

greenACT

EMPHASYS CENTRE

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CLIMATE CHANGE



YOUNG PEOPLE'S HANDBOOK

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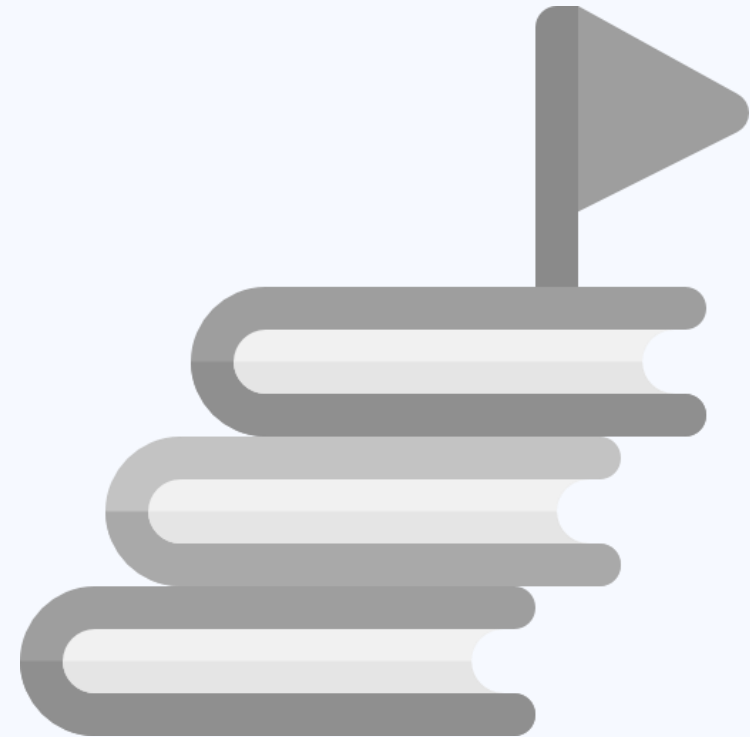
TOPICS

- Topic 1: Climate Change: the biggest health threat
- Topic 2: Natural Catastrophes
- Topic 3: European/International Agreements to fight climate change
- Topic 4: Examples of good practices


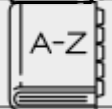


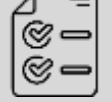




LEARNING GOALS

- To understand how climate change can impact human health
- To know how noise pollution can impact human health
- To distinguish the difference between climate change, global warming and weather
- To understand how natural disasters are related to climate change
- To outline the EU and International Agreements
- To know the idea behind these agreements and why they should be implemented nationally and internationally
- To differentiate what factors can shape and support more sustainable choices
- To know different good practices related to climate action
- To understand how different fields can be affected by climate change



KEY SYMBOLS

Symbols	Explanation
	Definitions
	Case study
	Additional Resources
	Tips
	Activities
	Reminder
	Video

1. CLIMATE CHANGE: THE BIGGEST HEALTH THREAT

1.1. WHAT IS CLIMATE CHANGE?

- Long-term changes in temperature and weather patterns. These changes might be due to natural causes, such as changes in the solar cycle. However, human activities have been the primary cause of climate change since the 1800s, mainly due to the burning of fossil fuels such as coal, oil, and gas.
- Watch the video below to learn more.



https://www.youtube.com/embed/G4H1N_yXBiA?feature=oembed

1.2. WEATHER EXTREMES AND THEIR IMPACT ON HUMAN HEALTH

Temperature Extremes:

- ***Heatwaves***

A prolonged period of abnormally hot weather.

Lead to heat cramps, body dehydration, heat exhaustion, heatstroke and even to deaths.

- ***Extreme cold***

Can be caused by climate change and global warming

Can create cardiovascular stress as the body tries to maintain heat, as well as diseases such as hypothermia.

1.2. WEATHER EXTREMES AND THEIR IMPACT ON HUMAN HEALTH

Floods and Storms

The health impacts include:

- Injuries after storms;
- Cases of infectious and parasitic diseases, such as gastrointestinal illnesses, respiratory infections, and skin or soft tissue infections, after storms and floods;
- Cardiopulmonary (floods) and skin complaints (storms and floods)



1.2. WEATHER EXTREMES AND THEIR IMPACT ON HUMAN HEALTH

Wildfires

- Respiratory health outcomes (asthma) due to the chemicals and gases emitted by wildfire smoke.
- Other wildfire-related health impacts:
 - Burns, injuries, mental health diseases, and death (due to exposure to flames or radiant heat).



