GREEN PARTICIPATION

GREEN EUROPE

A6-Application of Green Practices

PROJECT NUMBER: 2023-2-TR01-KA154-YOU-000168735

Funded by the Erasmus+ Program of the European Union. Nevertheless, European Commission and Turkish National Agency cannot be held responsible for any use of the information contained herein.

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GREEN EUROPE

APPLICATION OF

GREEN PRACTICES





WHAT IS ENVIRONMENTAL POLLUTION

Environmental pollution refers to the contamination of the natural environment by harmful substances or pollutants that negatively impact ecosystems, human health, and the planet. It occurs when pollutants are introduced into the environment, disrupting its balance and causing adverse effects.



TYPES OF ENVIRONMENTAL POLLUTION

1.Air pollution
2.Water pollution
3.Soil pollution
4.Noise pollution
5.Light pollution
6.Thermal pollution





AIR POLLUTION

Air pollution is caused by the release of pollutants such as carbon dioxide (CO2), sulfur dioxide (SO2), nitrogen oxides (NOx), and particulate matter (PM) into the atmosphere. Sources include vehicles, industrial emissions, and fossil fuel combustion, contributing to climate change and respiratory diseases.



WATER POLLUTION

Water pollution occurs when harmful chemicals, waste, and plastics are dumped into water bodies like rivers, lakes, and oceans. Major pollutants include industrial discharge, agricultural runoff (pesticides, fertilizers), and oil spills, affecting aquatic life and human access to clean water.



SOIL POLLUTION

Soil pollution is the contamination of soil due to the overuse of pesticides, chemical fertilizers, and industrial waste. This pollution degrades soil quality, harms plant life, and enters the food chain, impacting human health.





NOISE POLLUTION

Noise pollution results from excessive noise from sources such as transportation (cars, airplanes), industrial activities, and urban development. It can lead to health issues like stress, hearing loss, and sleep disturbances.



LIGHT POLLUTION

Light pollution refers to the excessive and misdirected artificial light in urban areas, which disrupts ecosystems, affects wildlife, and interferes with human circadian rhythms.

THERMAL POLLUTION

Thermal pollution occurs when industries discharge heated water or waste into natural water bodies, raising the water temperature and disrupting aquatic ecosystems





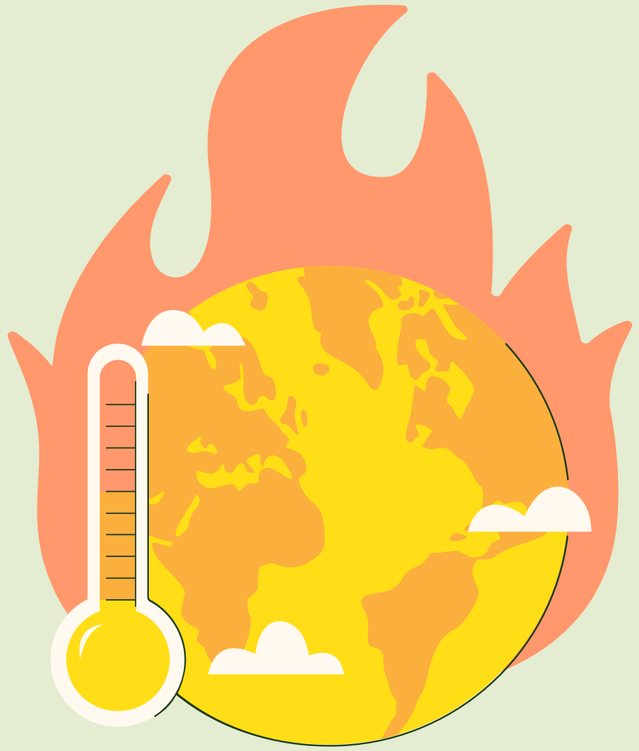
WHAT IS CLIMATE CHANGE?

Climate change is the long-term alteration of temperature and typical weather patterns in a place, largely due to human activities like burning fossil fuels, which increase greenhouse gas levels and trap heat in the Earth's atmosphere.



