



Train2Sustain – developing capacity to teach sustainability in VET

Unit 2 Sustainability

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Glossary

Glossary for Units 1 – 7 ALPHABETIC ORDER

Artificial intelligence	Artificial intelligence (AI) is intelligence —perceiving, synthesizing, and inferring information—demonstrated by machines , as opposed to intelligence displayed by non-human animals and humans . Example tasks in which this is done include speech recognition, computer vision, translation between (natural) languages, as well as other mappings of inputs.
Biocapacity	The biocapacity or biological capacity of an ecosystem is an estimate of its production of certain biological materials such as natural resources , and its absorption and filtering of other materials such as carbon dioxide from the atmosphere
Biodiversity	Biodiversity or biological diversity is the variety and variability of life on Earth . Biodiversity is a measure of variation at the genetic (genetic variability) , species (species diversity) , and ecosystem (ecosystem diversity) level.
Carbon footprint	A carbon footprint is the total greenhouse gas (GHG) emissions caused by an individual, event, organization, service, place or product, expressed as carbon dioxide equivalent (CO ₂ e)
Carbon handprint	A carbon handprint is the opposite of a footprint . It recognises the actions you take to have a positive impact on the climate, over and above reducing your own carbon footprint if you do enough of these, they might even outweigh the size of your carbon footprint.
Circular economy	A circular economy is a model of production and consumption , which involves sharing , leasing, reusing , repairing, refurbishing, and recycling existing materials and products as long as possible
Decarbonization	The term decarbonization literally means the reduction of carbon . Precisely meant is the conversion to an economic system that sustainably reduces and compensates the emissions of carbon dioxide (CO ₂)
Deforestation	Deforestation or forest clearance is the removal of a forest or stand of trees from land that is then converted to non-forest use. ^[3] Deforestation can

	involve conversion of forest land to farms , ranches , or urban use. The most concentrated deforestation occurs in tropical rainforests
Eco-design	Ecological design or ecodesign is an approach to designing products and services that gives special consideration to the environmental impacts of a product over its entire lifecycle
Ecological footprint	The ecological footprint is a method promoted by the Global Footprint Network to measure human demand on natural capital , i.e. the quantity of nature it takes to support people and their economies.
Energy-efficient	Energy efficiency is the use of less energy to perform the same task or produce the same result . Energy-efficient homes and buildings use less energy to heat, cool, and run appliances and electronics, and energy-efficient manufacturing facilities use less energy to produce goods.
Environmentally friendly	Environment friendly processes , or environmental-friendly processes (also referred to as eco-friendly , nature-friendly , and green), are sustainability and marketing terms referring to goods and services , laws , guidelines and policies that claim reduced, minimal, or no harm upon ecosystems or the environment .
European circular economy action plan	The EU's Circular Economy Action Plan (CEAP) was a comprehensive body of legislative and non-legislative actions adopted in 2015, which aimed to transition the European economy from a linear to a circular model . The Action Plan mapped out 54 actions, as well as four legislative proposals on waste.
Fertilisers	Fertiliser is any material of natural or synthetic origin that is applied to soil or to plant tissues to supply plant nutrients .
Fossil fuels	A fossil fuel is a hydrocarbon -containing material formed naturally in the Earth's crust from the remains of dead plants and animals that is extracted and burned as a fuel . The main fossil fuels are coal , oil , and natural gas .
Greenhouse emission	Greenhouse gas emissions from human activities strengthen the greenhouse effect , contributing to climate change . Most is carbon dioxide from burning fossil fuels : coal , oil , and natural gas . The largest emitters include coal in China and large oil and gas companies.

Greenwashing	is a form of <u>advertising</u> or <u>marketing spin</u> in which <u>green PR</u> and <u>green marketing</u> are deceptively used to persuade the public that an organization's products, aims and <u>policies</u> are <u>environmentally friendly</u> .
Holistic process	relating to or concerned with wholes or with complete systems rather than with the individual parts.
Innovation	Innovation is the practical implementation of <u>ideas</u> that result in the introduction of new <u>goods</u> or <u>services</u> or improvement in offering goods or services
Lean management	Lean manufacturing is a <u>production method</u> aimed primarily at reducing times within the <u>production system</u> as well as response times from suppliers and to <u>customers</u> .
Lean principles	The five principles are considered a recipe for improving workplace efficiency and include: 1) defining value, 2) mapping the value stream, 3) creating flow, 4) using a pull system, and 5) pursuing perfection.
Linear economy	The traditional model where raw materials are collected and transformed into products that consumers use until discarding them as waste, with no concern for their ecological footprint and consequences.
Muda, Mura, Muri	Muda, mura and muri are three types of wasteful actions that negatively impact workflow, productivity and ultimately, customer satisfaction.
Organic farming	Organic farming, also known as ecological farming or biological farming, is an agricultural system that uses fertilizers of organic origin such as compost <u>manure</u> , <u>green manure</u> , and <u>bone meal</u> and places emphasis on techniques such as <u>crop rotation</u> and <u>companion planting</u> .
Pesticides	In general, a pesticide is a chemical (such as <u>carbamate</u>) or <u>biological agent</u> (such as a <u>virus</u> , <u>bacterium</u> , or <u>fungus</u>) that deters, incapacitates, kills, or otherwise discourages pests
Product Life cycle	Product life-cycle management is the succession of strategies by business management as a product goes through its life cycle. The conditions in which a product is sold changes over time and must be managed as it moves through its succession of stages.
Product-as-a-service	Product as a service is the concept of selling the services and outcomes a product can provide rather than the product itself.