1.3. MENTAL HEALTH

How is mental health affected by extreme events and disasters?

- The loss of homes, companies, and communities might increase financial stresses

1.4. FOOD-, WATER- AND VECTOR-BORNE DISEASES

Extreme temperature and precipitation play a major role in the transmission of diseases.

The ways, through which climate change can affect food-, water- and vector-borne diseases:

- through extreme events (floods and sea-level rise), water can be contaminated due to the presence in the environment of fecal-oral pathogens; and
- through climatic factors (temperature and humidity) that influence the survival and multiplication of pathogens

1.5. AIR POLLUTION

Lung cancer, heart disease, and respiratory infections are all at increased risk because of air pollution. Health effects have been linked to both short- and long-term exposure to air pollution.

- Watch the video below from WHO to learn how air pollution impacts human body:



<https://www.youtube.com/watch?v=GVBey1jSG9Y>

1.6. NOISE POLLUTION

The most common health issues caused to humans from constant levels of noise are:

- Hearing loss
- Stress
- High blood pressure

Sound is measured in decibels and any sounds that exceed 85 decibels can harm a person's ears.

For example:

- Rock concerts (110 to 120 decibels) and
- subway trains (90 to 115 decibels exceed this threshold).

2. NATURAL CATASTROPHES

Natural disasters:

- **Floods** (When water overflows or soaks land that is normally dry)

After wildfires, floods are the natural disaster with the greatest global impact.

Due to global warming the total precipitation increases, putting a high risk of flooding.

- **Droughts** (A prolonged period of deficient rainfall relative to the region's average is referred to as a drought)

They are a natural part of the climate cycle.

However, due to climate change and the warmer Earth's atmosphere, droughts are occurring more often the last 20 years.

2. NATURAL CATASTROPHES

Natural disasters:

- Droughts

Watch the following short introductory video about droughts:



<https://www.youtube.com/watch?v=gv66U4tnO3M>

2. NATURAL CATASTROPHES

Natural disasters:

- **Wildfires and Droughts**

Wildfires can be exacerbated by droughts.

The potential of wildfires to swiftly expand and destroy vital habitat is one of their most hazardous characteristics.

Burned plastics and other non-natural materials during wildfires, resulting in toxic run-off that can pollute bodies of water.



Fire and Rescue NSW team give water to a koala as they rescue it from fire in Jacky Bulbin Flat, New South Wales, Australia, Nov. 21, 2019 in this picture obtained from social media.

Source: [https://www.voanews.com/a/east-asia-pacific_koalas-suffer-aus](https://www.voanews.com/a/east-asia-pacific_koalas-suffer-<u>aus</u>)

3. EUROPEAN/INTERNATIONAL AGREEMENTS TO FIGHT CLIMATE CHANGE

United Nations Framework Convention on Climate Change

It was established on March 21st, 1994,

Its goal is to create a global environmental convention and stabilize atmospheric greenhouse gas concentrations to a level that will protect the climate system from detrimental human influence.

Watch the following video about UNFCCC:



