REPUBLIC OF SLOVENIA
**MINISTRY OF THE ENVIRONMENT, CLIMATE AND ENERGY**
SLOVENIAN ENVIRONMENT AGENCY

# A Guide to Sustainable Consumption

## Your Life Will be Better Without the Things You Do Not Need

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## *Your Life Will be Better Without the Things You Do Not Need*

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*Project Manager*
**Barbara Bernard Vukadin**

*Author*
**Alenka Burja**

*Editing*
**Rdeči oblak**

*Proofreading*
**Janice K. Forry**

*Design*
**Aleš Salokar**

*Translation*
**Jaka Bartolj, Razplet**

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*This guide introduces readers to key challenges in five important areas of a consumer's life that impact the environment the most: food, housing, mobility, household appliances, and household goods. Possible solutions are suggested, recommendations to increase sustainability are outlined, and examples of good practice in Slovenia are given. The guide also presents several graphs published in the Environmental Indicators in Slovenia (ARSO) and various diagrams that show the situation in the five mentioned areas. When describing these key areas, the guide follows the life cycle phases and the DPSIR concept. The final part of the guide features additional information and links to more in-depth sources.*



*Sustainable consumption and the topics covered in this guide are monitored in detail on the European level by the European Environmental Agency through the European Environment Information and Observation Network (Eionet), in which Slovenia takes part.*

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*The animals depicted throughout this guide are all protected species in Slovenia, directly endangered also by unsustainable consumption and production.*

# Your Wallet Can Be Your Most Powerful Weapon

***To buy, or not to buy. Our decisions matter. We are powerful. Our consumer demand and product choices affect supplies, the economy, society, the environment, our health, and the probability that our children will have quality and healthy lives. We have many opportunities to limit the negative impact of our lifestyle and habits. We can influence production and consumption. Making the right decisions when choosing a product requires us to have informed and comprehensive insight into how the production, use, and disposal of our favourite things affect our environment.***

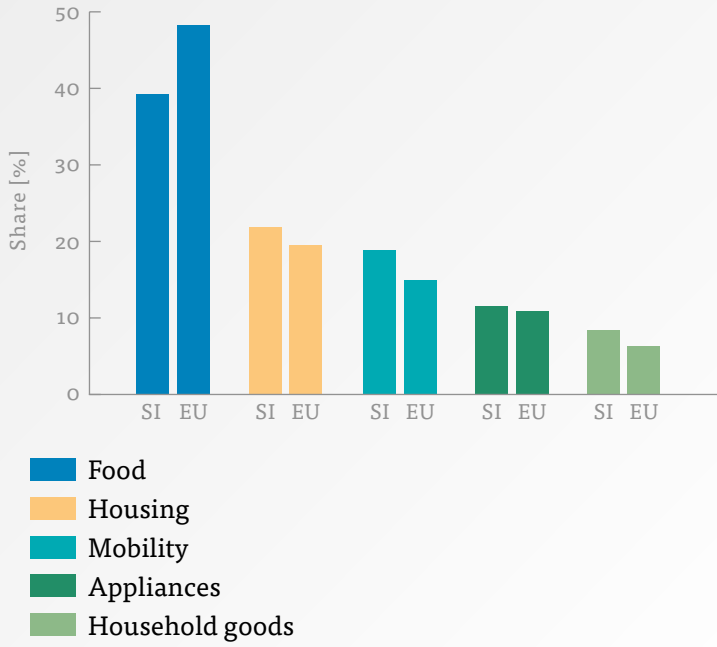
In 2023, if the world were to consume resources as Slovenians do, the Earth Overshoot Day would be 18 April, meaning that in just three months, our resource consumption would have exceeded the Earth's capacity to regenerate those resources for the year. From a global perspective, the last time there was no overshoot was in 1970. We are putting future generations into even more resource debt. Our environment is increasingly polluted, and our quality of life is declining. We are losing biodiversity and natural resources. We are fighting climate change, as the destructive August 2023 flooding in Slovenia made dramatically evident.

**Housing, food, and mobility jointly cause around 80% of all environmental impacts,** from greenhouse gas pollution and the excessive use of resources to the inappropriate handling of waste. Every day, there is an increase in consumer demands —for food and drink, larger, warmer, and more comfortable living spaces, more household appliances, new furniture, clothing, etc. We want to travel faster, longer and more frequently. All of these increase our use of energy and water.

However, our planet has limits, so we need to reverse these trends. Our role as consumers is essential because our choices not only affect producers' decision-making processes regarding which products to prioritise but also the state of the environment in which we live (how degraded or polluted it is). After several years of awareness-raising, even the most careless among us have realised that most of our purchases act as a boomerang with financial, health-related, and environmental consequences.

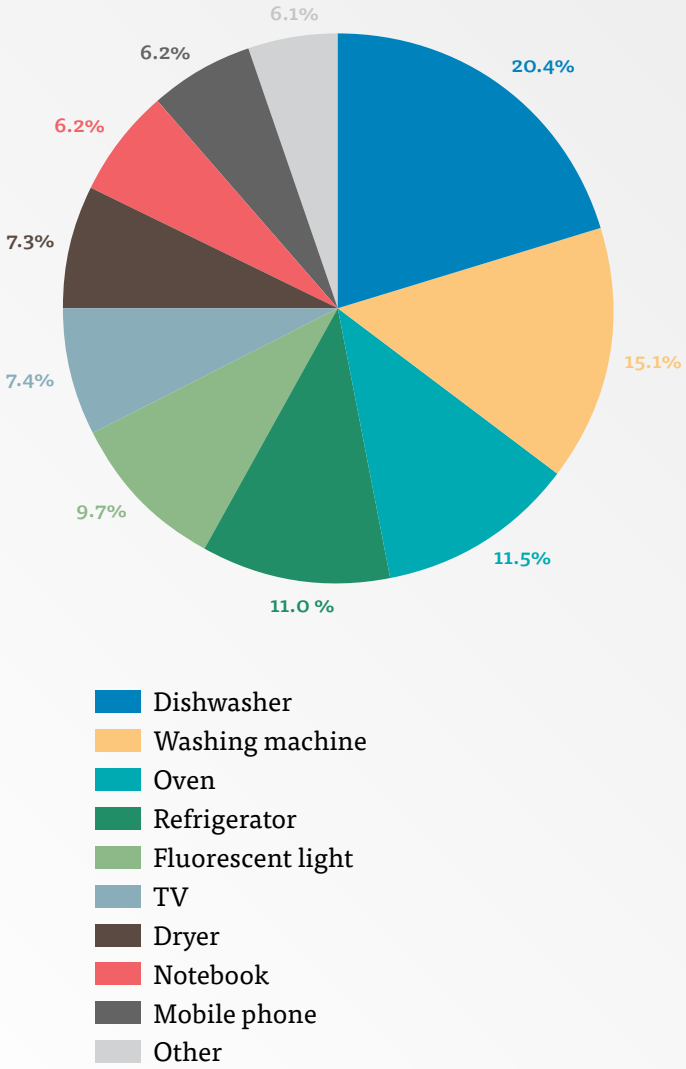
Numerous innovative ideas prove that we can change our harmful habits. Slovenia already

**DIAGRAM 1: Consumption footprint of five consumer areas for the EU and Slovenia**




*Source: European Platform on Life Cycle Assessment (EPLCA)*

## DIAGRAM 2: Consumption footprint of products, Slovenia




*Source: European Platform on Life Cycle Assessment (EPLCA)*

has many sustainable practices. We are seeing the opening of reuse centres, where everyday items can be repaired, refurbished, or upgraded for reuse and then sold for a minimal price. In many places, bikes can be hired for trips around a city and in some towns, we can find repair, exchange, or rental shops. We have information about craftsmen and shops that produce (almost) no waste. In many Slovenian towns, local food markets have been revived, and some places have milk and egg vending machines. We are seeing more deliveries of boxes with fresh and local (organic) produce. Sustainability-based fashion and socially responsible enterprises are becoming more widespread. The Slovenian Consumers' Association provides consumers with a wide range of information and legal assistance. Various NGOs are active in sustainable consumption, and gradually, more corporations are joining them.

Life cycle analyses have confirmed that the most negative environmental impacts occur in five consumer areas: food, housing, mobility, household appliances and devices, and household goods. We examine these areas in detail on the following pages of this brochure, following the life cycle of each. The EU consumption calculator helps you assess your own consumer footprint (how your shopping habits and lifestyle strain the environment) and provides simple solutions to reduce it.

It would be short-sighted to ignore the environmental, social, and health effects of unlimited consumption and the products we buy. We need to react right away because we know the solutions. It would be naïve of us not to opt for less harmful and healthier alternatives. Our choice will, in many cases, not remain ours alone—good ideas tend to connect people who can change the entire system.

Sustainable consumption is no longer a choice, but it is our only solution if we want a healthy and equitable future. Be among those who will blaze this trail.

# We Are All Part of a Single Planet

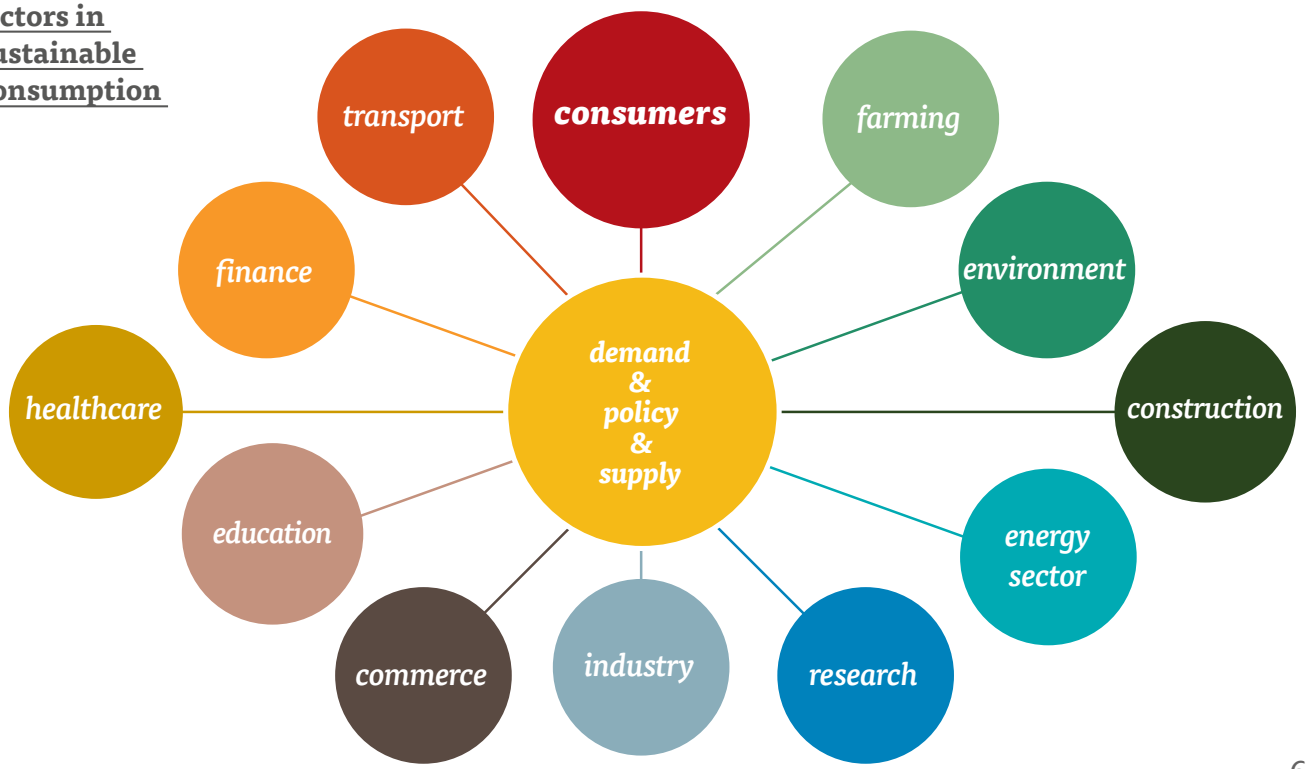
***Many different interrelated and connected factors affect the environment and our health. That is why we need a comprehensive approach to obtain solutions. The only way to achieve sustainable consumption and establish a circular economy is for all of us to be aware of our impacts on the environment and appropriately adapt our activities in response.***

Maintaining a balanced environment is crucial for all of us. To keep this balance, we do not need revolutionary changes; most of the changes involve simple changes in our behaviour.

Let's look at the so-called **R's**: **Rethink, Refuse, Reduce, Reuse, Retain, Repair, Re-gift, Recover, and Recycle**. **R**ethink**:** We can think about the lifecycle of a product and its environmental impacts and reconsider buying it to lessen our footprint. **R**efuse**:** We can decide to refrain from purchasing a product or consuming as much energy in the first place. **R**educe**:** We can use less non-renewable materials in production, make fewer purchases, reduce the amount of waste, and decrease or eliminate the use of toxic substances. **R**euse**:** We can use a product again or give it a new purpose. **R**etain**:** We need to use products for a longer period of time and avoid buying new ones just because they came on the market. **R**epair: We can repair items instead of just throwing them away. **R**e-gift**:** We can give an item away, donate it to the less fortunate, or sell it. **R**ecover: We can remanufacture already used materials and products into new products. **R**ecycle**:** If all the above fail, we can properly recycle an item so that the materials can be used to produce something else. We can buy products made from recycled materials.

We all need to be much more ambitious about using energy from renewable resources and apply the knowledge and opportunities available in our everyday business, political and personal decisions. Sustainable consumption provides solutions to complex problems, and applying it will soon show us visible results.

**DIAGRAM 3: Actors in sustainable consumption**



# The Secret Life of Our Products

***Every product has its life cycle; it does not simply "show up" in stores and "disappear" when we grow tired of it. A product's path to the consumer begins when the raw materials for its production are gathered and ends when it is discarded. Each phase affects our climate, environment, society, and health. Only when we add up the impacts from these various phases can we get a complete picture of a product's overall effect on the environment. We can definitely reduce environmental impacts during each life phase of a product. Our greatest responsibility as consumers occurs when we purchase a product, use it, and consider how to dispose of it.***

1

**The first life phase of a product begins with extraction of raw materials.** This process substantially degrades the natural environment and limits biodiversity in the affected areas, changing entire landscapes and surfaces and altering water flows. Possible water and soil pollution, along with dust, noise, and vibrations are side effects of such activity. Extraction produces large amounts of waste, some of which can be hazardous. Social factors like fair labour practices should be considered.