Pull production	A method of production control in which downstream activities signal their needs to upstream activities. Pull production strives to eliminate overproduction and is one of the three major components of a complete just-in-time production system.
Recycling	Recycling is the process of converting <u>waste</u> materials into new materials and objects. The <u>recovery of energy from waste materials</u> is often included in this concept. The recyclability of a material depends on its ability to reacquire the properties it had in its original state
Renewable energy	Renewable energy is energy that is collected from <u>renewable resources</u> that are naturally replenished on a <u>human timescale</u> . ¹ It includes sources such as <u>sunlight</u> , <u>wind</u> , the movement of <u>water</u> , and <u>geothermal heat</u>
Sustainability	Sustainability is a societal goal that relates to the ability of people to safely co-exist on <u>Earth</u> over a long time.
Sustainable household	A sustainable home is one that is built or retrofitted in a way that conserves resources, optimizes energy and water use and that will last longer with quality systems . A sustainable house is built with low-impact, high-performance materials. They are efficient in terms of manufacturing, shipping, and installing.
Sustainable label	Eco labels set minimum environmental and health standards and verify products that meet the criteria . They're designed to inform consumers, brands, and manufacturers that labelled products are more environmentally friendly than most.
Sway	Sway is a digital storytelling app that helps you create professional, interactive designs for your images, text, videos, and other media in minutes.
The 5s	5S stands for the 5 steps of this methodology: Sort, Set in Order, Shine, Standardize, Sustain . These steps involve going through everything in a space, deciding what's necessary and what isn't, putting things in order, cleaning, and setting up procedures for performing these tasks on a regular basis.
The European action Plan	It aims to: Re-orient capital flows towards sustainable investment, in order to achieve sustainable and inclusive growth; Manage financial risks stemming from climate change, natural disasters, environmental degradation and

social issues; and. Foster transparency and long-termism in financial and economic activity.

Value chain

A **value chain** is a progression of activities that a firm operating in a specific industry performs in order to deliver a valuable product (i.e., good and/or service) to the end customer.

Value stream

A **value stream** is the set of actions that take place to add value to a customer from the initial request through realization of value by the customer. The value stream begins with the initial concept, moves through various stages of development and on through delivery and support. A value stream always begins and ends with a customer.

Waste management

Waste management or **waste disposal** includes the processes and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process and waste-related laws, technologies, economic mechanisms.

1 Introduction to Sustainability

The Topic

Sustainability is a term that is **increasingly gaining prominence** and is the subject of much discussion. We humans have to act more sustainably, companies have to design their processes more sustainably, the state has to make more sustainable decisions. But what exactly does sustainability mean? How would you define this term?



The term sustainability can be defined as follows:

“Meeting the needs of the present without compromising the ability of future generations to meet their own needs”

(United Nations Brundtland Commission, 1987)

But why exactly is sustainable behaviour that important, what impact can it have on our planet, and what approaches have already been implemented in this direction?

You can find the answers to these questions in the next sub-chapters. In the first sub-chapter you will learn about what sustainability means, which areas it affects and why it is that important. Next, you will learn about the negative impact that numerous current activities have on our environment and the effect that switching to a more sustainable way of life will have. Finally, we will introduce you to some agreements and certificates related to the development of a more sustainable planet.

2 The Importance of Sustainability

As you have already read in the introduction, the term sustainability or sustainable development means that we should **all behave and act in such a way that the next generations can still meet all their needs without any problems.**

However, even though the idea of sustainability is increasingly being used today and people are talking about sustainability more and more often, this term has by no means only evolved in recent years. The **foundation for sustainable thinking** and action was **already laid in the 18th century** under **Hans Carl von Carlowitz**, who first spoke of the concept of sustainability.

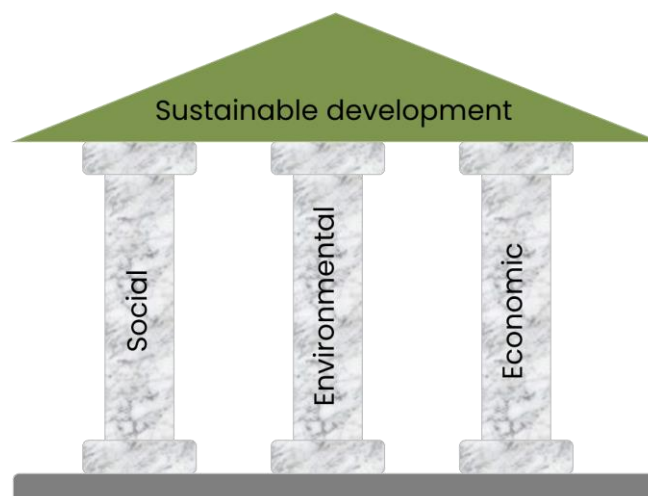
Indicator

Carlowitz's focus was on **forest management**. His basic idea was that **only as much wood should be taken from the forests and used as can grow back naturally**. In this way, a natural system with its essential properties should be preserved in the long term.

