 80%. Choose healthy menus at restaurants, coffee shops, and pubs. However, in order to satisfy needs other than nutritional intake (such as socializing) that were previously met by eating out, the expenditure on food and beverages at restaurants would remain the same, and only the types of food and beverages would change (e.g., tea instead of alcohol and soft drinks, vegetables and dairy products instead of meat).

Food	Reduce food waste	At home

47 Reducing food loss at home

Reducing

CFP reduction level ★

How to buy food, how to cook, and how to eat well

Per capita per year **40** kg CO2e to be reduced

On average, each person buys 743 kg of food per year to eat at home, but as much as 4% of this food is thrown away at home through direct disposal due to leftovers, over-removal, or expiration. On average, the production and transportation of this discarded food at home emits 37 kg CO2e of greenhouse gases per person per year, which is 3% of the total carbon footprint of food, excluding restaurants.

➡

By buying the right amount of food, cooking it, and eating it in the right way, we can eliminate the amount of food that is cooked but left uneaten, the amount of food that is purchased but thrown away at home due to expiration dates, etc., and the amount of food that is excessively removed during cooking, such as parts close to the skin. This will reduce the amount of food purchased and the greenhouse gas emissions associated with the production and transportation of these ingredients, even if the same amount of food is consumed.

Food	Reduce food waste	At restaurants

48 Reducing food loss at restaurants

Reducing

CFP reduction level ★

Only ordering as much as you can eat

Per capita per year **20** kg CO2e to be reduced

Each person spends 160,000 yen per year on eating out at restaurants, coffee shops, and drinking establishments, but as much as 2% of food in restaurants and 10% at banquets is left over in Japan. In Japan, 2% of food left over in restaurants and 10% of food left over in banquets are consumed. On average, 17 kg CO2e of greenhouse gases are emitted per person per year from the production and transportation of leftover food, which is 4% of the total emissions from eating out.

➡

Eliminate leftovers from eating out in restaurants and banquets by ordering the right amount of food and eating in the right way. This will reduce the amount of food prepared by restaurants and reduce the greenhouse gas emissions associated with the production and transportation of these foods, even if the same amount of food is consumed and the same amount of dining out is enjoyed.

Food	Reduce animal products	Vegetables and legumes

49 Diet centered on vegetables and legumes（Vegan food）

CFP reduction level ★★★

Beef, pork, poultry, seafood, dairy products, and eggs to vegetables and legumes

Per capita per year **340** kg CO2e to be reduced

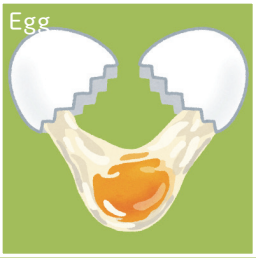
On average, each person buys 95 kg of animal products per year for home cooking, and these produce more greenhouse gas emissions per kg than other protein sources of plant origin.

➡

Convert the amount of seafood, meat, dairy products, and eggs that you have been eating to soy products and other foods, and change your diet to a vegetable- and legume-based diet. Also, increase the intake of vegetables and plant proteins and reduce grains according to the Vegetarian Food Guide. As well as cooking for yourself, choose plant-based menus with a focus on vegetables and legumes for menus at restaurants, side dishes, and lunch boxes. This will improve your health and also reduce greenhouse gas emissions from the production of animal products such as meat, seafood, dairy products, and eggs.

Food	Reduce animal products	Vegetables, legumes, dairy products, and eggs

50 Diet centered on vegetables, legumes, dairy products, and eggs (Vegetarian diet)

Beef 	Pork 	Chicken 	Seafood 	Alternative meat 
Egg 	Dairy products 	Beans 	Vegetables 	Type of food

CFP reduction level ★★

Beef, pork, poultry and seafood to vegetables, dairy products, eggs and legumes

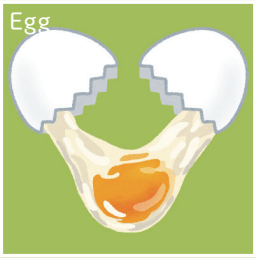
Per capita per year **220** kg CO2e to be reduced

On average, each person buys 43 kg of meat and seafood per year for self-catering, which results in higher greenhouse gas emissions per kg compared to other protein sources of plant origin.