2

**The second phase is processing, during which raw materials are modified to manufacture a product.** This phase can be very intensive in terms of energy use. It often requires water and chemicals and produces gases and dust particles that pollute the air, in addition to waste.

3

**The third phase is production.** Manufacturers use various materials, energy resources, water, and chemicals, including toxic ones. These processes also result in greenhouse gas emissions and other pollutants that affect water, soil, and air. It is not just outdoor air pollution that is problematic, but also indoor. The production process also results in noise, waste (including hazardous waste), and workplace accidents. Packaging is an integral part of the production process. Nowadays, products are frequently nestled in large (or excessive) quantities of packaging that can all too quickly turn into waste. Paper packaging is relatively easy to recycle, but plastic packaging is far more complex, mostly because of its variety.

**This phase, in particular, is where a product's environmental footprint can be reduced the most, especially if the product is well thought out and designed.**

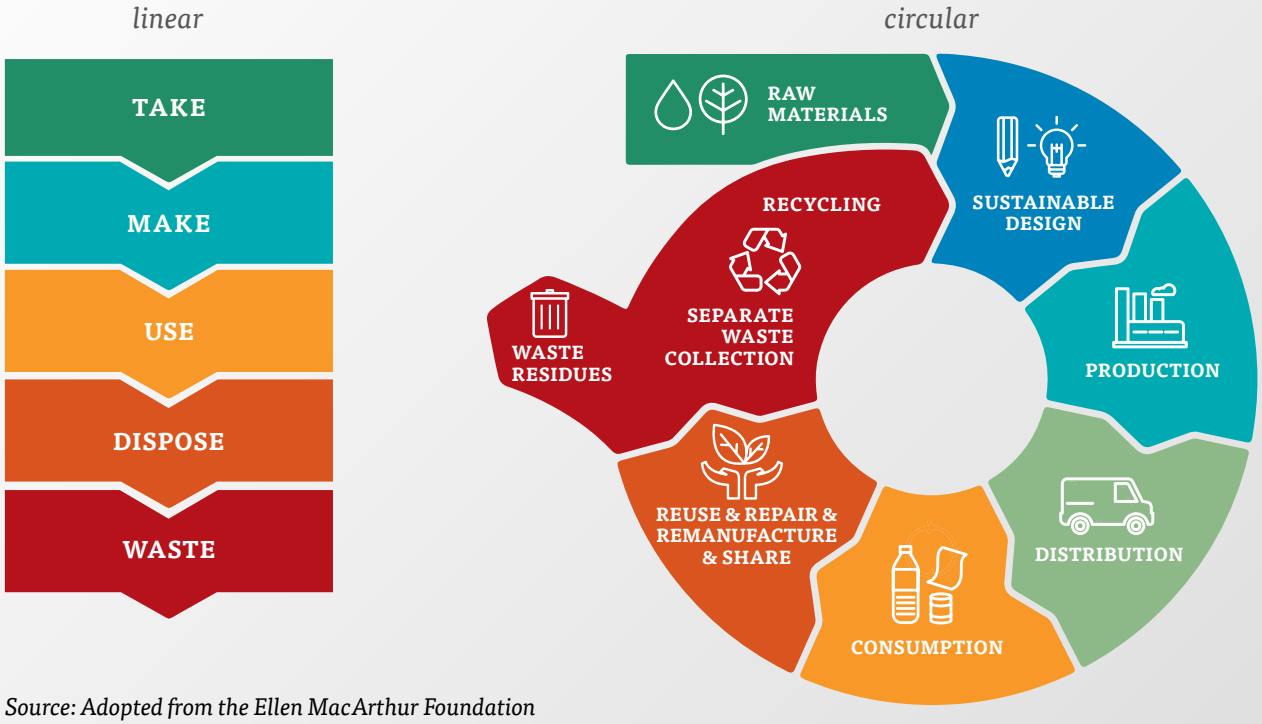
4

**The fourth phase is product use.** At this stage, consumers can reduce their environmental impact if they act appropriately. It is essential that we use products in an energy-efficient way and increase their lifespan for as long as possible.

5

**The fifth phase begins when we cease to use the product.** We can dispose of the product correctly by putting it into the appropriate bins, taking it to a waste centre, or donating or selling it. We can return the product to the store where we bought it or to the manufacturer for it to be recycled or disposed of properly. Dumping it in nature is entirely unacceptable.

**DIAGRAM 4: Differences between a linear and circular economy**

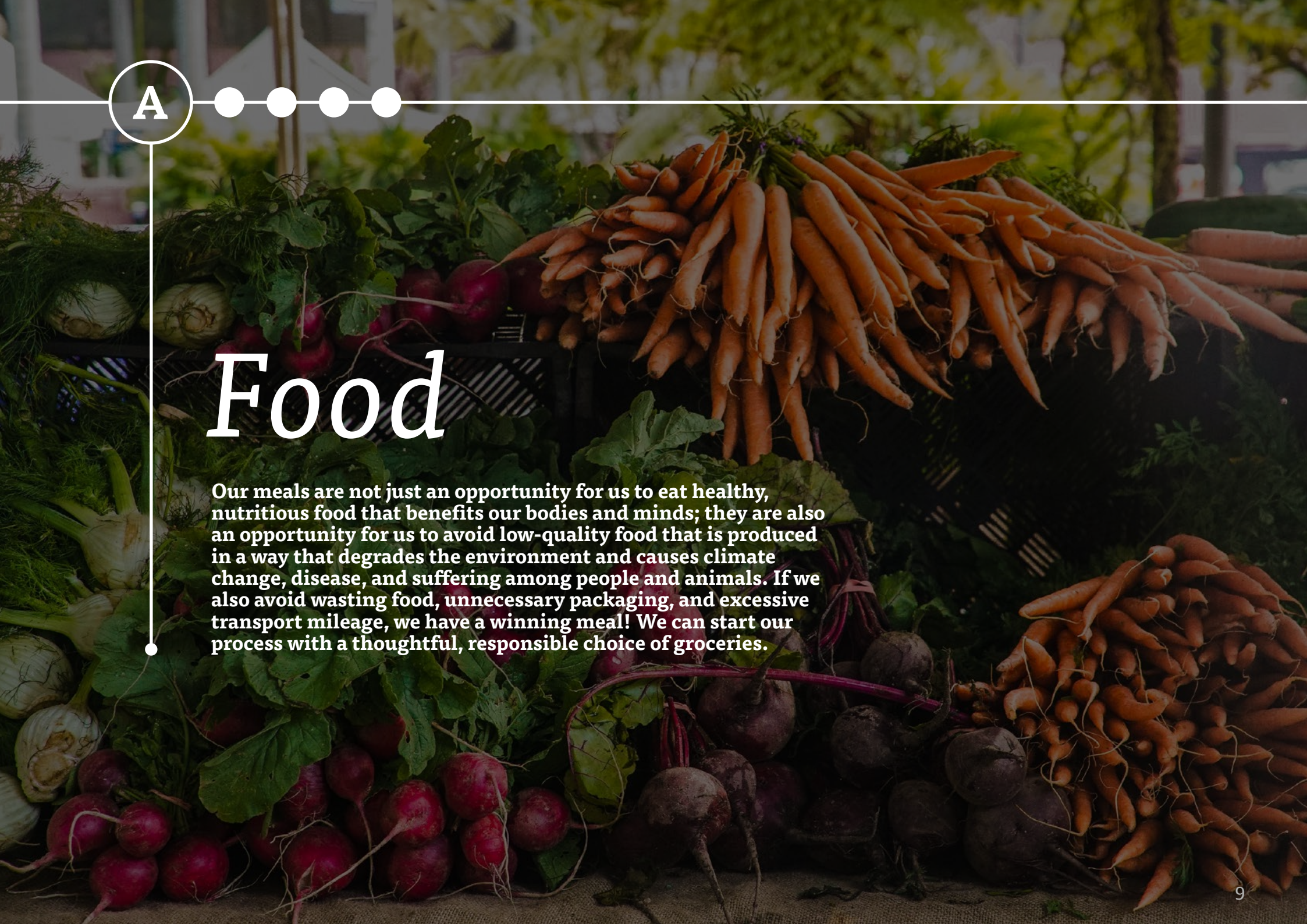



*Source: Adopted from the Ellen MacArthur Foundation*

**In all the product's life phases, transportation is a significant source of negative environmental pressures.** Most vehicles use fossil fuels, cause noise, and pollute (with their tyre particles, among other things). The construction of roads to facilitate transportation also transforms landscapes and further impacts the environment.

**The phases described here represent the dominant, linear economic model** (cradle to grave), which works on the principles of "take, make, use, and dispose" and is based on the outdated assumption that natural resources are available to us in unlimited quantities. Because we only have one planet, we cannot make infinite use of natural resources. Many resources (water, soil, air, and ecosystems) are already heavily polluted, while the supplies of raw materials (minerals, including rare earths and fossil fuels) are declining rapidly. The consequences of unsustainable economic growth and a profit-centred mentality are already becoming evident, and the situation is bound to grow even worse with time. Technological improvements in products are also insufficient to limit these negative consequences because we continue to buy more products. Because of this, we still use too many resources, dispose of too many usable materials, and create too many greenhouse gas emissions, along with other pollutants and waste.

**In the past few years, we have been advocating the use of a circular economy model** (cradle to cradle), which is based on natural processes and rejects the concept of waste. Like nature, the circular economy considers waste a resource, meaning we can slow down the depletion of the planet's resources and reduce various environmental impacts. The circular economy focuses primarily on finding solutions that enable a more consistent circulation of resources. It is a production and consumption model based on three principles: the elimination of waste production and use of chemical substances, the retention of products and materials in use for as long as possible (through extended product lifetimes as a result of better design, which makes it possible for products to be repaired, renewed, refurbished, or optimised during use before they are discarded or recycled), and the use of renewable energy sources. By optimising the use of materials, the circular economy contributes to restoring natural systems. Sustainable development is a broader concept based on balanced economic, social, and environmental development.



A

# Food

**Our meals are not just an opportunity for us to eat healthy, nutritious food that benefits our bodies and minds; they are also an opportunity for us to avoid low-quality food that is produced in a way that degrades the environment and causes climate change, disease, and suffering among people and animals. If we also avoid wasting food, unnecessary packaging, and excessive transport mileage, we have a winning meal! We can start our process with a thoughtful, responsible choice of groceries.**

# A Tempest in Your Pot

**Food does not just magically appear on our tables. Crops are grown, food processed, stored, and brought to our shops, where we buy them to prepare our meals.** Usually, we drive to the supermarket. During every step in the process, greenhouse gases and other pollutants are released. Therefore, it is unsurprising that almost a third of all human-caused greenhouse gas emissions are associated with food systems. Among the leading causes of these emissions are animal-based products, primarily red meat, dairy products, and farmed fish. That is why we should choose mostly plant-based and locally produced food that requires shorter transport routes.

**The food sector is a very complex system.** It comprises a network of farms and various producers, manufacturers, shops, restaurants, and households worldwide. In this vast global system, the distribution networks are very interconnected. The avocado is a case in point. Because the demand for this fruit has grown substantially, primarily in Europe, avocado exporters (such as Mexico) have increased production, causing degradation of the environment and nature (because of increased water use and deforestation).

The situation with soya is similar. Because the EU has increased imports of this crop, it has lower greenhouse gas emissions. In contrast, these emissions have increased in soya-growing countries like Brazil. Therefore, we must understand what such intense farming practices mean for the environment and find appropriate solutions.

**Farming is one of the world's biggest industries and employs about a fourth of the world's population.** Most of these farmers are small. In Asia and sub-Saharan Africa, small farmers produce 80% of all food products, mostly on farms smaller than ten hectares that traditionally tend to be sustainable. This approach to farming ensures a greater diversity of flora and fauna and a better quality of soil and food while preserving jobs, usually within a family circle or community. The effects of globalisation, in the form of farm consolidation or from pesticide use, are endangering small farms. In many places, farming has become a profit-making industry. It should, however, be much more: a regenerative system that preserves balance in nature through eco-innovation and good agricultural practices.

## Example of *good practice*

***Dobrina in Jurovski Dol is a co-op of producers that ensures sustainable local food supplies and functions as a social enterprise. It presently has 140 members. It ensures fair wholesale prices and enables joint problem-solving. It organises educational activities and provides practical assistance to farmers (planning crop rotation, vegetable production, and organic farming). The co-op significantly helps smaller farms survive, including by encouraging additional activities on those farms.***

**Human interventions, i.e., farming, construction, and infrastructure, have led to the thoughtless destruction of numerous ecosystems.** In Europe, 70% of wetlands have vanished, and the situation is similar in Slovenia. When habitats are destroyed, biodiversity decreases. For example, dozens of animal and plant species, including amphibians, birds, and butterflies (Indicator NB02), are now protected in Slovenia. Given suitable technological solutions or less intensive farming practices, we could ensure an appropriate level of biodiversity in areas of high natural value. This way, we could secure biodiversity and preserve the variety of species and habitats, and, therefore, the uniqueness of landscapes characterised by a rich cultural and natural heritage (Indicator KM05).

**Over the past 20 years, the global population grew by more than 25%, while farmland increased by just 4%.** This imbalance is primarily because of more intensive farming practices that strive for higher yields from smaller areas, but not without a price. A similar trend can be seen in the EU, where the area of farmland has not increased, but the yields of crops grown on it have. An additional concern for agriculture is the urbanisation of farmland, meaning not only the irreversible destruction of a natural resource but also a decline in possible food security. We frequently build on better farmland rather than land with a lower farming or environmental value (Indicator KM10).

# KEY FACTS

A teaspoon of rich soil contains more living organisms than there are humans on Earth.