Due to population growth, however, wood has become increasingly scarce in recent years, along with many other raw materials. Despite numerous reforestation measures, the forest has now been reduced to one third of its original area.

In the following years, the concept of sustainability was also extended to other areas. The idea that future generations have the right to live under the same conditions as we do, came to the fore. In the **20th century**, the concept of sustainability was also **extended to economics**. In the report "Limits to Growth" (Club of Rome, 1972), it was made clear that the absolute limits to the earth's growth would already be reached after 100 years if the population continued with its activities as before. The need for more sustainable initiatives has therefore been present for a long time.

To make sustainable development possible, **three dimensions must be promoted** and brought into harmony with each other:



Interaction

What do you think these three pillars of sustainability refer to? Can you give some examples?

Environmental protection:

An important aspect of sustainability is the **reduction of negative impacts on the environment** and the related **protection of our planet**. Acting sustainably means conserving resources and only using them to the extent that they are really absolutely needed. In this way, the biodiversity in our nature can be maintained. In order to contribute positively to climate change, emissions should be avoided as much as possible and renewable energies should be used.

Economic growth:

For sustainable development, it is also important that a society manages to achieve economic growth. For example, a **strong gross domestic product** is necessary to keep the economy going. In addition, an economy should increasingly rely on self-generated, sustainable energy in order to **avoid dependence on other countries**. In order to guarantee sustainability, however, more emphasis should also be placed on fair trade and the **avoidance of poverty**.

Social Inclusion:

Sustainable development also involves prioritising people. This dimension thus aims to **provide a decent life for all people in this world**. This includes, among other things: respect for human rights in all countries, equal opportunities for all, gender equality or the fight against poverty and hunger. This pillar also refers to a large extent to working conditions, so that workers everywhere in the world should receive a regular income, labour rights should be respected, and their health and safety should be guaranteed.

Indicator

Watch this video (together with your students) to get a better understanding of sustainable development: <https://www.youtube.com/watch?v=7V8oFl4GYMY>

In order to really act sustainably, it is therefore **necessary to take all three of these areas into account and to coordinate them with each other**. Sustainable action is essential for our society and is increasingly desired and expected by the population. Therefore, it is also indispensable for companies to no longer perceive ecological and social aspects, such as the use of renewable energies, the production of durable products or the guarantee of fair and safe working conditions, as additional costs, but to see them much more as factors for their long-term success.

Remember

Sustainable development is not only about protecting the environment and reducing negative impacts on it; economic and social aspects must also be included to ensure sustainability.

But what happens if we all keep doing what we're doing and do not start acting more sustainably?

- The diversity of living creatures and plants on land and in water will become extinct
- The atmosphere will be damaged to such an extent that rebuilding will be almost impossible
- We will have hardly any natural resources available to use
- Water will become increasingly scarce
- Climate change will lead to more extreme weather events and natural disasters

Indicator

Listen to the singer in this video to become an idea on what we have already done to our planet by living our way of life: <https://www.youtube.com/watch?v=B-nEYsyRIYo>

So, as you can see, in order to protect our planet and preserve the quality of life for future generations, it is extremely important to act sustainably. Here you can see some of the advantages and **positive aspects that acting more sustainably brings** for you and the entire population:

- Better health through cleaner air and water
- Increased biodiversity
- Cleaner environments
- Reduced consumption, therefore more money for important things
- Equal opportunities for all
- Fair working conditions
- Competitive economy

All these aspects contribute to greater satisfaction for everyone.

3 Impacts on the Environment

To what extent do you think your actions have an impact on nature?

Even if it seems that the actions of a single person cannot have an enormous impact on the environment, it must nevertheless be noted that the **sum of all our actions very much plays a decisive role**. Because altogether we influence nature very strongly - partly in a negative and partly in a positive sense.

At the moment, **negative impacts on the environment are unfortunately still widespread**. On the one hand, these can be caused by unpredictable natural events, such as forest fires or volcanic eruptions. But the majority of negative environmental impacts are **instigated by us humans**.

Interaction

What human actions can you think of that have a negative impact on the environment? Take a few minutes to think about them!