Convert the amount of seafood and meat you used to eat to soy products, eggs and dairy products, and a diet based on vegetables, dairy products, eggs and legumes. Also, increase the intake of vegetables and plant proteins and reduce grains according to the Vegetarian Food Guide. As well as cooking for yourself, choose menus at restaurants, side dishes, and lunch boxes that are centered on vegetables, dairy products, eggs, and legumes. This will improve your health and reduce greenhouse gas emissions from meat and seafood production.

Food	Reduce animal products	Switch to alternative meats

51 Switch to alternative meats

Beef 	Pork 	Chicken 	Seafood 	Alternative meat 
Egg 	Dairy products 	Beans 	Vegetables 	Type of food

CFP reduction level ★★

Beef, pork, and chicken to alternative meats

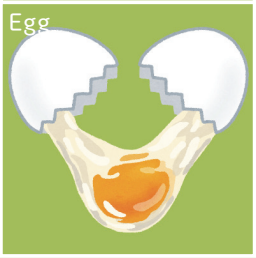
Per capita per year **190** kg CO2e to be reduced

On average, each person buys 19 kg of meat per year for home cooking, which results in a larger amount of greenhouse gas emissions per kg than other protein sources.

Convert the amount of traditional meats such as beef, pork, and chicken that you have been eating to alternative meats (plant-based products such as soy that taste and look like meat). As well as cooking for yourself, choose menus at restaurants, side dishes and lunch boxes that use alternative meats. This will improve health as well as reduce greenhouse gas emissions resulting from the production of meat.

Food	Reduce animal products	Seafood

52 Seafood-centered diet (Pescatarian diet)

Beef	Pork	Chicken	Seafood	代 Alternative meat
				
Egg	**Dairy products**	**Beans**	**Vegetables**	Type of food
				

CFP reduction level ★

Beef, pork, and poultry to seafood

Per capita per year **70** kg CO2e to be reduced

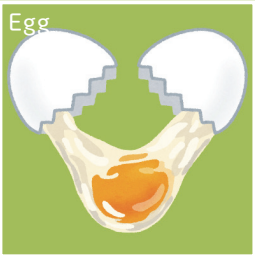
On average, each person buys 19 kg of meat per year for self-catering, which results in a larger amount of greenhouse gas emissions per kg than other protein sources.

➡

Switch from eating meat such as beef, pork, and chicken to fish and seafood. As well as cooking for themselves, they will also choose seafood for their menus, side dishes, and lunch boxes at restaurants. This will not only improve their health, but also reduce greenhouse gas emissions from meat production.

Food	Reduce animal products	Chicken

53 Poultry based diet (White Vegetarian)

Beef 	Pork 	Chicken 	Seafood 	Alternative meat 
Egg 	Dairy products 	Beans 	Vegetables 	Type of food

CFP reduction level ★

Beef and pork to chicken

Per capita per year **70** kg CO2e to be reduced

On average, each person buys 19 kg of meat per year for their own cooking, of which 65% is red meat such as beef and pork. These red meats produce more greenhouse gas emissions per kg than white meats such as chicken.

➡

Switch from eating red meat such as beef and pork to eating chicken (white meat). As well as cooking for yourself, choose chicken (white meat) for menus at restaurants, side dishes, and lunch boxes. This will not only improve their health, but also reduce greenhouse gas emissions from the production of red meat.

Food	Vegetables	Eat what is in season

54 Seasonal production and consumption of vegetables

CFP reduction level ★

Taste seasonal vegetables

Per capita per year **40** kg CO2e to be reduced

On average, each person buys 140 kg of fruits and vegetables per year for self-catering, and 204 kg CO2e of greenhouse gases are emitted for their production and distribution. Of this amount, 0% of vegetables (excluding potatoes) and 0% of fruits are grown in greenhouses and other facilities in Japan. In institutional cultivation, a lot of energy derived from fossil fuels is used to maintain the temperature during cultivation, and the amount of greenhouse gas emissions per kilogram is about three times that of open field cultivation.