Industrial hemp is simple to grow and has many uses. It was previously used in large quantities in Slovenia. Hemp can be processed to make fabrics (for clothing, linen, towels, and tablecloths), paper, ropes, insulation, food (flour, tea, and oil), cosmetics, and fuel.

The production of beef requires 20 times more space and emits 20 times more greenhouse gases per gram of edible proteins than the production of plant proteins (such as beans).

Honey is primarily a sweetener, but it is also a medicine. Research has confirmed its anti-inflammatory and antimicrobial properties.

To produce a kilogram of beef, we use about 1,500 litres of water.

Pesticides are classified into herbicides (for weeds), insecticides (against insects), fungicides (for mould and fungus), and rodenticides (against rodents). More than 1,000 pesticides have been registered. More than 16,000 different pesticides are now available on the market. These include phytopharmaceuticals (for farming) and biocides (for other sectors).

Bananas, mangoes, and peaches are tasty and healthy. However, a lot of water and pesticides are required to grow them commercially: 12,000 litres of water for a kilogram of peaches, 800 litres for a kilogram of bananas, 16,000 litres for a kilogram of mangoes and 3,000 litres for a kilogram of dates.

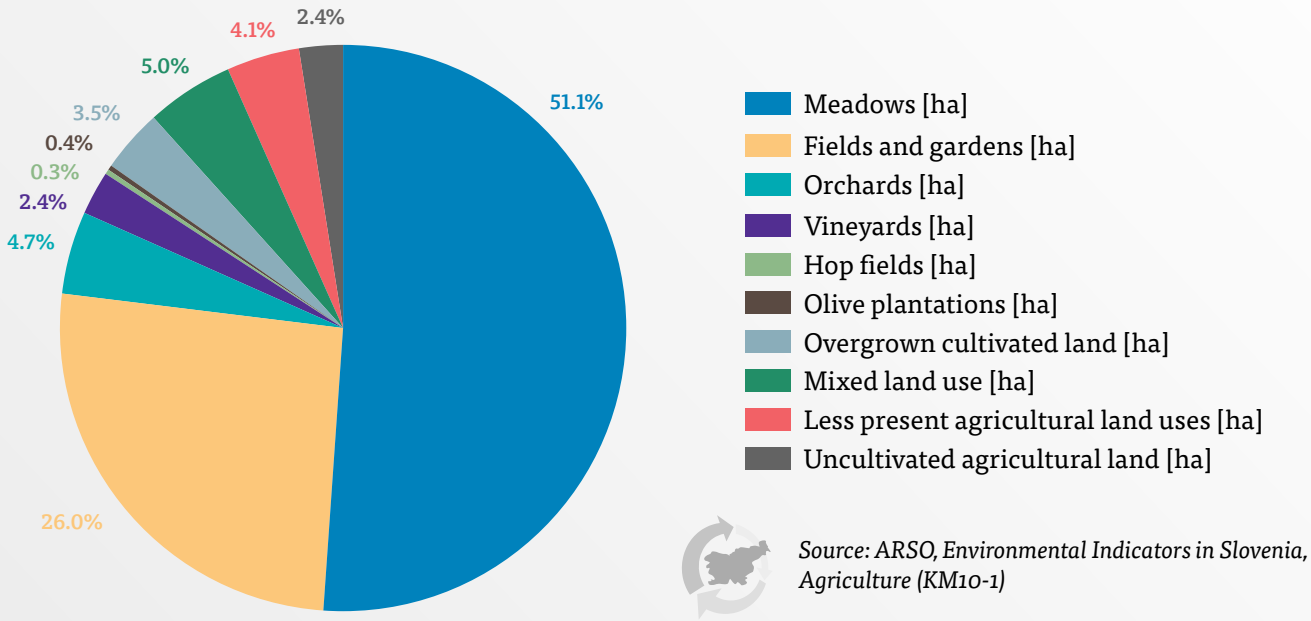
**The consequences of intensive and monoculture farming are visible everywhere.** Intensive farming uses fossil fuels (causing the degradation of landscapes and pollution), irrigation (use of water), large plastic greenhouses (landscape degradation, pollution), and artificial fertilisers and pesticides, which pollute the soil and water and therefore affect people's health. The use of genetically modified organisms can also be a challenge. Soil, which contains many organic substances, is full of life and can capture $CO_2$ and store it. Intensively farmed soil, however, dries out and becomes depleted. It becomes the source of $CO_2$ emissions into the atmosphere and cannot absorb and regulate water flow. In many parts of the world, we can see soil erosion, particularly in areas where forests were cut down and turned into fields. Over the past 150 years, we have lost half of the world's topsoil.

**In Slovenia, the number of farm households focused on monocultures has increased.** In addition to soil depletion, intensive farming with monoculture crops also makes these crops more vulnerable to disease and pests, requiring the application of more artificial fertilisers and phytopharmaceuticals.

**Excessive and uncontrolled use of phytopharmaceuticals and artificial fertilisers degrades the soil and pollutes aquifers and the air.** Because of pesticide use, some animal and plant species have been disappearing. Several years ago, the inappropriate use of a particular pesticide caused Carniolan honey-bee populations in one part of Slovenia to die. After all, pesticides do not just destroy pests but can also harm other animals and humans. Pesticide pollution is associated with chronic diseases, heart and respiratory problems, neurological illnesses, cancer, etc. An extensive biomonitoring study carried out in five European countries between 2014 and 2021 has shown that the bodies of 84% of participants contained at least two pesticides. The study also revealed that pesticide levels were higher in children than adults. Pesticides can remain in the environment for multiple generations.

**Another problem is the neglect of animal welfare in intensive livestock farming.** We see evidence of this in reports about inhumane conditions in which chicks are force-fed to grow faster, animals must endure confinement with limited space to move, and hormones are fed to dairy cows. Diseases are becoming more common. This results in the use of antibiotics that can remain in food products and be consumed by people.

**DIAGRAM 5: Structure of agricultural land use in Slovenia in 2022**



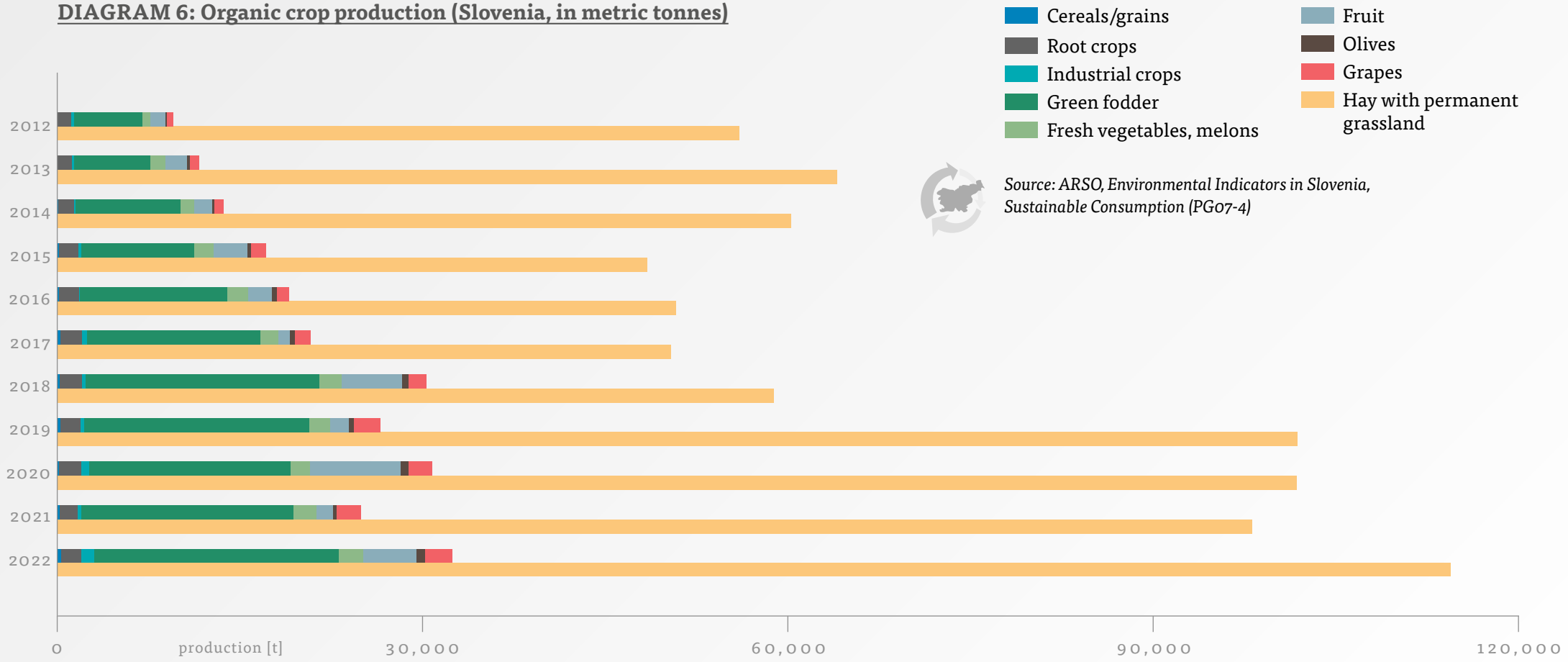

*Source: ARSO, Environmental Indicators in Slovenia, Agriculture (KM10-1)*

**Globally, farming uses some 70% of drinking water–**for livestock farming and primarily for irrigation and watering (including hydroponics). Wastewater can also be a source of pollution. In agriculture, considerable energy is used to operate machines and heat greenhouses. The process also results in nontoxic (plastic packaging) and toxic waste (residuals of pesticides and fertilisers).

**Despite intensive farming practices, more than 700 million people around the world are still experiencing hunger, highlighting the urgent need to improve the global food system.** While 10% of the world population is malnourished, there is a growing number of people (in developing countries as well) who are overweight or obese due to unhealthy nutrition practices (about 10% of the population). Excessive weight and obesity are also problems in Slovenia (Indicator PG16). Based on forecasts, more than half of the world's population will be overweight or obese by 2035–all because of unsuitable food or poor nutrition practices.

**In Slovenia, less of our food is of domestic origin, more is being imported and exported** (Indicators KM31 and KM33). We mainly import cereals, fruit, vegetables, and sugar, while we are almost self-sufficient in meat production

**DIAGRAM 6: Organic crop production (Slovenia, in metric tonnes)**




*Source: ARSO, Environmental Indicators in Slovenia, Sustainable Consumption (PG07-4)*

(except for pork). Regarding meat consumption, Slovenia is at the top of the EU list with 89 kilos per person (Indicator KM29). On the other hand, we do not consume enough fruit and vegetables. Among vegetables, we produce mostly cabbage, lettuce, tomatoes, and onions (Indicator PG07).

**The food manufacturing industry also has a profound effect on the environment.** Food processing requires energy, water, and various chemicals and additives. The manufacturing processes produce waste and residuals. Final products transported from one part of the world to another are often kept in excessive packaging. The same applies to products on store shelves. This creates huge amounts of unnecessary waste.

**The Ecolabel for food can only be used on products that an authorised national agency or body has certified as organic. This label means that the goods have met strict criteria governing the methods of production, processing, transport and storage. In addition to the EU Ecolabel, the product must include the code of the supervisory authority and the origin of the agricultural raw materials.**

**Around 30% of the world's food is thrown away every year.** The percentage is similar in Slovenia; in 2022, the average person in Slovenia threw away 72 kilograms of food. Most, almost half, of food waste is generated by households. Catering and food service account for more than a third, while food waste is lower in grocery stores and in production of crops (Indicator PG13). Whenever we discard food, we also waste energy, soil, water, and fertiliser used for production, packaging, and transportation.

**Climate change impacts farming significantly, and we feel its effects everywhere.** The distribution and amount of precipitation have changed, while we are also seeing a higher number of sudden, extreme weather phenomena (e.g. storms, hurricane-force winds) and mudslides. The growing season has changed because drought and flooding have become more likely in certain areas. Because of temperature changes, insects are becoming more widespread or are disappearing in some areas. The spread of pests and invasive species is particularly damaging. Slovenia has also been seeing the consequences of extreme weather, including spring frosts, droughts, high temperatures, severe storms, and floods (Indicator PP14), which have become more common over the last few years and affect the production of fruit, some vegetables, olives, grapes, and honey. Climate change can also make agricultural products more expensive. These prices would be even higher if we considered all the external expenses caused by the farming industry's effects on health, the environment, and society.

**To ensure food security, mitigating and adapting to climate change is of the utmost importance.** Food security means everyone always has access to safe and nutritious food. One of the strategies to adapt food production is to change the selection of crops produced. Other changes include technological ones, such as gathering data on nutrient flows, soil moisture, disease and pests, and the successful adaptation to such challenges. Purchasing food locally is also increasingly important.

**For farming to become more sustainable, everyone must play their role: farmers, industry, retailers, politicians, and consumers.** We can all choose which and how much food to buy and where. We should not base our purchases on attractive packaging or retailers' slogans. Instead, we need to pay attention to the ingredients. It would benefit everyone if we chose fresh seasonal, local, unprocessed, and environmentally certified food products. We can pick stores where we can weigh our selected products and buy just the right amount, so we don't need to throw anything away. We should also consider buying food without unnecessary packaging and instead bring our own shopping bags. When preparing food at home, we can also consider using as little energy, water, and other resources as possible. We can plan meals for the entire week and skip meat on some days, replacing it with an equivalent plant-based protein.

# 10 ideas

## FOR A MORE SUSTAINABLE KITCHEN

**#1**
Choose varied meals and strive for balanced nutrition.

**#2**
Use glass or ceramic pots to store your food. Cover pots with lids instead of plastic foil.

**#3**
Give preference to seasonal vegetables and fruit.

**#4**
Check the recycling number on the bottom of the plastic packaging. The highest quality of plastic (which is least likely to release harmful chemicals) is marked with the numbers 2, 4 and 5.