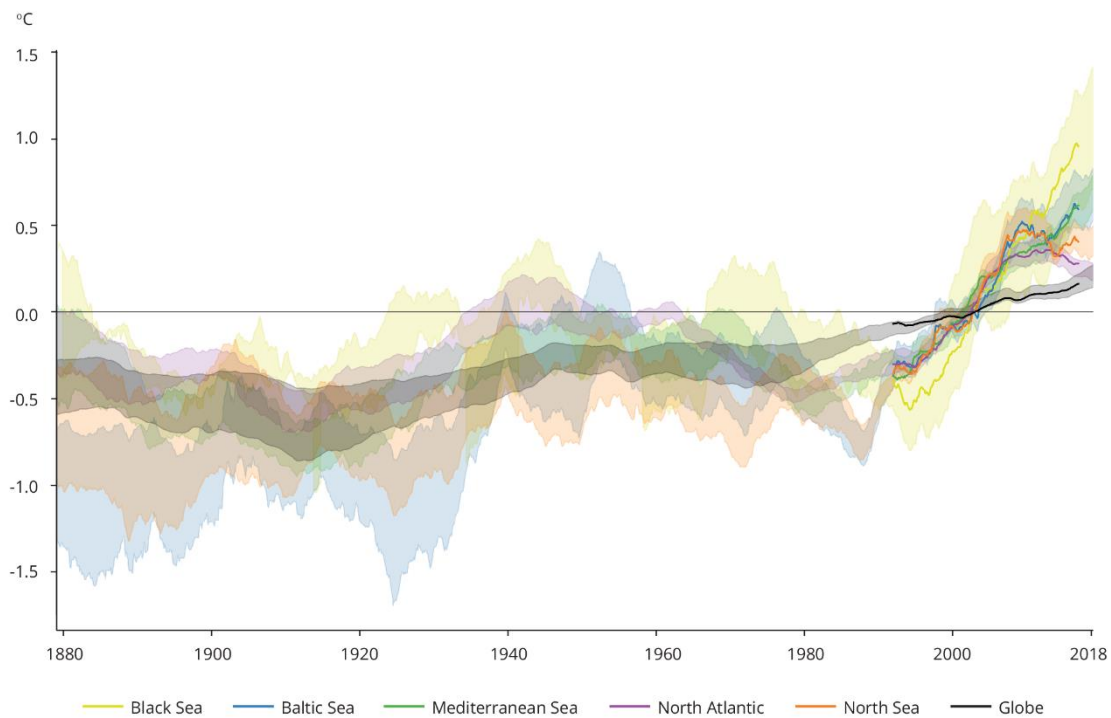
Examples of such activities are:

- Deforestation of (rain) forests
- Overfishing
- Use of non-renewable energy sources
- Burning of fossil fuels
- Overuse of plastics & plastic pollution
- Water pollution
- Air pollution from exhaust fumes
- Use of pesticides and fertilisers for food cultivation
- Extinction of animal species
- Conflicts and wars
- Use of environmentally harmful means of transport (cars, planes, etc.)
- Incorrect disposal or storage of waste
- Waste of food
- Support of fast fashion

Because of all our actions, the **environment has changed enormously up to now**. Our forests have largely disappeared, deserts have spread, the oceans have become landfills, bodies of water are gradually drying up, raw materials have been consumed beyond measure and cities have been expanded ever larger. But it is not only nature that is changing; the **climate has also changed dramatically** in recent decades. The following environmental changes, among others, are visible due to the steady increase in temperature on earth and in the water:

- Rise of the sea level
- Heating of the water (leading to bleaching and death of corals)
- Extreme weather conditions

Here you can see, for example, how the temperature of the sea has changed in recent years:



Source: <https://www.eea.europa.eu/ims/european-sea-surface-temperature>

Digression

In this video you can see how climate change affects our planet and you also get some ideas on what we can do in order to stop climate change:

<https://www.youtube.com/watch?v=jS0ZIUtSQHg>

To make visible how much we are burdening our environment, **Earth Overshoot Day** was called into life. It indicates the date on which all natural resources have been used up that could be naturally restored by the earth within one year. In **2022**, this was the **28th of July** (in 2023, the country specific overshoot days will be: in Austria 6th April, Denmark 28th March, Finland 31st March and in Portugal 7th May). This means that all raw materials consumed after this date can no longer be recovered by nature.

Digression

In this video you can see how different industries influence our planet and you also get some ideas on how to make things better (length 4:06):



The **ecological footprint** shows the extent to which a person uses the environment by indicating the area a person needs to cover their own demand for resources. The footprint is measured in global hectares (gha) and criteria for the result are, for example, the origin of food or means of transport used.

The term **biocapacity** also appears in this context. This describes the ability of a natural area to generate biologically useful raw materials for humans and to absorb waste that we produce. If the **ecological footprint is larger than the biocapacity**, this is a sign of unsustainable action and an **ecological deficit**.

Raw materials are materials or substances used in the primary production or manufacturing of goods. Examples of raw materials include steel, oil, corn, grain, gasoline, lumber, forest resources, plastic, natural gas, coal, and minerals.

Raw materials can be direct raw materials, which are directly used in the manufacturing process, such as wood for a chair or indirect which are not part of the final product but are instead used comprehensively in the production process.