➡

By adopting a diet that includes an abundance of seasonal fruits and vegetables, the amount of fruits and vegetables that were previously grown in facilities will be converted to open-air cultivation. This will reduce greenhouse gas emissions from the production of vegetables and fruits. However, the amount of prepared foods, lunchboxes, and restaurant meals will not change.

Food	Vegetables	Eat local food

55 Local production and local consumption of vegetables

CFP reduction level ★

Enjoy local vegetables

Per capita per year **8** kg CO2e to be reduced

On average, each person buys 105 kg of vegetables per year for home cooking, and 158 kg CO2e of greenhouse gases are emitted from their production and distribution. For domestically produced vegetables, about 0% of the greenhouse gas emissions are due to transportation, while purchasing vegetables from outside of the prefecture results in a higher amount of greenhouse gas emissions from transportation.

➡

By adopting a diet rich in local vegetables, the amount of vegetables previously eaten outside of the prefecture will be converted to vegetables produced within the prefecture as much as possible. This will reduce the amount of greenhouse gas emissions resulting from the transportation of vegetables. However, the amount of prepared foods, lunch boxes, and eating out will not change.

Food	Drinking and smoking	Reduce your intake

56 Refrain from smoking and drinking alcohol

Reduce

CFP reduction level ★★

Cut back on smoking and drinking, and increase exercise

Per capita per year **160** kg CO2e to be reduced

On average, people spend 100,000 yen per person per year for medical care, including pharmaceuticals, and 135 kgCO2e per person per year for energy and products used to provide medical services, leading to greenhouse gas emissions. In Japan, an average of 70,000 yen per person per year is spent on tobacco and alcohol, which are also factors that increase the risk of these lifestyle-related diseases, of which 30% is due to lifestyle-related diseases, resulting in 155 kgCO2e of greenhouse gas emissions from their production to transportation.

A healthier lifestyle, including less tobacco and alcohol consumption and more exercise, will prevent lifestyle-related diseases and reduce health care costs. This will reduce greenhouse gas emissions from the production and transportation of alcohol and tobacco, in addition to the provision of health care services and medicines.

Products

Reduce amount of
new products purchased

- Clothing
- Bags and accessories
- Furniture and carpets
- Electronic goods
- Hobby goods
- Books and magazines

Products	Reduce amount of new products purchased	Clothing

57 Careful selection and recycling of clothing

CFP reduction level ★★

Wear your favorite clothes for a long time and take good care of them

Per capita per year **190** kg CO2e to be reduced

On average, each person spends 100,000 yen per year on clothing purchases, and the production, transportation, and distribution of clothing, including its raw materials, leads to greenhouse gas emissions of 259 kg CO2e per person per year. Japanese clothing consumption varies widely, and some of the clothes that are bought are either stored at home or thrown away, rather than being used until they are worn out.

By carefully selecting and buying only those clothes that we like at the time of purchase, carefully using only those clothes that we like for a long time, repairing them when they break, and replacing them with used ones when circumstances change and we no longer need them, we can reduce the amount of new clothes we buy and throw away. The amount of new clothing purchased will be about the same as a quarter of the per capita new clothing purchases of the Japanese (the decrease is assumed to be in clothing and footwear), or 24% on average. This would also reduce greenhouse gas emissions for the production, transportation, and distribution of new clothing.

Products	Reduce amount of new products purchased	Bags and accessories

58 Careful selection and recycling of bags and accessories

CFP reduction level ★

Wear your favorite shoes and accessories for a long time and with care

Per capita per year **30** kg CO2e to be reduced

On average, each person spends 15,000 yen per year on bags and accessories, and the production, transportation, and distribution of these products, including the raw materials, leads to 38 kg CO2e of greenhouse gas emissions per person per year. Depending on their lifestyles, Japanese people's consumption of bags and accessories varies widely, and some of the products bought are either stored at home or thrown away, rather than being used until they break.

By carefully selecting and buying only the bags and accessories that we like at the time of purchase, carefully using only the ones we like for a long time, repairing them when they break, and replacing them with used ones when the situation changes and we no longer need them, we can reduce the amount of new bags and accessories we buy and throw away. By doing so, the amount of new bags and accessories purchased and discarded will be reduced to the same level as that of a quarter of the Japanese population (assuming the same rate of decrease as for clothing and footwear), or an average of 24% of new purchases. This will also reduce greenhouse gas emissions from the production, transportation, and distribution of new bags and accessories.