**#5**
When possible, treat yourself to organic fruit and vegetables.

**#6**
Find a local food supplier.

**#7**
Have at least one day a week without meat. Increase the number of meat-free days over time.

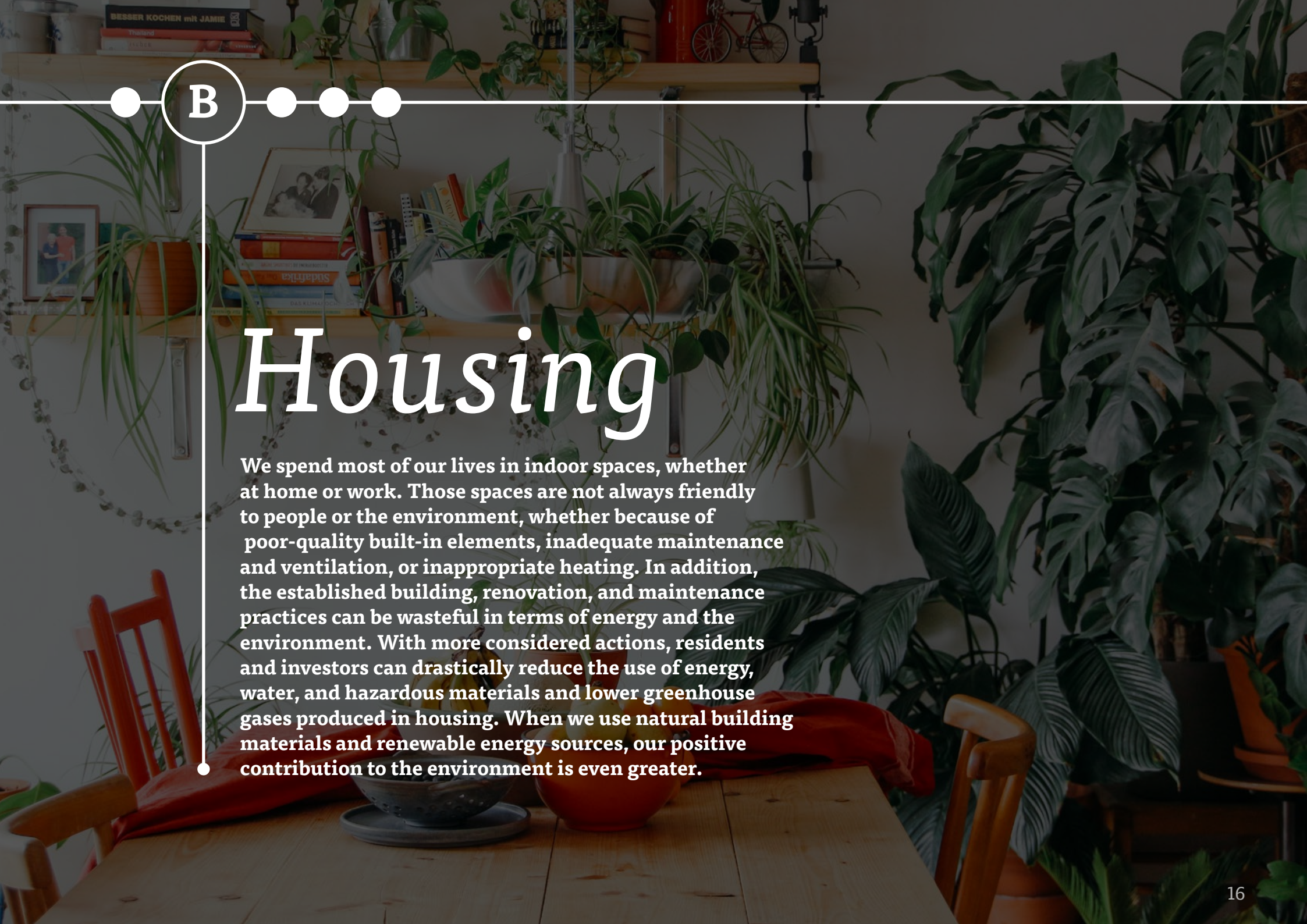
**#8**
Take time to read labels and inform yourself about the origin of the food you are buying.

**#9**
Try growing produce on your balcony, windowsills, or in elevated gardens.

**#10**
Reduce the amount of food you throw away. Buy just what you need and use all your groceries.

## *Good* news

**In Slovenia and worldwide, we are slowly but surely seeing more sustainable farming practices, including organic, biodynamic, and others. Recently, there has also been a focus on hay-based feed to produce meat and dairy, which has numerous advantages for both our health and the environment. As a mountainous country, Slovenia has the preconditions for such farming, which enables biodiversity and helps preserve natural resources. Organic agriculture in Slovenia is growing, however has yet to sufficiently meet consumer demand, mainly for fresh vegetables, fruit, and non-meat farm products (cereals and dairy products). In Slovenia, livestock and grassland farming still dominate the organic production sector.**




B

# Housing

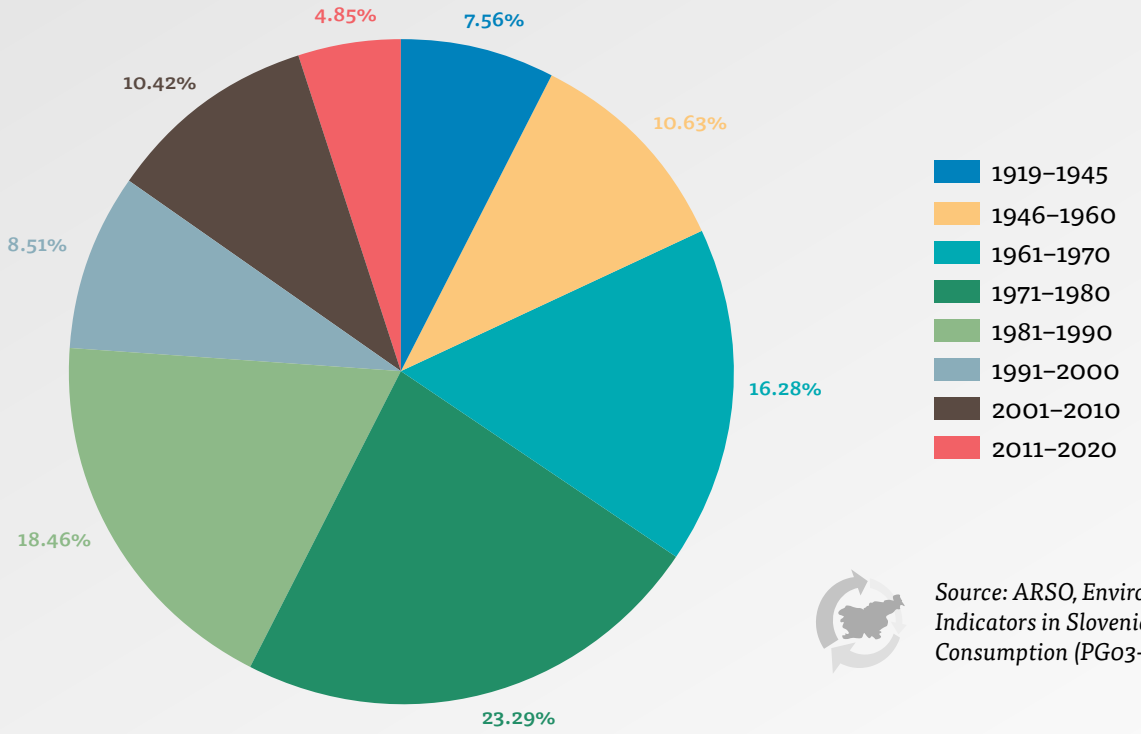
**We spend most of our lives in indoor spaces, whether at home or work. Those spaces are not always friendly to people or the environment, whether because of poor-quality built-in elements, inadequate maintenance and ventilation, or inappropriate heating. In addition, the established building, renovation, and maintenance practices can be wasteful in terms of energy and the environment. With more considered actions, residents and investors can drastically reduce the use of energy, water, and hazardous materials and lower greenhouse gases produced in housing. When we use natural building materials and renewable energy sources, our positive contribution to the environment is even greater.**

# The Dark Side of Every Square Metre

**Two-thirds of Slovenians live either in single-unit or dual-unit residential buildings**. Slightly less than a third live in buildings with three or more units. The average age of these buildings is 45 years, which is also more or less the reference lifetime of built-in elements. Therefore, many of them are quite wasteful in terms of energy and need to have their windows, doors, and roofs replaced or repaired. Insulation must be improved or installed, the wiring redone, and the heating system replaced or redesigned. Eighteen percent of households report that the home they are living in is in poor condition. Almost 5% of Slovenia's population lives in unsuitable or overcrowded apartments, with problems such as too few rooms for the number, gender, and age of family members (Indicator PG03). A certain segment of the Slovenian population cannot afford a sustainable way of life. In 2022, about 252,000 residents of Slovenia or 12.1% of the population, lived on incomes lower than the risk-of-poverty threshold. In other words, every eighth Slovenian lives below the poverty threshold (Indicator PG14). Data about energy-poor households, mobility poverty, and health poverty of the population also reflect this.

**More than 92% of apartments in Slovenia are owner-occupied.** (The EU average is 70%). The average usable space per occupant is 30 square metres. The number of homes is almost identical to the number of households (more than 800,000), but not all the homes are occupied (as they include holiday homes and vineyard cottages), and some owners have multiple homes. About 10% of the houses constructed after 2005 are already more energy efficient.

**DIAGRAM 7: Dwellings by period of construction (Slovenia)**




*Source: ARSO, Environmental Indicators in Slovenia, Sustainable Consumption (PG03-4)*

**Construction and housing make up an exceptionally complex system**. It includes both new construction, renovations, and the use of existing buildings. All these phases require many different materials that have various environmental impacts.

**On a global basis, the construction sector contributes 23% to air pollution and 40% to the pollution of drinking water.** According to data from the European Commission, this sector consumes half of all raw materials, half of all energy and a third of all water. It is responsible for a third of all waste generated in Europe. Estimates indicate that greenhouse emissions due to the extraction of raw materials, the production of building materials, and other products for the construction and renovation of buildings amount to 5-12% of total national emissions. We could reduce these emissions by 80% by choosing more suitable materials.

**A building constructed or renovated using natural, sustainable materials enables a sustainable, self-sufficient lifestyle. It has a collection tank for rainwater, a green roof, a fruit and vegetable garden, and possibly a conservatory. Its heating, hot water, and cooling sources are renewable, and the home has energy storage devices, which can also be used for electric cars.**

**Since January 2021, all new buildings in EU member countries must be close to zero energy,** i.e., with minimal energy use and almost zero greenhouse emissions. We should also follow this approach when renovating buildings because it enables us to drastically reduce greenhouse gas emissions, especially if we also stop using fossil fuels for heating.

**Constructing new buildings and renovating requires many natural resources**, such as stone, gravel, and sand, as well as plastics and other artificial materials. The manufacture and processing of these materials profoundly impacts the environment due to the amount of energy and water required, the resulting air, water, soil, and noise pollution, and the chemicals added to some construction materials.

**The materials used in a building structure must be high quality and environmentally friendly. They must not contain dangerous chemicals.** Therefore, when planning construction or renovations, we must consider the materials we use to ensure they can be

## KEY FACTS

**Worldwide, 2.5 billion bricks are thrown away as waste material during building demolition. Only 5% are intended for further use.**

**The use of renewable energy sources for buildings in the EU has grown by nearly a fifth.**

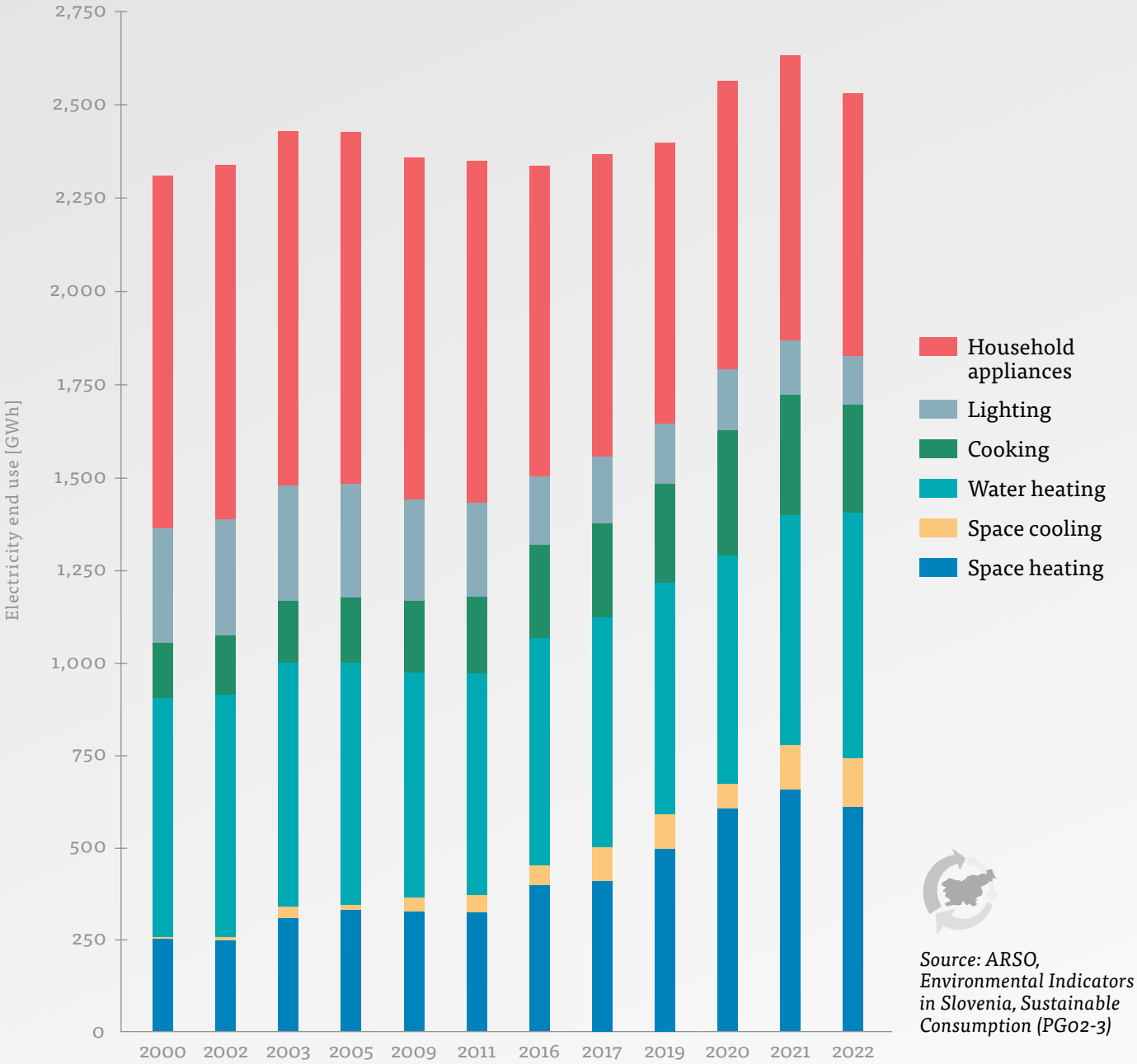
**Globally, the resource we use the most is water, immediately followed by concrete.**

**A household pool, regardless of its size, tends to use large quantities of drinking water, electricity, and chemicals. It also requires the installation of mechanical equipment and plenty of space.**

**The operating costs for new, efficient buildings can be reduced by as much as 50% in five years.**

**In Slovenia, more than 10% of households are experiencing energy poverty. (They have been financially unable to ensure proper heating; they are late with payments for living expenses, or they live in homes with leaky roofs, damp walls/floors/foundations, or decayed window frames/ floors.)**

## DIAGRAM 8: Electricity consumption in households (Slovenia, in terajoules)




*Source: ARSO, Environmental Indicators in Slovenia, Sustainable Consumption (PG02-3)*

reused or recycled. Some materials have a substantially lower carbon footprint and, therefore, contribute less to climate change. These include wood, straw, hemp, sheep's wool, and reeds. In Slovenia, we once built our homes using only wood, stone, soil, straw, and bricks.