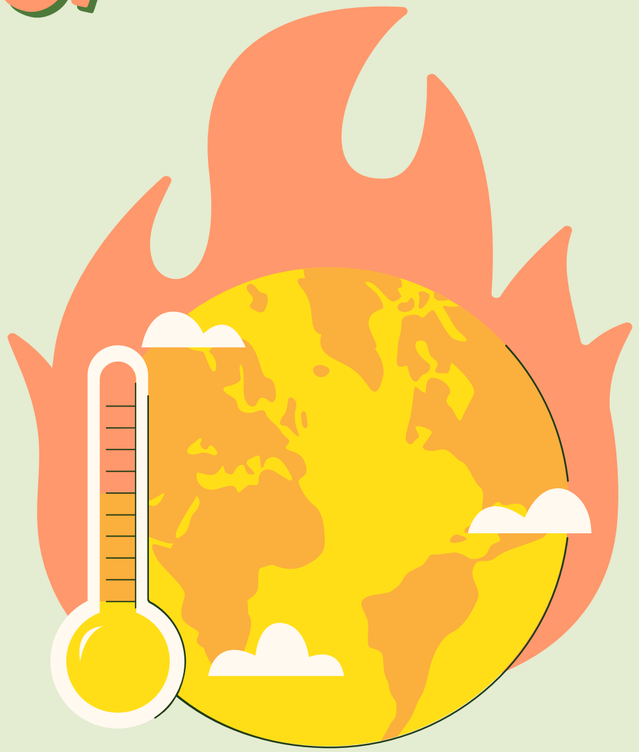
CAUSES OF CLIMATE CHANGE

The main causes include the excessive release of greenhouse gases like carbon dioxide (CO2), methane (CH4), and nitrous oxide (N20) into the atmosphere. These gases trap heat from the sun, causing the greenhouse effect and leading to global warming.



ENVIRONMENTAL IMPACTS OF CLIMATE CHANGE

1. Rising Temperatures and Heatwaves
2. Melting Ice and Sea Level Rise
3. Extreme Weather Events
4. Ecosystem Disruption and Biodiversity Loss
5. Freshwater Stress and Scarcity
6. Ocean Acidification
7. Impacts on Agriculture and Food Security



RISING TEMPERATURES AND HEATWAVES

One of the most direct consequences of climate change is the increase in global average temperatures. This warming trend leads to more frequent and intense heatwaves, which affect both natural ecosystems and human health. Higher temperatures can stress wildlife, reduce agricultural productivity, and lead to the spread of pests and diseases. In urban areas, the heat island effect intensifies, making cities significantly hotter than surrounding regions and placing vulnerable populations at higher risk.





MELTING ICE AND SEA LEVEL RISE

Climate change is causing glaciers, ice caps, and polar ice sheets to melt at an accelerated rate. This contributes directly to rising sea levels, which threaten low-lying coastal regions with increased flooding, erosion, and habitat loss. Small island nations and coastal cities around the world face the risk of becoming uninhabitable in the coming decades. Additionally, the melting of Arctic ice disrupts marine ecosystems and global ocean currents, which regulate climate patterns.



EXTREME WEATHER EVENTS



Climate change has increased the frequency and severity of extreme weather events such as hurricanes, floods, droughts, and wildfires. Warmer oceans provide more energy for storms, making hurricanes more destructive. Changing rainfall patterns lead to both intense flooding in some areas and prolonged droughts in others, disrupting ecosystems and agriculture. Wildfires, fueled by dry and hot conditions, destroy forests, release massive amounts of CO_2, and threaten biodiversity.



ECOSYSTEM DISRUPTION AND BIODIVERSITY LOSS

Changing climate conditions can alter entire ecosystems, forcing species to migrate, adapt, or face extinction. Coral reefs, for example, are highly sensitive to temperature changes and have experienced widespread bleaching events. Forests are also at risk due to drought, pests, and shifting vegetation zones. These changes weaken ecosystem stability, reduce biodiversity, and undermine the services that nature provides – such as clean air, water, and soil fertility.

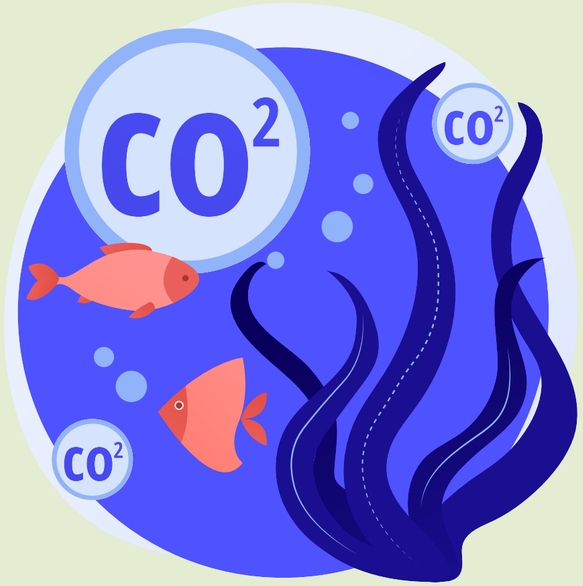


FRESHWATER STRESS AND SCARCITY

As climate change affects precipitation patterns, some regions experience reduced rainfall and snowpack, leading to water shortages. Glacial meltwater, a critical source of freshwater for many river systems, is declining. Increased evaporation from higher temperatures also worsens drought conditions. These changes put pressure on agriculture, drinking water supplies, and sanitation systems, especially in already water-stressed areas.