Products	Reduce amount of new products purchased	Furniture and carpets

59 Careful selection and recycling of furniture and carpets

CFP reduction level ★

Take good care of your favorite furniture and curbets for a long time

Per capita per year **30** kg CO2e to be reduced

On average, each person spends 10,000 yen per year to purchase furniture, carpets, bedding, curtains, etc. The production, transportation, and distribution of these items, including their raw materials, leads to greenhouse gas emissions of 36 kg CO2e per person per year. Depending on one's lifestyle, the amount of electrical products consumed by Japanese people varies greatly, and some of what is bought is either stored at home or thrown away instead of being used until it breaks down.

By carefully selecting and buying only the furniture and carpets you like at the time of purchase, using only the ones you like carefully for a long time, repairing them when they break, and replacing them with used ones when the situation changes and you no longer need them, you can reduce the amount of new furniture and carpets you buy and throw away. Based on the results of a questionnaire survey on the reasons for replacing furniture, the amount of new furniture and carpets purchased will be reduced by 21% due to the elimination of disposal for reasons other than broken or dirty. This will also reduce greenhouse gas emissions from the production, transportation, and distribution of new furniture and carpets.

Products	Reduce amount of new products purchased	Electronic goods

60 Careful selection and recycling of electrical products

CFP reduction level ★

Take good care of your favorite electrical products for a long time

Per capita per year **50** kg CO2e to be reduced

On average, each person spends 30,000 yen per year on the purchase of electrical products (excluding white goods), including televisions, music and video equipment, cameras, computers, and watches, and the production, transportation, and distribution of these products, including their raw materials, leads to greenhouse gas emissions of 59 kg CO2e per person per year. Depending on one's lifestyle, the amount of electrical products consumed by Japanese people varies greatly, and some of what is bought is either stored at home or thrown away instead of being used until it breaks down.

➡

By carefully selecting and buying only those electrical products that we like at the time of purchase, using only those products that we like carefully and for a long time, repairing them when they break, and replacing them with used ones when circumstances change and we no longer need them, we can reduce the amount of new electrical products that we buy and throw away. The amount of new purchases will be about the same as a quarter of the per capita new purchases of the Japanese people counted in order of decreasing (the percentage of decrease is assumed to be for educational and recreational goods), and the amount of new purchases will be 25% on average.

Products	Reduce amount of new products purchased	Hobby goods

61 Careful selection and recycling of hobby items

CFP reduction level ★

Take good care of your favorite hobby items for a long time

Per capita per year **110** kg CO2e to be reduced

On average, each person spends 60,000 yen per year to purchase hobby items including entertainment, sports, culture, gardening, pets, and tobacco-related items, leading to greenhouse gas emissions of 153 kg CO2e per person per year for production, transportation, and distribution, including the raw materials. Depending on their lifestyles, Japanese people vary widely in their consumption of hobby goods, with some using more and others living with less when it comes to consumables, and some of the durable goods that are bought are either stored at home or thrown away rather than used until they break.

➡

Be selective in buying only those hobby items that you like at the time of purchase. By carefully selecting and using consumable items, using only durable items that we like, repairing them when they break, and replacing them with used items when circumstances change and we no longer need them, we can reduce the amount of new hobby items we buy and throw away. The amount of new hobby goods purchased will be about the same as that of a quarter of the Japanese people who counted the amount of new purchases per capita in order of decreasing (the percentage of decrease is assumed to be for educational and recreational goods), and the amount of new purchases will be 25% on average. This would also reduce greenhouse gas emissions from the production, transportation, and distribution of new hobby goods.

Products	Reduce amount of new products purchased	Daily necessities and consumables

62 Carefully select and use up daily necessities and consumables

CFP reduction level ★

Use up your favorite cosmetics and hygiene products with care

Per capita per year **90** kg CO2e to be reduced

On average, people spend 60,000 yen per person per year on daily necessities and consumables including kitchenware, paper, plastic products, stationery, and cosmetics, leading to 169 kg CO2e of greenhouse gas emissions per person per year for production, transportation, and distribution, including the raw materials. Depending on their lifestyles, Japanese people vary widely in their consumption of electrical products, with some using more and others living with less when it comes to consumables, and some of the durable goods that are bought are either stored at home or thrown away rather than used until they break.