**Data show that buildings impact the environment the most in the use phase, mainly because of the energy consumed.** Most of the electricity consumed in households is used for heating domestic water and space, operating household appliances and equipment, and cooking (Indicator PG02). Rising temperature caused by climate change are increasing electricity consumption for cooling.

**By changing our behaviour, we can dramatically reduce our energy use.** Setting thermostats to 26°C in the wintertime and walking around in short sleeves is not only wasteful and irresponsible to the environment but also endangers our health. Using air conditioning when we have our windows open is similarly irresponsible.

**We also use large amounts of drinking water in buildings and homes (even to flush the toilets).** If we reduce water and energy consumption, we also save money. A large portion of the household budget is devoted to housing and utilities, i.e., water, electricity, gas, and other fuels, and these costs have been constantly increasing (Indicator PG06). We can

reduce water consumption by installing water-conserving showerheads and taps, as well as toilets with dual-flushing systems.

**In 2022, construction waste in Slovenia represented nearly three-quarters of all collected waste.** (This included mainly soil and stones, but also bricks, concrete and concrete-based products, wood, metal, plastics, and insulation materials.) Most of these were used for infills, which is a pity because the proper demolition of buildings and appropriate waste sorting during construction and renovation would enable these materials to be processed and reused. Designing buildings in a way that allows the optimum use of secondary materials is becoming increasingly important.

**We spend 90% of our lives indoors.** Therefore, buildings should enable a safe environment for residents, and indoor air quality should be high. Unfortunately, that is not always the case. We are frequently faced with "sick building syndrome," where people develop different signs of illness (such as headaches, fatigue, or dry cough) connected with pollution due to gases released from floor coverings, furniture from engineered wood, and other building materials and products that contain solvents, glues, paints, and varnish.

**Almost half of the settlements in Slovenia have fewer than 100 residents, while a quarter have fewer than 50.** The physical relief of our country is varied and mountainous. Settlements are widely spread out, creating an uneven pattern that has resulted in poor land management and the loss of farmland and habitats for flora and fauna. Car use is increasing, as is the construction of road infrastructure and its maintenance costs. In addition, rural settlements are losing their traditional rustic appearance and role.

## Example of ***good practice***

***Slovenia has several exceptional examples of good practice in sustainable construction and renovation. Many builders offer wooden homes (some as large as 8,000 m²) and buildings made of straw or clay. Numerous companies provide individual sustainable or circular solutions for residences, either with natural or recycled insulation. Some offer natural paints and coatings, innovative wood-block walls, and ceilings made of Alpine wood without glues, chemicals, or metals. Recycled wood can also be used for flooring, doors, and windows (even thermally modified).***

# 10 ideas

## FOR MORE SUSTAINABLE LIVING

**#1**
Watch the indoor temperature in the winter; 21°C is a sufficiently high and healthy temperature.

**#2**
Ensure pleasant indoor temperature and air quality in the summer using suitable and time-adjusted ventilation and shade.

**#3**
Repair, update, or seal your windows instead of buying new ones.

**#4**
Install floors made of natural materials (bamboo, wood, cork, natural linoleum, or recycled materials) that are healthier and more environmentally friendly than those made of artificial materials.

**#5**
Furnish your room with selected potted plants to help clean the air.

**#6**
Gradually replace your old bulbs with LED lights. Even though LEDs are more expensive, they ensure significant cost savings over time and reduce greenhouse gas emissions.

**#7**
Turn off the lights when you leave a room.

**#8**
Get advice from the ENSVET network before beginning construction or renovation work. They provide free consultation for energy investments and assist with applications for financial support from the Eco Fund.

**#9**
Use environmentally friendly paints and coatings (flaxseed, tung oil, or wax) when renovating walls or furniture.

**#10**
Install appropriate devices (toilets with a dual-flushing system or water-saving taps) to use water more efficiently. You can also ensure taps are closed after use and immediately repair leaky faucets to conserve water.

## *Good* news

**Under the LIFE IP CARE4CLIMATE project, national indicators for sustainable construction are being developed to assist in transitioning to more sustainable practices. The indicators will follow a new European framework for sustainable buildings (Level(s)), which covers three topics: the environment (the use of resources and the environmental characteristics of a building's lifespan), humans (their health and comfort), and the economy of use (the costs and value of the building).**

C

# Mobility

**Because we tend to emphasise comfort above all, we spend more of our time in cars. They enable us to conquer distances quickly, but we also end up in traffic jams, lose time looking for parking spaces, and exercise less. The broader situation isn't any rosier. Vehicle traffic is directly co-responsible for climate change, air and environmental pollution, traffic accidents, and the degradation of the urban space and landscape. We can improve this very poor picture simply by conducting trips shorter than a few kilometres on foot or bike. This way, we can reduce pollution, positively impact our health, save money, and feel much better.**

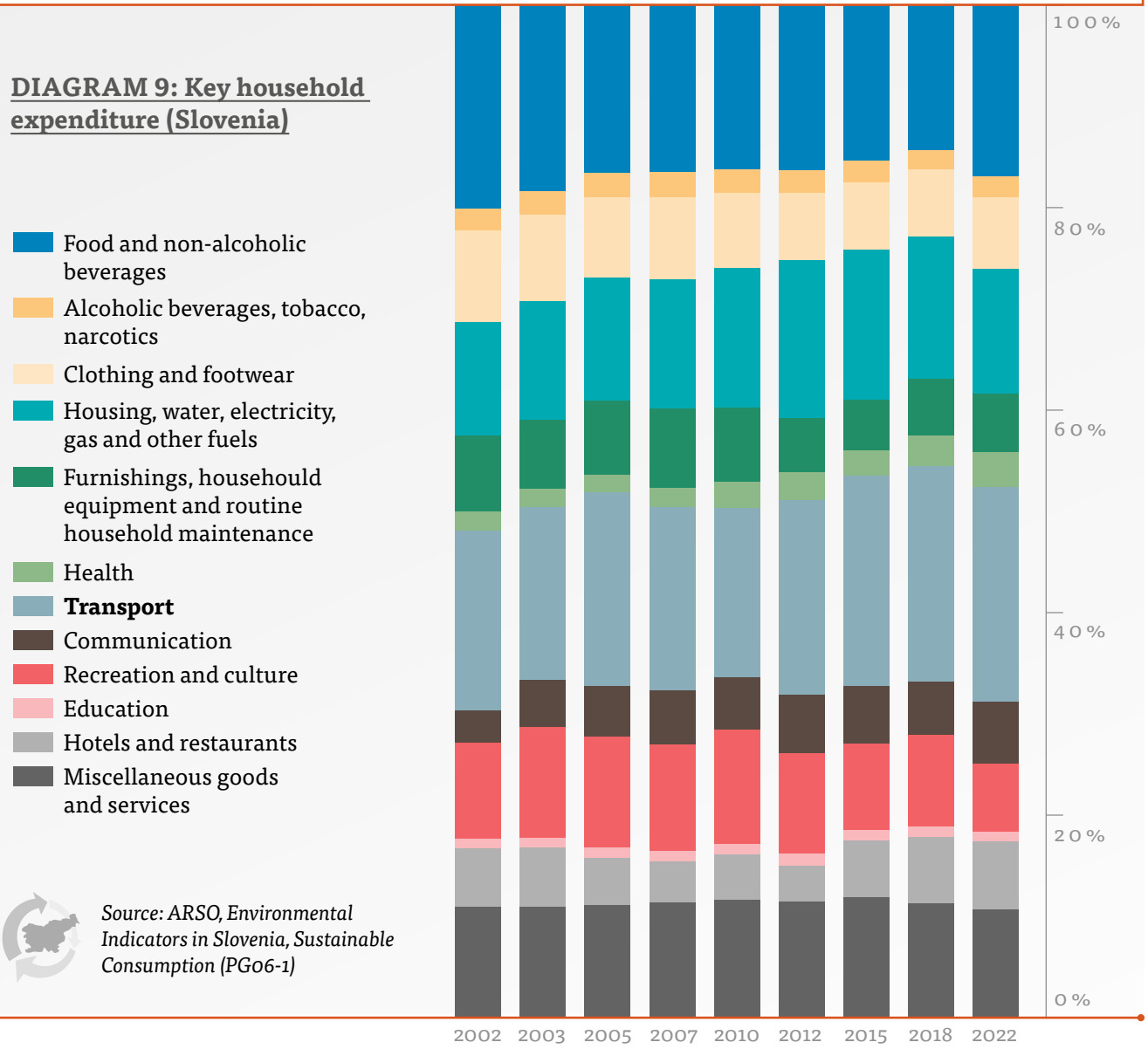
# A Metal Cage for Adults

**In Slovenia, more than a third of households have two vehicles.** Because of the rising standard of living, households gradually have been able to afford an additional car (for adolescent children, for greater independence when heading to work, or because of holidays and trips). With the increase in the number of vehicles, the attractiveness of public transport began to decline. It became less competitive, comfortable, and justified in terms of time.

**The number of cars in Slovenia has doubled over the past 20 years.** At the end of 2022, there were almost 1.2 million vehicles (Indicator PR11); more than half are diesel-powered and are 10.9 years old on average (Indicator PR12). Among the cars registered in Slovenia, only 3% are electric or have hybrid engines, but these numbers are steadily increasing.

**Our driving distances tend to be short.** The key criterion in our decision to drive is time. Studies show that we use our cars to go everywhere: work, school, kindergarten, school or recreational activities, shopping,

DIAGRAM 9: Key household expenditure (Slovenia)




*Source: ARSO, Environmental Indicators in Slovenia, Sustainable Consumption (PG06-1)*

visiting relatives and friends, day trips, etc. Our shortest drives tend to occur when we go shopping (Indicator OP11). The second most common way of getting around is walking, but primarily only for distances of up to one kilometre.

**Because settlements in Slovenia are exceptionally scattered out, we are often forced to drive because there is no public transport alternative.** This is a consequence of poor spatial planning, the unsuitable development of road infrastructure, and associated changes in public transport. The scattered settlement pattern is also problematic because most jobs and educational institutions are in the Central Slovenia region. This settlement pattern causes mass commutes: 150,000 people drive into (and out of) Ljubljana every day for work. It is worrying for the environment that on more than two-thirds of these drives, only one person is in the car.

**Of all EU members, Slovenians spent the most money on mobility.** Owning a car is a costly undertaking. In 2021, Slovenian households used 17% of their household income for personal mobility, of which 10% went for the operation of vehicles and 6% for purchase (Indicator PR14). Only slightly more than 0.5% went to public transport, confirming the unbalanced nature of Slovenia's transport system, which is dominated by cars, while public transport remains underfunded. Furthermore, about 10% of households are

# KEY FACTS

A bus can transport at least 50 people, while a car can carry five at most.

Intensive research is underway to find out what could replace fossil fuels. It focuses on synthetic and alcohol-based fuels, hydrogen, waste edible oil, biofuels (algae, hemp), and similar substances.

Today, we spend an hour travelling from Ljubljana to Celje– the same amount of time as 150 years ago when the railway line was built.

Fifty percent of urban land is devoted to streets, roads, car parks, service stations, driveways, signal systems, and traffic signs.

Electric vehicles, hybrid vehicles (when run electrically), and hydrogen vehicles usually produce less noise than vehicles with internal combustion engines.

On average, a vehicle is parked 92% of the time. It spends the rest of the time being driven (5%), in traffic jams, or in search of a parking spot.

A bus with 50 passengers takes the same road space as three cars with 12 passengers.

Remote collaboration and home office can reduce the need for daily commutes or travel to other events, resulting in a decline in traffic jams and greenhouse gas emissions.

facing mobility poverty because they cannot afford the necessary transportation for their socioeconomic needs.

**Transport has a significant environmental impact,** primarily because of the use of oil and raw materials in the production of motor vehicles. While the manufacturing process for motor vehicles requires various metals, plastics, glass, etc., the production process also uses oil and paints.