https://www.youtube.com/embed/CRT3T_VPcKA?feature=oembed

Kyoto Protocol

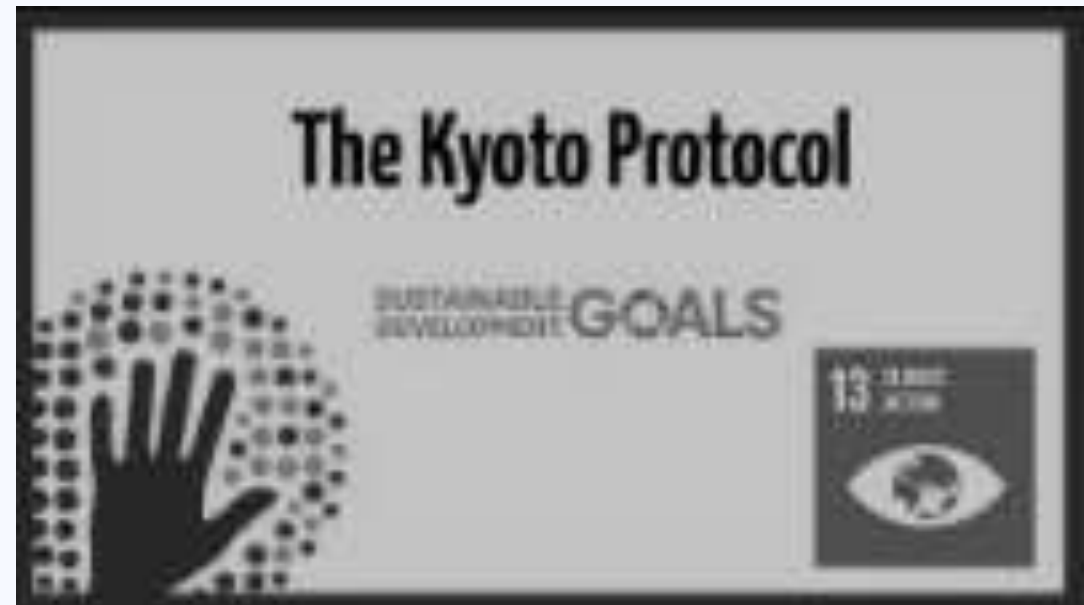
It is a global agreement

It imposes strict limitations on greenhouse gas emissions.

It was formally adopted on the 11th of December 1997

Goal: Industrialized nations and economies in transition to set and achieve individual emission reduction targets for greenhouse gases (GHG).

Watch the following video about Kyoto Protocol:



<https://www.youtube.com/embed/DFhuNKNDrLg?feature=oembed>

Paris Agreement

It was adopted at the Paris climate conference (COP21) in 2015.

It is a legally binding international treaty on climate change

Goal: - to set out a global framework with the aim to keep global warming below 2 degrees Celsius, ideally below 1.5°C, compared to pre-industrial levels and,

- to reach climate neutrality before the end of the century.

Watch the following video about Paris Agreement:



https://www.youtube.com/watch?v=WiGD0OgK2ug&feature=emb_title

EU Green Deal

European Green Deal is a set of policy initiatives by the European Commission

Goals:

- to make Europe climate neutral by 2050
- to increase peoples' wellbeing
- to leave no one behind
- to reduce the emissions from cars by 55% by 2030

Watch the following video about the EU Green Deal:



<https://www.youtube.com/embed/H37grur6HaU?feature=oembed>

4. EXAMPLES OF GOOD PRACTICES

Companies combating climate change

Alphabet	Beyond Meat	HP	Microsoft
<ul style="list-style-type: none">• the first to match its entire power usage with renewable energy,• achieved carbon neutrality in 2007	<ul style="list-style-type: none">• produces 90% less GHG emissions• Uses 46% less energy,• has >99% less of an impact on water scarcity, and 93% less of an impact on land use (compared to a kg beef)	<ul style="list-style-type: none">• stopped using plastic bags and power cord ties in its packaging in 2019• aims to eliminate 75% of its single-use plastic packaging by 2025.	<ul style="list-style-type: none">• by 2025 aims to use only renewable energy,• by 2030 aims to be carbon negative• working on the AI development to adopt sustainability measures that reduce the detrimental environmental effects of farming.

4. EXAMPLES OF GOOD PRACTICES

Innovation

The Plastic Road concept:

- aims to reduce the amount of plastic waste in the environment.
- will have a lesser ecological impact.

When the components are no longer useful, they can be recycled once more, which promotes a circular economy and a cleaner environment.





Watch the following video of a road made out of plastic:



<https://www.youtube.com/embed/QBZN2UAfvwY?start=3&feature=oembed>

4. EXAMPLES OF GOOD PRACTICES

Examples and tips on climate actions

 Energy	 Transport	 Food	 Food waste
<ul style="list-style-type: none">• Reduce the heating and cooling,• use energy-efficient electric appliances• wash your clothes in cold water, and• hang up your clothes to dry rather than using a dryer.	<ul style="list-style-type: none">• Drive less, walk and ride a bike more!• For longer distances, use public transportation or carpooling.	<ul style="list-style-type: none">• Eat more vegetables, whole grains, legumes, nuts and seeds.• Vegetables require less energy, water and land to be produced• Vegetarian diet can reduce greenhouse gas emissions.	<ul style="list-style-type: none">• It is important to buy what you need and consume what you buy!• Methane, a potent greenhouse gas, is produced when food rots in a landfill.



<https://greenactproject.eu/>



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