➡

By carefully selecting and buying only those electrical products that we like at the time of purchase, using only those products that we like carefully and for a long time, repairing them when they break, and replacing them with used ones when circumstances change and we no longer need them, we can reduce the amount of new electrical products that we buy and throw away. The amount of new purchases will be about the same as a quarter of the per capita new purchases of the Japanese people counted in order of decreasing (the percentage of decrease is assumed to be for educational and recreational goods), and the amount of new purchases will be 25% on average.

Products	Reduce amount of new products purchased	Books and magazines

63 Careful selection and sharing of books and magazines, the use of libraries and e-books

CFP reduction level ★

Reduce amount of printed publications purchased

Per capita per year **20** kg CO_2e to be reduced

On average, each person spends 20,000 yen per year to purchase books, magazines, and other publications, and the production, transportation, and distribution of these products, including their raw materials, results in 47 kg CO_2e of greenhouse gas emissions per person per year. Japanese consumption of publications varies widely, with some bought but never read, some read only once and stored at home, and some thrown away.

➡

Carefully select and buy only those books and magazines that you like at the time of purchase, and share the books you have finished reading with acquaintances and do not throw them away. They also use libraries and e-books to reduce their physical consumption of printed books and magazines while paying a fair price for the publications. The amount of new purchases will be equivalent to a quarter of the per capita new purchases of Japanese people counted in order of decreasing (the percentage of decrease is assumed to be books and other printed materials), and the amount of new printed materials bought will be 45% on average. This would also reduce greenhouse gas emissions for the production, transportation, and distribution of new books and magazines.

Leisure

Enjoying our community

Daily recreation

Lodging and day trip leisure

Leisure	Enjoying your community	Daily recreation

64 Community recreational activities

CFP reduction level ★★★

Recreation to enjoy in your community

Per capita per year **250** kg CO2e to be reduced

On average, people spend 110,000 yen per person per year on leisure activities (excluding accommodation), including sports, cultural activities, entertainment, and spas, leading to 250 kgCO2e of greenhouse gas emissions per person per year for the energy and products used to provide leisure services. Even when spending the same amount of time on holiday, there are high-carbon and non-high-carbon ways to spend leisure time, and some leisure activities could be enjoyed just as much in a lower-carbon way.

➡

Spending holidays in the community doing recreational activities such as sports activities, outdoor activities, and cultural activities will reduce spending on leisure services. This will reduce the emission of greenhouse gases through the provision of leisure services. The tools and other equipment needed to spend the holiday in the community can be brought from each other's possession, so there is no need to create additional new products. Also, since the recreational area will be outdoors, or even indoors, existing space will be shared, virtually eliminating greenhouse gas emissions through the provision of space. Furthermore, since the holiday will be held in the community, there will be no additional greenhouse gas emissions through transportation.

Leisure	Enjoying your community	Lodging and day trip leisure

65 Local eco-tourism

CFP reduction level ★

Eco-tourism for enjoying your region

Per capita per year **90** kg CO2e to be reduced

On average, people spend 30,000 yen per person per year on accommodation and travel services (excluding expenditure on travel-related transport and food) for trips that involve overnight stays, leading to greenhouse gas emissions of 92 kgCO2e per person per year for the energy and products used to provide leisure services. Even when spending the same amount of time on holiday, there are high-carbon and non-high-carbon ways to spend leisure time, and some leisure activities could be enjoyed just as much in a lower-carbon way.

➡

Spending on outdoor activities and ecotourism vacations in the region will eliminate spending on accommodation and travel services. This will reduce the emission of greenhouse gases through the provision of leisure services. The tools and other equipment that will be needed to spend the vacation in the community will be brought from each other's already owned items, so there will be no need to create additional new products. In addition, since the accommodations will be outdoors, such as camping, or even indoors, existing spaces will be shared, virtually eliminating greenhouse gas emissions through the provision of space. Furthermore, since the holiday will be held in the local area, there will be no additional greenhouse gas emissions through transportation.

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