**On a global basis, the transportation sector is responsible for about a quarter of greenhouse gas emissions** because most vehicles still use oil products and are an important factor in climate change. In Slovenia,

**A person who cannot drive for economic, medical, or other reasons and cannot walk to school, work, or basic services depends entirely on public transport.**

**DIAGRAM 10: The effect of various pollutants on health**

*Headache and anxiety ($SO_2$)*
*Effect on the central nervous system*

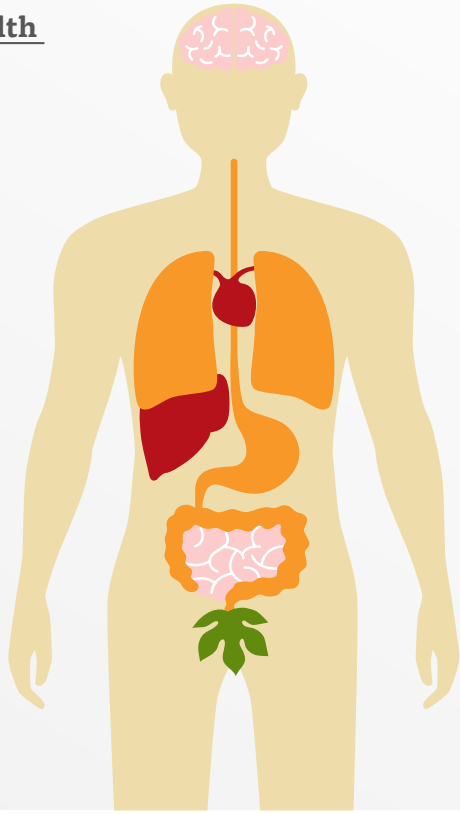
*Eye, nose and throat irritation*
*Breathing difficulties ($O_3$, PM, $NO_3$, $SO_2$, BaP)*

*Cardiovascular diseases (PM, $O_3$, $SO_2$)*

*Effect on the respiratory system: irritation, inflammation and infections*
*Asthma and reduced lung function*
*Chronic obstructive pulmonary disease (PM)*
*Lung cancer (PM, BaP)*

*Effect on liver, kidney and blood*

*Effects on the reproductive system*



*Source: Report on the Environment in Slovenia, 2022*

33% of overall greenhouse gas emissions are from transportation. Vehicular traffic also causes other gas emissions and particulate matter (PM) (Indicator PR08). Slovenia is considered one of the more air polluted countries in the European Union primarily because of occasional elevated concentrations of PM10 and PM2.5. Because of summertime traffic, ground-level ozone and photochemical smog occur in towns. Polluted air is harmful to health, particularly that of children and the elderly. It can also cause premature death (about 400,000 deaths per year in the EU), cardiovascular disease, cancer, stress, lung disease, asthma, headaches, etc.

**Even though vehicles have gradually become cleaner and quieter, traffic still causes too much pollution.** Cars have become more accessible and use less fuel, resulting in us driving more

## Example of ***good practice***

***PROSTOFER (a Slovenian abbreviation for "volunteer driver") is a Slovenian sustainability-oriented volunteer project run by the non-profit Golden Network for the Mobility of Seniors. It is intended for anyone who does not drive, has no relatives to drive them, or has a low income and poor public transport connections. Active in almost 100 municipalities, PROSTOFER makes it easier for people to access various services. The municipality typically provides the vehicles, and drivers are usually older, still-active volunteers.***

frequently and farther. Traffic is increasing rapidly, diminishing the benefits of stricter legislation and more efficient vehicles. Traffic also puts pressure on the environment with various pollutants (oils, fuels, wastewater, and coolants). These liquids often seep from roads directly into the environment, surface streams, and aquifers. We should not forget waste materials (tyres, plastic, and metal parts) and discarded vehicles. Additional impacts include light pollution and increased noise levels to which we are exposed day and night, making us irritable, exhausted, and unable to concentrate. Children tend to be the most sensitive to these issues.

**Vehicle infrastructure takes up vast surfaces**; this changes the appearance of landscapes and contributes to a reduction in biodiversity. In urban areas, green surfaces all too often need to make way for car parks or parking garages because road surfaces and traffic infrastructure take up almost half of urban land surfaces. Car accidents that result in fatalities or severe injuries are another negative effect of traffic.

# 10 ideas

## FOR MORE SUSTAINABLE TRAVEL

**#1**
Cover distances shorter than three kilometres on foot or by bike.

**#2**
Arrange carpools with your neighbours to travel to work.

**#3**
If buying a new vehicle, consider an electric or hybrid model.

**#4**
Check if you can drive to the nearest bus stop or railway station and continue your journey by bus or train.

**#5**
Arrange carpools with other parents to get to your children's activities.

**#6**
When you drive into bigger towns, find a map of car parks and potential transfers to public transport lines.

**#7**
Find carpools anywhere in Slovenia at Prevoz.org.

**#8**
Save money and stay safe by driving ecologically (at moderate speed) and with optimum pressure in your tyres.

**#9**
Calculate your carbon footprint in connection to your transport.

**#10**
In towns, use public transport or bicycle. Even a day trip with the family can become a more pleasant experience if you use public transportation.

## *Good* news

On 1 June 2023, The Ministry for the Environment, Climate and Energy updated their unified tickets for integrated public transport and introduced new "Slovenia" tickets that enable access to train rides (in second class) and on regional buses. For pensioners above 65 years of age, war veterans, and the disabled, such tickets are free for now. They can be used for regional bus and rail transport across the country, as well as urban public transport in Ljubljana, Maribor, Koper, Kranj, Novo Mesto Jesenice, Celje and Krško.

D

# *Appliances*

**Manufacturers frequently compete in developing devices that make our lives even "easier." Numerous appliances and devices mix, chop, compute, saw, and even exercise for us. When purchasing such devices, we tend to pay attention primarily to the comfort they will provide rather than their environmental impacts and real costs. Most use electricity, while others use water, special liquids, or even fuels. Of course, all these devices hum, rattle, flash, or quietly "sip" electricity. We will do ourselves, our health, our loved ones, and the world a favour if we delay unneeded purchases and check the product's environmental footprint before making a necessary purchase.**

# From Useful to Wasteful

**Almost all Slovenian households have a refrigerator, washing machine, oven, and TV set.** The number of dryers, dishwashers, and microwaves is growing (Indicator PG02). Just over a decade ago, only a handful of households had heat pumps. Today, almost 10% have them. The increase in air conditioner ownership is even faster; they can be found in a third of all households. Almost all households have a mobile phone, while the share of computers is also high. In addition to these typical devices, the majority also have many small household appliances. In many households, we need more than the ten fingers on our two hands to count them: irons, vacuum cleaners, choppers and mixers, various types of electric cookers and pots, water heaters, toasters, coffee machines, and the list goes on.

**The purchase and use of any appliance results in environmental consequences, many of which are invisible.** All household appliances or devices we use impact the environment in all the life phases, from initial development to the end of use and transport to the dump.

**Extracting minerals is the first phase in the production of an appliance.** In addition

## KEY FACTS

Slovenia leads the EU in terms of the retail space per capita.

Clothing irons are among the biggest energy users because the power of their heaters typically exceeds 1,000 watts.

Television sets with LED technology use 25% less energy than LCD sets and up to 40% less than plasma TVs.

The most energy-efficient refrigerators can use 80% less electricity than ordinary ones.

The manufacture of a cell phone requires 38 different materials, while the manufacture of a computer requires more than 50.

Whenever we open an oven door, the oven loses 20% of its accumulated energy.

Even simple changes can reduce the amount of energy used for heating, washing, dishwashing, cooking, and lighting by a third.

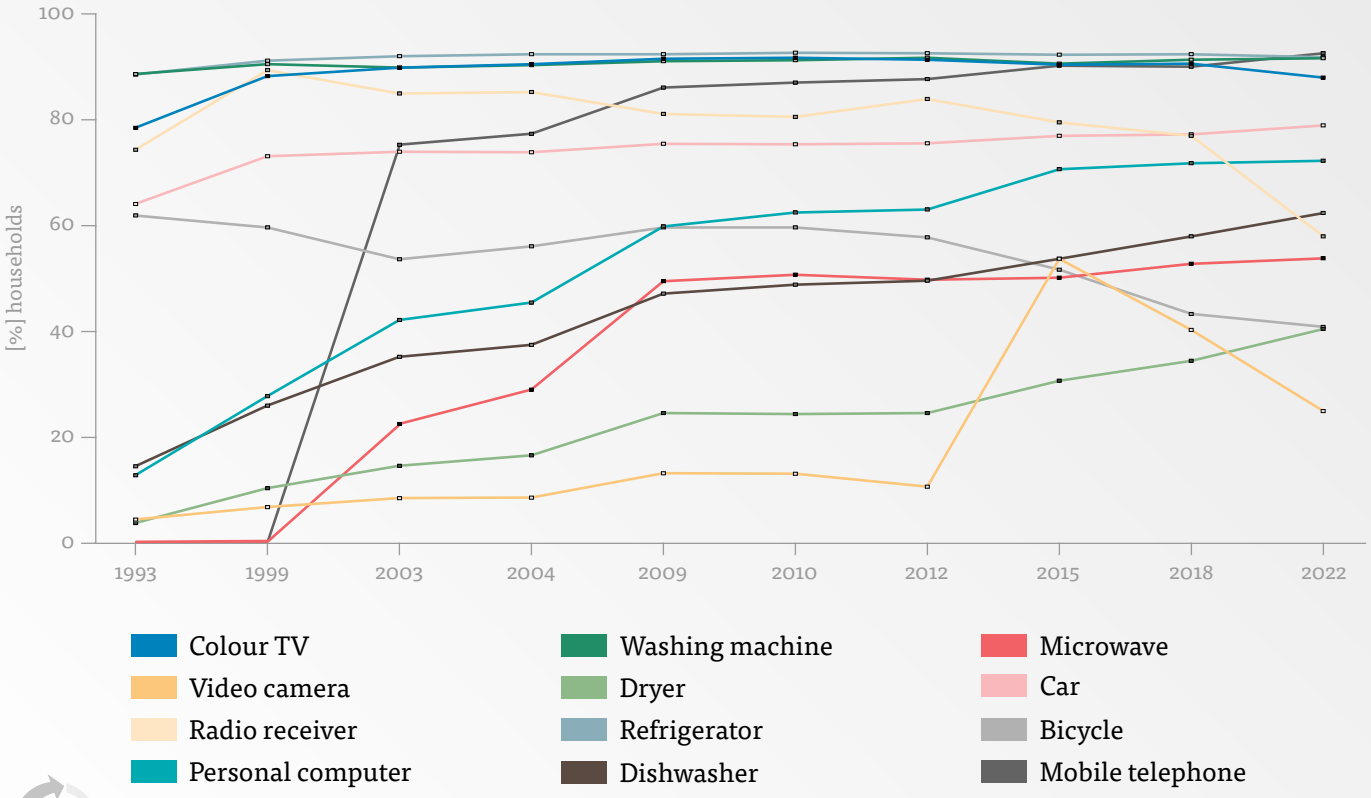
## Example of *good practice*

***Hisense Europe (Hisense and Gorenje brands) received the 2023 silver EcoVadis prize, which recognised the company's commitment to sustainable business practices. The company already recycles 96% of the waste they create. They are trying to reduce their carbon footprint in all phases of production. This includes reducing energy use during manufacture, the materials used in the products, and packaging and transport. Over the last five years, they have made significant progress; they have reduced their water use by 38% and electricity use by 24%. Their household appliances are made from ecologically sound and biodegradable materials. They are now attempting to increase their products' lifespans.***

to the negative environmental impacts, labour exploitation is also problematic in this phase. Workers are often paid low wages for their work, lack appropriate protection, and work in unsuitable work environments. Sometimes, they may even be young children. The manufacture of electronics requires rare earth elements (such as gold, silver, palladium, titanium, and cobalt), the limited supplies of which increase their prices when demand rises. Access to these metals is increasingly becoming a political question and a trigger of conflict.

**The manufacturing of appliances and devices has a high environmental cost** because it requires energy (primarily from fossil fuels), water, chemicals, and various materials, such as metals, glass, plastics, and

**DIAGRAM 11: Possession of household appliances (Slovenia)**




*Source: ARSO, Environmental Indicators in Slovenia, Sustainable Consumption (PG02-2)*

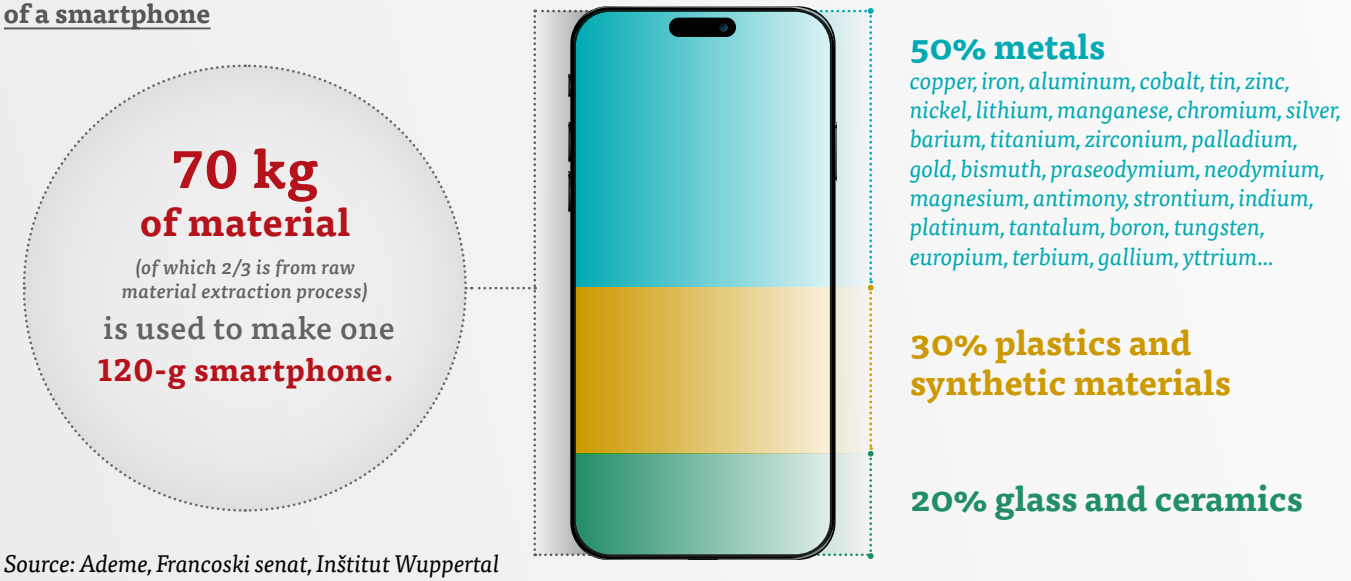
sometimes wood. The production process often requires large quantities of (potable) water and is responsible for the release of wastewater into the environment. The use of chemicals is harmful to the health of people and other organisms. The manufacture of household appliances and devices is also associated with considerable waste, which only responsible manufacturers properly dispose of and reuse.