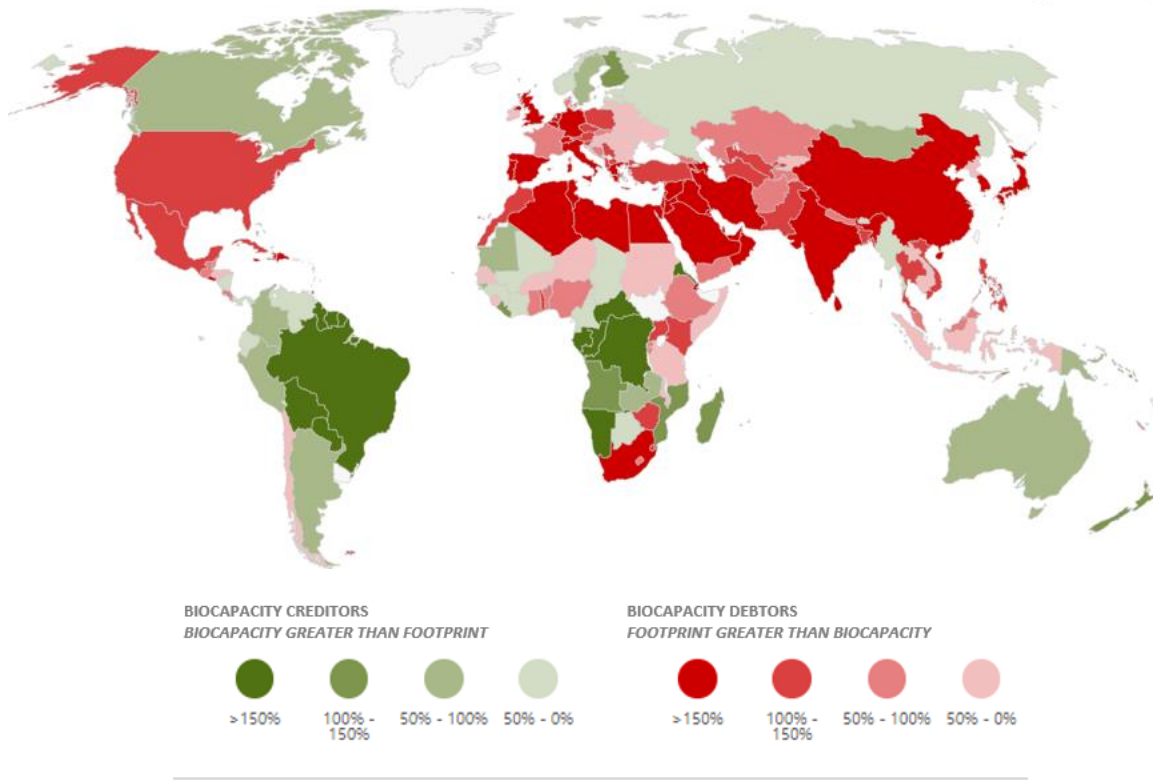
Example

Maya calculates her ecological footprint via an online calculator. This shows that she has a footprint of 2.1 gha (global hectare) due to her lifestyle. The biocapacity in Europe is about 2.5 gha. This means that she has a positive eco-balance and, all in all, a sustainable lifestyle.

If her footprint were larger than 2.5 gha, it would be an indication that her actions are not sustainable.

Here you can see which countries had an ecological deficit and which had ecological reserves in the year 2017:

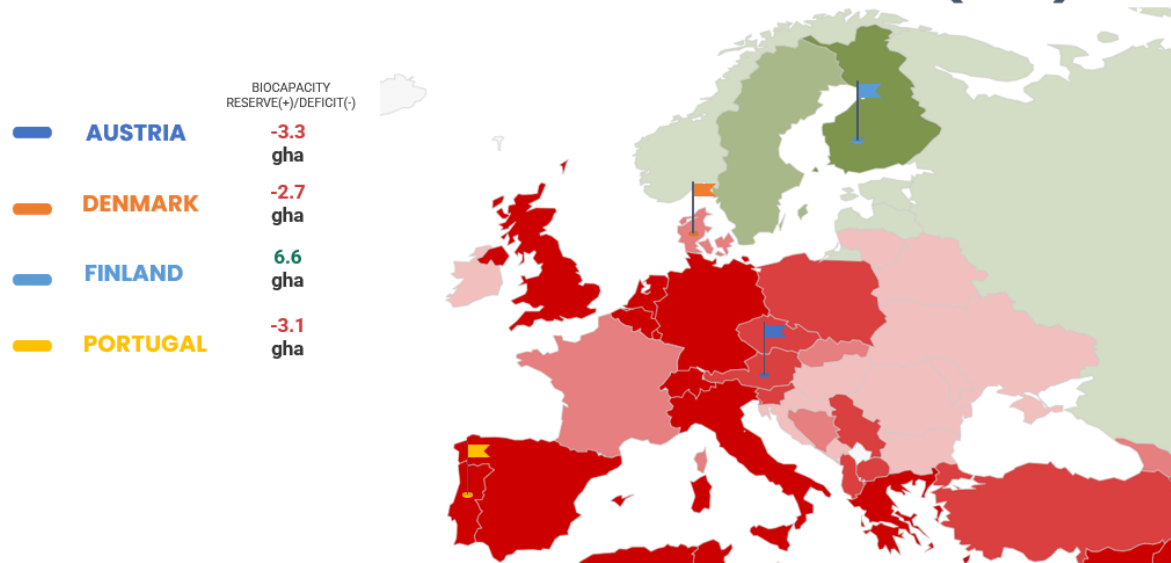
BIOCAPACITY IN DIFFERENT COUNTRIES (2017)



Source: https://data.footprintnetwork.org/?_ga=2.7989042.160172820.1639581581-1795255522.1639581581#/

And here you can find an overview of Europe and especially the project countries:

BIOCAPACITY IN EUROPEAN COUNTRIES (2017)



Source: https://data.footprintnetwork.org/?_ga=2.7989042.160172820.1639581581-1795255522.1639581581#/

To maintain our current lifestyle, we (the world's population) would need 1,7 earths, according to this sustainability index. This means that natural resources cannot grow back as fast as we consume them. It is therefore all the more important that we all rethink our consumption patterns, reduce our ecological footprint and thus help to save our planet.

Practice

Have you ever thought about how big your ecological footprint is? You can calculate it here: <https://www.footprintcalculator.org/home/en>

In addition to the ecological footprint, the term **carbon footprint** is also often used. This indicates how many tonnes of carbon dioxide are released into the environment by a person, an organisation or a country. The goal should be to reduce this footprint as much as possible through sustainable, environmentally friendly actions. The best thing to do would be **to leave a carbon handprint** that emphasises the actions that have a positive impact on air pollution. This handprint, in turn, should be as large as possible.

Important

If we do not change our current way of life, this will have major consequences: https://www.youtube.com/watch?v=FoMzyF_B7Bg

But of course, not all people act in such a way that negative environmental impacts result. **Increasingly, people, but also companies, countries, etc. are trying to counteract the negative developments** and make the world a better place to live in again. Among other things, various initiatives have been launched and agreements have been made to stop climate change and to restore nature to the way it once was. You will discover examples of this in the next chapter 1.4 - International Agreements and Certificates.

In Unit 4 - Sustainability in Practice, you will learn what you can do to reduce your carbon footprint and make a positive contribution to a more sustainable planet.

Practice

It is important to bring the topic sustainability closer to young people. Therefore, we created a practical activity (A01) you could include in teaching your students. It is about checking if they already act sustainably in their everyday life, and it shows the students which choices they could make in order to act more sustainably.

You can find the instructions as well as supporting documents of this activity A01 "Sustainability Racetrack" here: <https://www.train2sustain.eu/instructors/electronic-toolbox/>

4 International Agreements and Certificates

In recent years, politicians have also become aware that we cannot continue our way of life as we have done in the past decades. Therefore, many **different agreements and action plans have been made in relation to the environment and a more sustainable way of life.**

Some examples are:

- United Nations Framework Convention on Climate Change (UNFCCC)
- Kyoto Protocol
- Paris Agreement

At EU level, instruments and strategies include the following:

- Green Deal
- European Sustainable Development Strategy (EU-SDS)
- EU Emissions Trading System (EU-ETS)

Practice

Do you know the agreements and certificates mentioned and for what purpose they were initiated? Maybe you even know other examples.

If one or the other example doesn't mean anything to you, you can find out more about it in the following explanations.

United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC (United Nations Framework Convention on Climate Change) was signed by countries all over the world and entered into force in 1994. By signing the convention, **countries recognised the problems of global climate change and committed themselves to action.**

The Framework Convention on Climate Change aims to **stabilise greenhouse gas concentrations** so that the climate system is not dangerously disrupted. All member states should contribute to this goal within their capacities.

Every year, the **Conference of the Parties (COP)** is held, where the Parties of the UNFCCC meet and discuss how the climate goals can best be achieved. These conferences have laid the **foundations for further agreements** on climate protection, including the **Kyoto Protocol** and the **Paris Agreement**, which you will learn more about in the next few sections.

At the same conference where the UNFCCC was signed, the **Agenda 21** was agreed. This is intended to contribute to a higher standard of living for all countries and a better protected ecosystem. In addition to ecological issues, it also increasingly addresses social and economic aspects such as the fight against poverty and the debt burden of developing countries.

Kyoto Protocol

As part of the third Conference of the Parties of the UNFCCC, the so-called Kyoto Protocol was drawn up and subsequently adopted in the Japanese city of Kyoto. The goal behind this agreement was for **industrialised countries to reduce their greenhouse gas emissions by 5.2% by 2012** compared to 1990 levels, with the eventual decision to extend it to 2020. Binding targets were set in the Kyoto Protocol, and **if individual countries failed** to meet their commitments, they were subject to **sanctions**. Because of this, and with the help of burden sharing and emissions trading, member countries managed to formally reduce their emissions by an average of 20% by 2012, which was well above the target.