**The use of appliances and devices also has a negative effect on the environment.** All these appliances, the number of which is growing, generally consume electricity; household electricity consumption is also on the rise (Indicator PG05). Washing machines, dishwashers and refrigerators use the most energy, followed by ovens and dryers, TV sets and light fixtures.

**Appliances use energy even when they are turned off and are in standby mode**. The most telling example is our TV, which is usually turned off with a remote and not the main switch. Therefore, it stays in standby mode and uses electricity. Mobile phone chargers left in the socket after we have finished charging our phones also continue to use electric power.

**There are practically no chores left in our households for which we do not use an appliance or device.**

DIAGRAM 12: Material footprint of a smartphone




*Source: Ademe, Francoski senat, Inštitut Wuppertal*

**The use of electronic devices produces "electrosmog," which is a health hazard, particularly to children.** It can result in poor concentration, nervousness, sleep difficulties, etc. It is recommended that we protect ourselves from such radiation.

**Because of the extended producer responsibility policy, producers are required to take care of old appliances and ensure their proper handling**. This step prevents the inappropriate disposal of devices and appliances, reduces the concentration of hazardous substances in the environment, and even saves resources. The best solution for a functioning device is to give it as a gift or sell it. Repair shops are an increasingly common alternative. In some areas, repair shops are available to help consumers fix and thereby extend the lifespan of their devices.

**Reading labels** in a store has many advantages. Using electric devices with the highest energy efficiency rating helps to conserve electricity. Energy labels feature categories that classify devices from those that use the least power to those that use the most. Even though energy-efficient products in the highest category are more expensive, we get a return on money spent because of lower social, environmental, and running costs. Be aware that we waste more energy if we purchase inefficient devices, buy more of them, or use them more frequently.

# 10 ideas

## FOR MORE SUSTAINABLE USE OF APPLIANCES

**#1**
When purchasing appliances, pay particular attention to information about their energy and water use and their noise levels.

**#2**
Cover pots with a lid when cooking to use a third less energy than you would otherwise.

**#3**
Take your small appliances to a reuse or collection centre when you no longer need them.

**#4**
Completely turn off devices when you do not need them. Get a power strip for multiple devices to enable you to turn off more at one time.

**#5**
Take advantage of your oven's residual heat and turn it off 10 minutes before the dish is done.

**#6**
You can dry your washed laundry outside.

**#7**
We should choose the size of our stovetop based on the diameter of our pots.

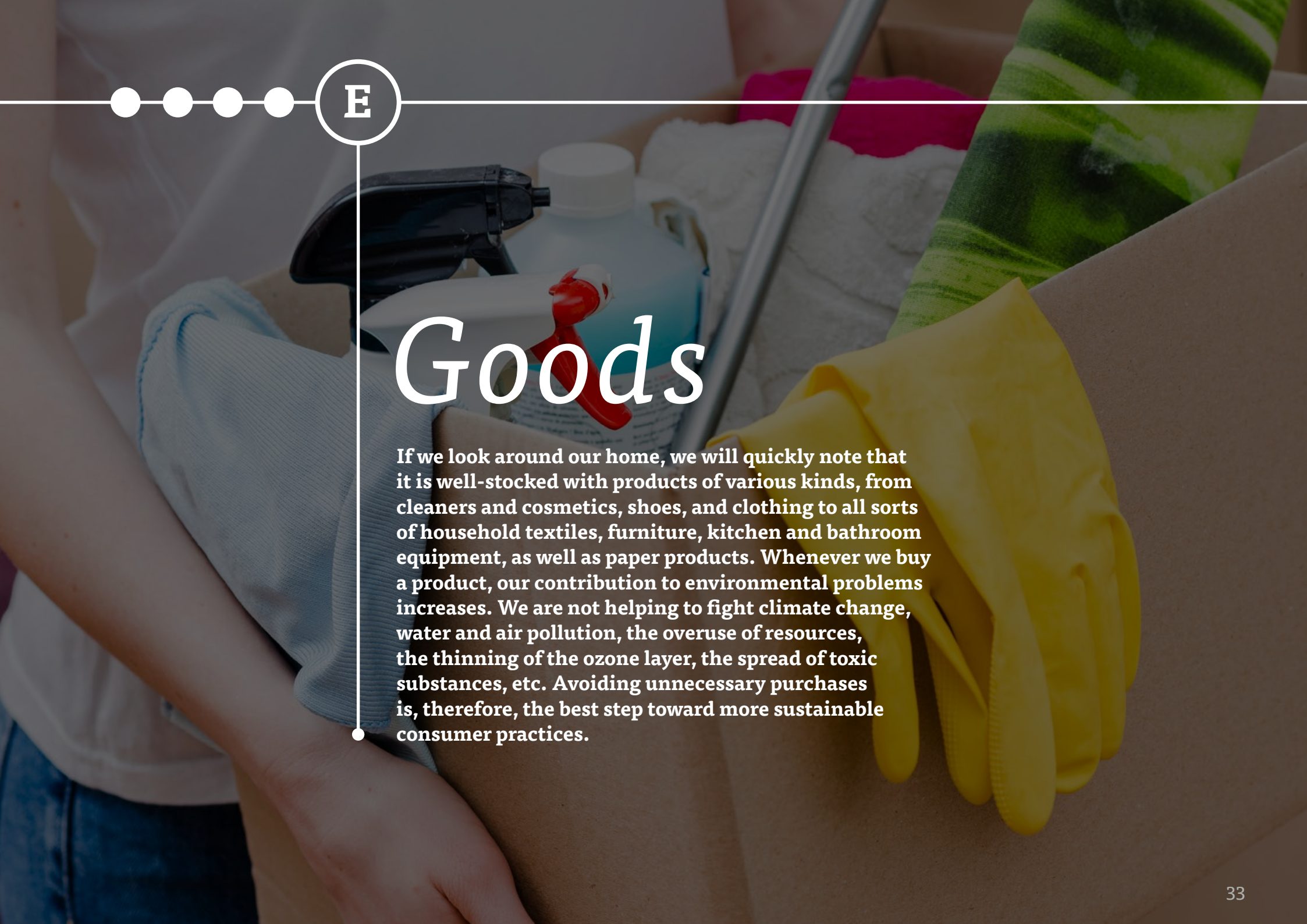
**#8**
When washing laundry, use shorter washing machine programs and, when possible, lower temperatures. Economy programs reduce energy use by up to 40%.

**#9**
Do not leave your refrigerator door open, and do not put hot food in the fridge.

**#10**
In a multi-residential building, jointly purchase energy-efficient washers and dryers for joint use by all residents. This step can limit expenses and free up room in your apartment.

## *Good* news

The BELT online app, developed by the Consumers' Association of Slovenia, allows users to calculate the estimated costs for electricity usage during an appliance's lifetime. The formula is simple: based on household size and the appliance's energy-efficiency category, the app shows data about the appliance's energy use and the associated costs, information about its $CO_2$ emissions, the number of trees needed to offset this amount, and the equivalent car mileage. This app enables users to compare various energy categories for appliances.



E

# Goods

**If we look around our home, we will quickly note that it is well-stocked with products of various kinds, from cleaners and cosmetics, shoes, and clothing to all sorts of household textiles, furniture, kitchen and bathroom equipment, as well as paper products. Whenever we buy a product, our contribution to environmental problems increases. We are not helping to fight climate change, water and air pollution, the overuse of resources, the thinning of the ozone layer, the spread of toxic substances, etc. Avoiding unnecessary purchases is, therefore, the best step toward more sustainable consumer practices.**

# My Home Could Be a Department Store

The number of different things we have in our homes is truly staggering. We probably couldn't even begin to list them all. Out of all these items, textiles and plastic products stand out in terms of quantity and furniture because of size.

## TEXTILES

**The textile industry accounts for 10% of the world's carbon emissions.** That is more than international flights and shipping combined. The production of textiles is responsible for about 20% of the world's water pollution, mainly because of its use of dyes. The manufacture of clothing and shoes has expanded dramatically because of the spread of fast fashion, which reduced the average time a particular piece of clothing is used. On the European level, textile manufacturing is in fourth place on the list of polluters, immediately after food, housing, and mobility. Fashion designers and clothing manufacturers will need to begin designing and producing clothing in a way that ensures the materials used are friendly to the environment and people. Textiles will need to last as long as possible while enabling remanufacturing and reuse. The textile industry mainly refers to the manufacture

## KEY FACTS

The FSC (Forest Stewardship Council) label serves as proof of sustainable forestry and improved living conditions for the local population. Wood from around the world carries the FSC logo.

On the Consumers' Association of Slovenia website, you can find updated information about various product recalls because of technical noncompliance or excessive amounts of chemicals and other substances.

Viscose, also known as rayon, is made from cellulose fibres, but chemicals are used to process them.

Under the Waste Directive, EU countries will have to separate and collect waste textile products from 2025.

The most known labels for environmental products in the EU are the EU Ecolabel, the German Blue Angel, and the Nordic Swan. These labels are featured on thousands of everyday products, including soaps, detergents, clothing, paints, varnishes, paper goods, furniture, and even hotels, camps and cleaning services.

About 2,700 litres of water are needed to produce a single cotton T-shirt.

of clothing but also includes the manufacture of carpets, curtains, shoes, etc.

**Large amounts of energy, water, farmland, and pesticides are required to make raw materials, such as cotton, used in the textile industry.** About 60% of materials in clothing alone are synthetic (derived from oil), which includes polyester, acrylics, and nylon. We can use them to manufacture durable, light, and affordable fabrics. But herein lies the catch: whenever we wash them, they release tiny plastic fibres known as microfibres, which are small particles no more than five millimetres long. Washing synthetic fabrics accounts for 35% of microplastics released in the world. A single washing of polyester clothing removes 700,000 fibres of microplastics, which end up in rivers and oceans and, consequently, our food chain.

**The manufacture of clothing also has adverse health effects** (because of chemicals used for dyes) on the local population, animals, and ecosystems (because of toxic emissions into water, soil, and air). Clothing factories in developing countries cause numerous social problems, including children in the workforce and poorly paid employees. Most of our clothing is imported from these countries. Fair Trade allows employees in this industry to receive fair pay for their work when possible.

**When we are done with our clothes, they are mostly burned or deposited in landfills and nature.** Only a small percentage of clothing is collected for reuse, recycling, or upcycling. In 2019, Slovenians discarded 25,079 metric tonnes of clothing or 12.3 kilos per inhabitant. This amount is more than the EU average, which was 11 kilos per inhabitant.

## FURNITURE

**To produce contemporary furniture, we need many natural resources, including trees, minerals, and oil.** The most apparent impact of the furniture industry on the environment occurs during the production phase, when greenhouse gases are released, causing climate change. The production process also uses metals, glass, and plastics. The use of chemicals (such as formaldehyde, VOCs, and paints) and synthetic materials impact the environment. They cause the emission of toxic materials during product manufacturing, use, and disposal. Furniture creates many types of waste, which could release greenhouse gases and harmful chemicals. The impact is even more significant if the furniture contains plastics because it takes hundreds of years to decay. The burning of such materials causes additional pollution and harm.

**Transportation significantly adds to the harmful footprint of furniture in our homes.** Raw materials need to be brought to production facilities. Products are then shipped to shops, from where they are sent to us, the final users. This transport increases greenhouse gas emissions, causes more particulates in the air, etc.

**There are several ways to reduce the impact of the modern furniture industry on the environment.** One of the most efficient ways is to choose furniture made from environmentally friendly materials, such as sustainable wood,

## Example of *good practice*

***Kimi, Paloma, Jub, and TKI Hrastnik are Slovenian companies that have been awarded the European Ecolabel for more than 50 of their products. This label indicates that in all life phases of the products, high environmental standards have been met, and possible environmental impacts have been considered, reduced, or eliminated. These products include paints, detergents, cleaners, cosmetics, and paper goods. Among those who have earned this label are also 40 Slovenian accommodation providers.***

EU Ecolabel
www.ecolabel.eu

bamboo, or recycled materials. These materials are renewable, biodegradable and have a smaller environmental impact. We can also opt for locally made furniture. Doing so reduces greenhouse gas emissions and makes it more likely for the raw materials to be locally stored and, therefore, less likely to cause resource depletion. We can choose environmentally friendly furniture that can be disassembled, repaired, recycled or upcycled.

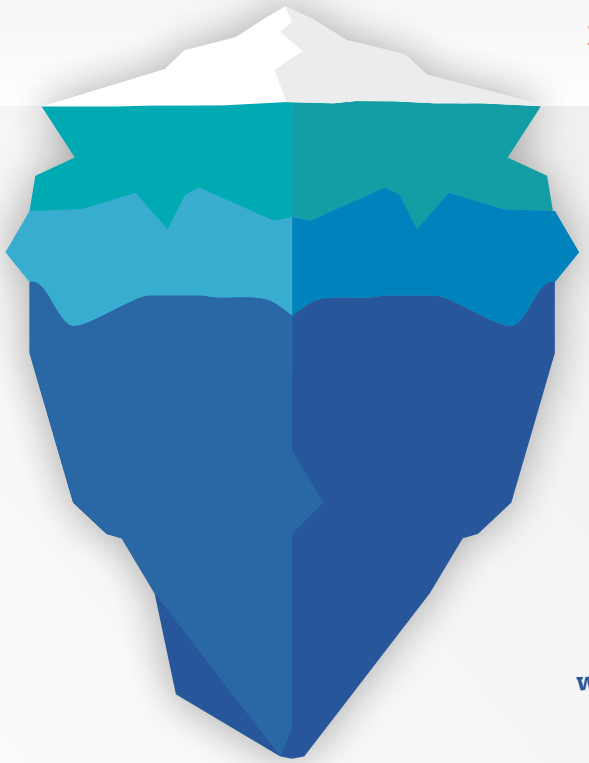
## CHEMICALS

**It is difficult to notice the negative consequences of many chemicals on our health** because their effect is insidious and long-lasting, especially among children. Exposure to chemicals in indoor spaces can have numerous negative consequences for our health, from lung disease, irritated eyes, nose and throat issues to hormone disorders, cardiovascular disease, allergies, and cancer. In short, chemicals are hazardous to our health. In addition, they make their way from our homes into water, soil, and air. Each chemical has a different effect on us, our loved ones, and the environment.