Indicator

Watch the following video in order to find out more about the Kyoto Protocol:
<https://www.youtube.com/watch?v=DFhuNKNDrLg>

However, since many countries have not participated in the protocol or have gradually withdrawn (e.g. USA, China, Mexico), global CO₂ emissions have increased considerably instead of being minimised.

Paris Agreement

As already mentioned, the Paris Agreement is also an agreement that has evolved from the UNFCCC. It should help to ensure that the climate protection agreement between different countries worldwide is maintained after 2020 and that negative impacts on the climate and our planet are minimised or prevented. This agreement came into force in 2016 and has so far been signed by 194 countries. Within the EU, it has been signed by all member states, with related targets and measures to reduce emissions being determined and coordinated at the EU level.

The Paris Agreement is intended to serve as a bridge between our current way of life and the goal of climate neutrality by the end of this century. The main contents of this agreement are:

- **Reduction of emissions:** In the long term, the global average temperature should rise by well below 2°C compared to pre-industrial levels, the target would be a maximum of 1.5°C, thus significantly reducing the risks of climate change. The peak of global emissions is also to be reached as soon as possible so that a balance can be achieved between emissions and emission reductions.
- **Transparency and global stocktaking:** The governments have agreed to meet every 5 years to evaluate their progress. An important aspect is transparency in the implementation of the measures and the fulfilment of their obligations, which is why they are reported on publicly.
- **Adaptation:** The aim is to support the society in dealing with the impacts of climate change accordingly, with increased international assistance being offered to developing countries in particular.

- **Losses and damage:** Damage caused by negative environmental impacts should be minimised or averted through early warning systems, emergency programmes, etc.
- **Role of cities, regions and local authorities:** They are encouraged to strengthen their action to combat climate change, with regional and international cooperation playing an important role. It also aims to strengthen their resilience to the negative impacts of climate change.

To ensure that measures to reduce emissions are always followed up, member states must **submit an up-to-date climate action plan every 5 years.**

Indicator

Here you can find an overview of the objectives and contents of the Paris Agreement:

<https://www.youtube.com/watch?v=WiGD0OgK2ug>

Green Deal

To support the reduction of greenhouse gas emissions and the mitigation of global warming, the Green Deal was presented by the European Commission at EU level in 2019. The main goal is to **achieve climate neutrality by 2050**. Member states have agreed that they will reduce their greenhouse gas emissions by 55% by 2030 (based on 1990 levels) and become climate neutral by 2050.

Further goals of the Green Deal are:

- Creation of new, green jobs and economic growth that is decoupled from resource consumption
- Inclusion of all people and regions - no one should be left behind
- Increasing the well-being and health of the population
- Reducing energy poverty and dependence on external energy sources

Indicator

In this video you can see how these goals should be reached:

<https://audiovisual.ec.europa.eu/en/video/l-206619?&lg=INT>

Below are some of the benefits to the population of achieving the Green Deal goals:



fresh air, clean water,
healthy soil and
biodiversity



renovated, energy
efficient buildings



healthy and affordable
food



more public transport



cleaner energy and
cutting-edge clean
technological
innovation



longer lasting products
that can be repaired,
recycled and re-used



future-proof jobs and
skills training for the
transition



globally competitive
and resilient industry

Source: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

To ensure that these environmental goals are actually achieved, the European Climate Law came into force in 2020. Thus, all member states are bound to become climate neutral by 2050.

European Sustainable Development Strategy (EU-SDS)

The first European Sustainable Development Strategy was adopted in 2001 to guide future policy decisions towards sustainability. In 2006, a renewed EU Sustainable Development Strategy was adopted by the EU Heads of Government, setting out targets and actions for 7 key sustainability themes.

These 7 themes are:

- Climate change and clean energy
- Conservation and management of natural resources
- Sustainable transport
- Public health
- Sustainable consumption and sustainable production
- Social inclusion, demography and migration
- Global challenges posed by poverty and sustainable development

The implementation of the European Sustainable Development Strategy is mostly done by the member states themselves within the framework of national strategies.

Digression

If you want to find out more about what each EU member state is doing in relation to this sustainability strategy, you can read more here: <https://www.esdn.eu/>

Since 2006, this sustainability strategy has not been renewed, but attempts have been made to continue to integrate sustainability into Europe in other ways, and thus sustainability, or the **Green Deal**, has a major place in the Commission's work programme for 2022.

European Union Emissions Trading System (EU-ETS)

European emissions trading is a key instrument to reduce greenhouse gases and help achieve the EU's climate targets. It aims to **reduce greenhouse gas emissions caused by energy-intensive industries**.

The concept behind the EU-ETS works as follows: Everyone who operates installations or aircraft that emit greenhouse gases must have an emission right (=certificate). So only those who have such a certificate are allowed to release greenhouse gases into the environment. In order to be able to control the amount of emissions, there is an upper limit on the number of certificates that can be issued within the EU, which is lowered annually in order to constantly reduce the amount of emissions.

These certificates are tradable, they can be transferred to anyone within the EU. This creates additional costs for the permission to emit greenhouse gases, which leads to an incentive for companies to reduce their greenhouse gas emissions.

This instrument has already led to significant reductions in greenhouse gas emissions. Since 2005, there has been an average reduction of 43% across the EU area.

5 Summary

Sustainability has gained enormous importance in recent years and decades and has become a necessity for everyday life. Sustainable action is characterised by the fact that we **set our actions in such a way that our descendants still have the possibility to satisfy their needs without major restrictions.**

The concept of sustainability can be traced back to the **18th century**, where it was related to **forestry**. One should only cut down as many trees as can naturally grow again in nature. Since then, the concept of sustainability has evolved. Today, however, sustainability **not only means protecting the environment**, but the **social and economic perspectives have also become part of it**. Actions should therefore be taken in a way that protects nature as well as the economy and us humans.

In recent years, **the human impact on the environment has been largely negative** and has been noticeable in the form of emissions, water pollution and the exploitation of nature. As a result, the **climate is rising faster and faster**, leading to extreme weather conditions, for example. The ecological footprint shows the area of land a person needs to cover his/her own demand for resources. This is often put in relation to biocapacity to show whether there is a positive or negative ecological balance.

In order to **counteract the destruction of our planet**, various **agreements** have been concluded in Europe and worldwide, **action plans** have been developed and certificates have been drawn up to limit negative action and thus save our environment. Examples of this are the Kyoto Protocol and the Paris Agreement, which aim to reduce greenhouse gas emissions and stabilise the climate. Across Europe, other instruments and strategies are also being applied, which has already led to a significant reduction in emissions in recent years. It is important that we continue in this way in the coming years so that we can offer our descendants a beautiful, diverse life.

Resources

Introduction:

<https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>, p. 41

Importance of Sustainability:

<https://www.klimaschutz-rheinessen-nahe.de/nachhaltigkeit/ursprung-des-nachhaltigkeitsgedankens/>

<https://www.wir-leben-nachhaltig.at/aktuell/detailansicht/soziale-nachhaltigkeit/>

https://www.capgemini.com/wp-content/uploads/2020/07/20-06_9880_Sustainability-in-CPR_Final_Web-1.pdf

<https://www.esgthereport.com/what-is-esg/the-g-in-esg/what-are-the-three-pillars-of-sustainability/>

<https://circularecology.com/sustainability-and-sustainable-development.html>

<https://www.twi-global.com/locations/deutschland/was-wir-tun/haeufig-gestellte-fragen/was-ist-nachhaltigkeit-und-warum-ist-sie-so-wichtig>

<https://www.careelite.de/warum-nachhaltig-leben-gruende/>

Impacts on the environment

<https://www.nationalgeographic.org/encyclopedia/air-pollution/>

<https://www.loveexploring.com/gallerylist/73042/31-ways-humans-are-negatively-impacting-the-environment>

https://www.planet-wissen.de/natur/umwelt/globaler_wandel/index.html

<https://ec.europa.eu/eurostat/de/web/climate-change>

<https://www.wwf.de/earth-overshoot-day>

<https://www.investopedia.com/terms/r/rawmaterials.asp>

<https://www.welthungerhilfe.de/lebensmittelverschwendung/was-ist-der-oekologische-fussabdruck/>

https://www.bmk.gv.at/themen/klima_umwelt/nachhaltigkeit/bildung/fussabdruck_rechner.html

<https://www.greenfacts.org/glossary/abc/biocapacity.htm>

<https://www.footprintnetwork.org/2017/11/09/ecological-footprint-climate-change/>

https://bsj.org/BSJ/newsletter/pdf/oekologischer_fussabdruck_by.pdf

International Agreements & Certificates

<https://www.umweltbundesamt.de/themen/klima-energie/internationale-eu-klimapolitik/klimarahmenkonvention-der-vereinten-nationen-unfccc>

<https://www.lpb-bw.de/kyoto-protokoll>

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Kyoto_Protocol

https://ec.europa.eu/clima/eu-action/international-action-climate-change/climate-negotiations/paris-agreement_en

<https://www.un.org/en/climatechange/paris-agreement>

<https://www.europarl.europa.eu/news/en/headlines/priorities/climate-change/20191115STO66603/eu-and-the-paris-agreement-towards-climate-neutrality>

https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en

<https://www.europarl.europa.eu/news/en/headlines/priorities/climate-change/20191115STO66603/eu-and-the-paris-agreement-towards-climate-neutrality>

https://www.bmk.gv.at/themen/klima_umwelt/nachhaltigkeit/strategien/eu_sds.html

<https://www.umweltbundesamt.de/daten/klima/der-europaeische-emissionshandel#treibhausgas-emissionen-deutscher-energie-und-industrieanlagen-im-jahr-2020>

https://www.cep.eu/fileadmin/user_upload/cep.eu/Studien/cepInput_Klimaschutz_durch_das_EU-ETS/cepInput_Klimaschutz_durch_das_EU-ETS.pdf