**Only a closer examination will let you know how many chemicals you keep at home.** Some products are labelled as hazardous, but you will find out their real effects only by using explanations available online. These include benzyl benzoate (in lice remedy and gary control agent, in food and perfumes, plastics and fragrances), bisphenol-A, polycarbonate (in hard plastics, baby bottles, coatings in metal cans and plastic greenhouses), formaldehyde (in pesticides, construction materials, textiles, cosmetics, padded furniture, mattresses,

**Plastic bottles for soft drinks and water are made from various plastic materials, frequently for single use, because they begin to release harmful chemicals if used again. They are made of oil. The appropriate recycling of plastic bottles reduces their impact on the environment. However, many are still incinerated or end up in landfills. It takes hundreds of years for plastics to degrade, and most of it disintegrates into microparticles.**

**DIAGRAM 13: The unknown territory of chemical risk**




*Source: The European environment – state and outlook 2020, EEA*

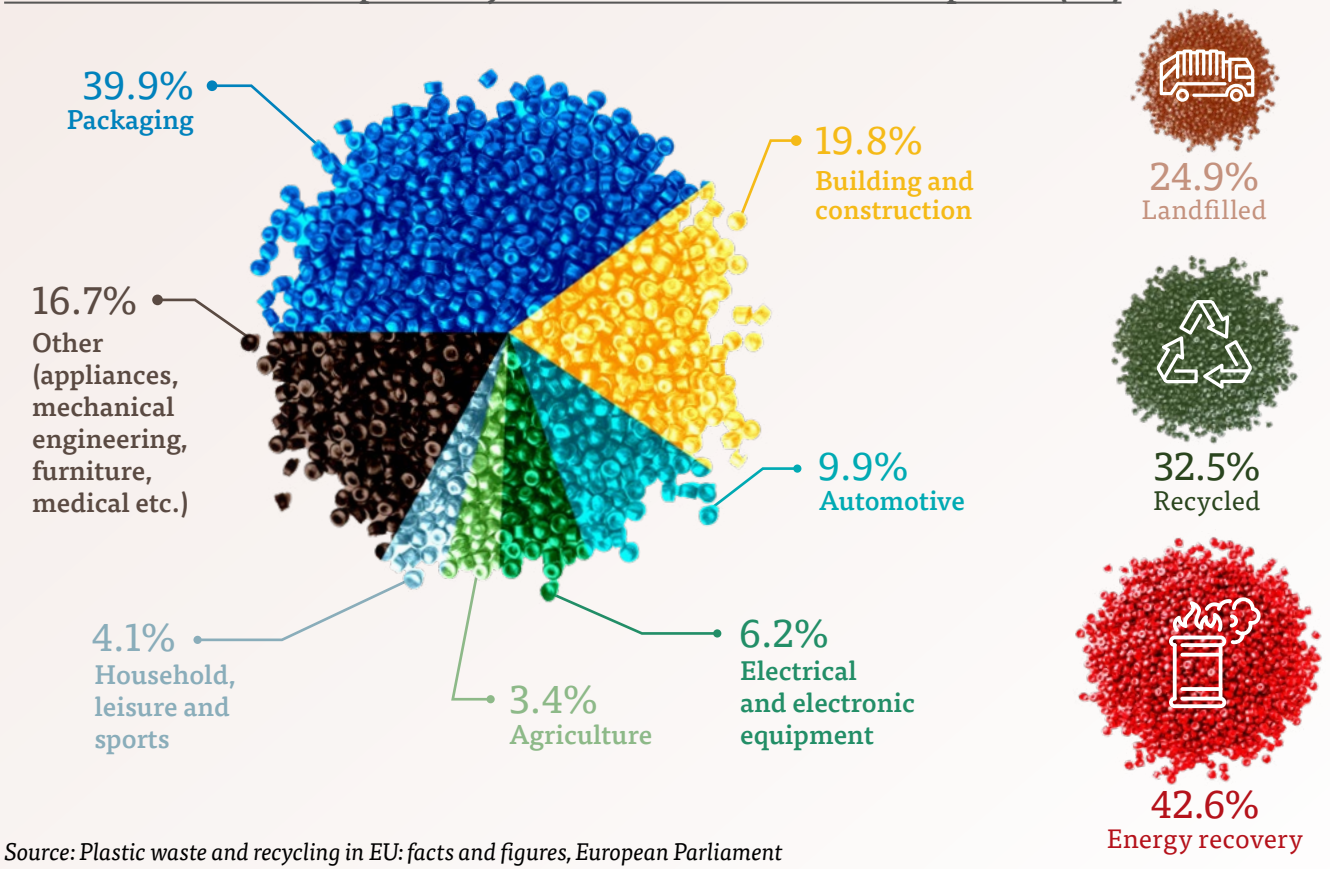
mattress toppers, and blankets), parabens (in toothpaste, shampoos, humidifiers and aftershave lotions), phthalates (in toys and cosmetics), perfluorinated chemicals (in paints, floor coverings, carpets, hiking clothing and furniture), volatile organic compounds known as VOCs (in cosmetics, personal care products, cleaners, furniture, bed linens, floor coverings and paints), brominated flame retardants (in carpets and electronics), per- and polyfluoroalkyl substances, known as PFAS (in fire extinguisher foam, anti-stick metal coatings on pans, paper packaging for food products, creams and cosmetics, fabrics for furniture and some clothing, paints, photos, pesticides and pharmaceuticals), etc.

**The REACH Directive regulates the use of chemicals in the EU.** This directive defines the maximum permissible amounts of chemicals and prohibits using substances proven harmful to people, animals, or the environment. There are many studies about the effect of chemicals on our health and the environment. Yet, it can take decades for the danger of these chemicals to be either confirmed or negated. Even if the substances are proven to be hazardous, the legislative procedures to restrict or prohibit specific chemicals are lengthy and often conclude with merely partial restrictions. An additional problem is that manufacturers do not always fully comply with these restrictions. That is why we hear news of product recalls.

## PLASTICS

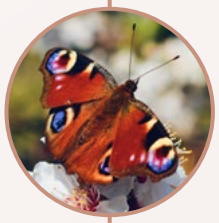
Plastics are beneficial, but they also harm us. Plastic is everywhere around us, and even inside us and other living things. In the first decade of this millennium, we generated more plastic waste than in the previous 40 years. Today, we generate around 400 million tonnes of plastic waste every year, and this figure is growing all the time. As many as half of plastic products are for single-use purposes – useful for a few minutes and harmful for decades. Around the world, one million plastic bottles are bought every minute, while up to five trillion plastic bags are used every year. Within three decades, there will be more plastic in the sea than fish. Thousands of marine animals and birds are dying from it. Plastic is even becoming a marker of our current geological age. The only solution is to reduce consumption, use only recyclable plastics, and look for alternatives.

**DIAGRAM 14: The use of plastics by area and the treatment of waste plastics (EU)**




*Source: Plastic waste and recycling in EU: facts and figures, European Parliament*

# 10 ideas



## FOR A MORE SUSTAINABLE HOME

**#1**
Choose used furniture instead of new. You can also repair your old furniture or use it for something else.

**#2**
Buy less but choose higher quality products. Buy a product only if there is no other option.

**#3**
Give away furniture you do not need, take it to a reuse centre or donate it.

**#4**
Pick clothing made of natural materials (such as organic cotton, hemp, bamboo, or eucalyptus) grown without the use of pesticides.

**#5**
Attend swap meets for clothing.

**#6**
Repair or give away your clothes; you can take them to a reuse centre or a shop.

**#7**
If donating or repairing your clothing is no longer possible, check whether it can be recycled.

**#8**
Choose carpets from natural materials (such as wool, jute, or sisal) and mattresses made of cotton, sheep's wool, coconut, or natural latex.

**#9**
Opt for ecological cleaners and cosmetics. The selection is now quite wide.

**#10**
Look for shops where you can refill products (such as cleaners, shampoo, or detergent), thereby eliminating the need for packaging.

## *Good* news

Slovenia's Planet Care startup has developed a special filter for washing machines. It captures up to 90% of microplastics eliminated during the washing of synthetics. Microplastics can be found everywhere on Earth: in soil, air, rivers, oceans, plants, and animals. They are increasingly common in human bodies, where they can cause changes to genes, brain development, and fertility.

# The Impacts of Modern Consumption

***The Sustainable Consumption Guide*** looks at the most important consumer areas and explains how different life phases of a product impact the environment, health, and society. Of course, the effects of different products in individual phases are of varying strength. We have a decisive say on their environmental impact. We determine what we buy and why, how we treat purchased items, and what we do when their life cycle ends.

| | |
|---|---|
| **CAUSES** of environmental, social, and health consequences | The extraction of raw materials, the processing of raw materials, the use of materials, production processes, distribution, the use of chemicals, energy use, water use, waste production, land use (housing–scattered settlement patterns and construction on farmland; mobility–infrastructure networks), construction and renovation of buildings, intensive growing of plants and livestock, the choice of groceries, lifestyles |
| **CONSEQUENCES** of non-sustainable production and consumption, as well as the use of non-sustainable products and services | The use of natural resources, the use of electricity and water, the pollution of soil, water, and air, climate change, health impacts, social problems, improper waste treatment, biodiversity loss, the degradation of ecosystems, the loss of farmland (food, mobility, housing), light pollution (mobility, housing), noise (mobility), the loss of fertile soil (farming), lower quality of food, unsuitable food (farming), animal and plant diseases (farming), car accidents (mobility), the depletion of rare earths (appliances), photochemical smog (appliances), the presence of chemicals (farming, housing, household appliances), genetic engineering and inappropriate treatment of animals (farming) |
| **ADVANTAGES** of sustainable practices | The preservation of natural resources and ecosystems, local/new employment, better connections with people and communities, limited environmental impact from waste, pollutants and chemicals, fewer air emissions (in part because of shorter transportation routes), more limited environmental impacts because of products with longer life cycles, the shared use of products or repair opportunities, greater use of renewables, efficient use of energy, sustainable mobility, sustainable and healthier lifestyles, etc. |

## GOLDEN INFORMATION

# Wise Consumption

| OFFICIAL INFORMATION AND DATA | TOOLS TO CALCULATE FOOTPRINTS AND SAVINGS | ADDITIONAL USEFUL READING | EXPLANATION OF TERMINOLOGY | GOOD PRACTICE IN SLOVENIA | GOOD IDEAS FOR ACTION |
|---|---|---|---|---|---|
| ARSO environmental indicators | Consumer footprint, EPLCA | Climate change | A glossary of life cycle terminology | Innovative construction | Home detox guide |
| ARSO infographics | Consumption footprint, EPLCA | Ecosystems services | Life cycle | Donar | An ethical lifestyle |
| Eionet video content | Carbon footprint, Umanotera | The circular economy | Additive: E951 Aspartame, CAS | Korenika | Effects of plant and animal food |
| Report on the environment in Slovenia, 2022 | Use less | Sustainable development | Do you know what you eat? | Knof | Rare earth elements for smartphones and computers |
| We won't throw it away! | On the road in green gear | REUS research | Sustainable construction | Less is more, EWB | Protecting the planet starts with you |
| Living healthily in a chemical world, EEA | Estimated household electricity use | The Ellen MacArthur Foundation | Environmental terms | Clothes make the man | How does my choice of food affect the environment? |
| Buildings and construction, EEA | Advice for the economic use of energy and water, Eco Fund | The wellbeing economy | Environmental glossary, SVORS | School eco gardens, ISD | The food system is broken. Here's how to fix it. |
| CARE4CLIMATE project | EPREL | Closing the loop | Biomonitoring | Fair trade | Earth Day |
| Prehrana.si | BELT Web tool | Natural solutions | Sustainable development goals, UN | Examples of a circular economy, LUM | Sustainable mobility |
| Nutrition, NIPH | Environmental and ecological footprint | Zero waste | Additives | Climate menu | Green building |
| Slovenia's ecological footprint | Savings in driving | The sustainable use of water in farming, EU | Ecolabel | Hay feed | Environmental impacts of buildings |
| Decarbonising Slovenia | Household electricity use | Hydrogen | Unified tickets | Anselma | Debunking 13 myths around sustainable construction |
| The EU Parliament on sustainable consumption | Phantom energy use | The environment, traffic and health | Target in doubt, FAO | Lumar | Ecolabel index |
| Level(s), EC | ZEOS – Waste Management | Hemp | Small farmers, FAO | Villa Natura | Negative impacts of household appliances |
| Energy labels and eco-design, EC | | Facts and figures, UN | DPSIR framework | Zero Waste Slovenia | Which appliances use more electricity? |
| Energy savings, EC | | 7 Rs | Regenerative agriculture, EMF | Smetumet | Save soil |
| Green business practices, EC | | Smartphones | | ZEOS | Recalls, CAS |
| Enabling green lifestyles: guidelines for decision-makers, UN | | Plastics, EEA | | Deposit system, Ekokrog | Environmental debt, Fokus |
| IPPC 2023 | | Plastics: facts and figures, EP | | Evegreen | The environmental impact of plastic bottles, CAS |
| Food and climate change, UN | | Sustainable and circular consumption, EEA | | Aquafil Slovenia | Sustainable farming, WWF |
| What is sustainable consumption, UNEP | | Consumption pressures, EEA | | Dobrina co-op | More about plastic |
| Our planet is choking on plastic, UNEP | | Ten worst foods for our planet | | Green Apple | |
| Farm to Fork, EC | | Environmental impacts of food production | | Eco cleaning materials | |
| | | Farmbrite | | Natural cosmetics | |
| | | Land use – globally | | Sustainable fashion | |
| | | | | Panorganic | |
| | | | | Energy cooperative Green Hrastnik | |