OCEAN ACIDIFICATION



Rising levels of carbon dioxide (CO_2) in the atmosphere are also absorbed by oceans, leading to ocean acidification. This chemical change makes it harder for marine organisms like shellfish and corals to form their skeletons and shells. The impact cascades through the food chain, threatening fisheries, coral reefs, and marine biodiversity. As oceans become more acidic, their ability to absorb CO_2 also weakens, reducing their role in regulating the global climate.

IMPACTS ON AGRICULTURE AND FOOD SECURITY



Changes in temperature, rainfall, and extreme events affect crop yields, soil quality, and growing seasons. Some regions may experience longer growing seasons, while others face reduced productivity or crop failures. Pests and diseases may also expand into new areas due to warmer climates. These disruptions can threaten food supply chains, increase food prices, and heighten the risk of hunger, particularly in vulnerable communities.

ENVIRONMENTAL POLLUTION & CLIMATE CHANGE

It has been proven that climate change is related to some major forms of environment pollution. Environmental pollutionreleases harmful substances into the air, water, and soil, many of which contribute to the greenhouse effect.

ENVIRONMENTAL POLLUTION & CLIMATE CHANGE

Environmental pollution amplifies climate change by increasing greenhouse gas concentrations and damaging the natural systems that help regulate the Earth's climate, while climate change, in turn, exacerbates pollution problems through its impacts on ecosystems and weather patterns.



As a result the issue of environment pollution and climate change has become an international concern because:

1) persistent and emerging pollutants to a certain extent cause climate change; and

2) the variations in normal weather patterns have unfavorable effects on the physical and biological entities of the environment.



GREEN PRACTICES

Green practices are actions, habits, or systems that reduce harm to the environment and support sustainability.



EXAMPLES OF GREEN PRACTICES:

1. Recycling paper, glass, and plastics
2. Using reusable bags, bottles, and containers instead of single-use plastics
3. Choosing public transportation, biking, or walking instead of driving
4. Reducing electricity and water consumption at home and work
5. Supporting renewable energy sources like solar and wind power



EXAMPLES OF GREEN PRACTICES:

6.Planting trees and protecting green spaces

7. Composting Organic Waste

8. Using Eco-Friendly Cleaning and Personal Care Products

9. Supporting Local and Sustainable Food

10. Going Digital and Reducing Paper Use



1. RECYCLING PAPER, GLASS, AND PLASTICS

Recycling is one of the most accessible and impactful green practices. It involves collecting used materials such as paper, glass, and plastics and reprocessing them into new products.



IMPACT:

- Recycling one ton of paper can save approximately 17 trees.
- Recycling glass uses up to 30% less energy compared to producing new glass.
- Recycling plastics reduces both the amount of waste and the consumption of fossil fuels.

OUTCOME:

1. Less waste accumulates
2. Fewer forests are destroyed
3. Lower greenhouse gas emissions

2. USING REUSABLE BAGS, BOTTLES, AND CONTAINERS



Single-use plastics, like shopping bags and water bottles, are major contributors to environmental pollution, especially in oceans. Switching to reusable alternatives – such as cloth bags, stainless steel bottles, and glass containers – dramatically reduces plastic waste. A single reusable bottle can replace hundreds of disposable ones each year. These items are not only cost-effective over time but also prevent the accumulation of microplastics in soil and water.



IMPACT:

- Plastic bags can take more than 500 years to decompose in nature.
- One reusable bottle can prevent the use of over 300 disposable plastic bottles per year.
- This also helps prevent the formation of microplastics.

OUTCOME:

1. Reduction in plastic waste
2. Prevention of ocean and soil pollution
3. Protection of marine life

3.CHOOSING PUBLIC TRANSPORTATION, BIKING, OR WALKING

Transportation is a leading source of air pollution and greenhouse gas emissions. Choosing alternatives to driving, such as using public transport, biking, or walking, greatly reduces individual carbon footprints.

IMPACT:

- Public transport produces 45-80% less emissions per passenger compared to private vehicles.
- Walking and biking create no emissions at all.
- This reduces air pollution and eases traffic congestion.

OUTCOME:

1. Smaller carbon footprint
2. Better air quality
3. Improved public health

4. REDUCING ELECTRICITY AND WATER CONSUMPTION



Conserving energy and water at home and work is both environmentally and economically beneficial. Using energy-efficient appliances, turning off lights when not in use, and limiting water usage in daily activities help conserve limited resources. Most electricity still comes from fossil fuels, so reducing energy use also means emitting less CO_2.

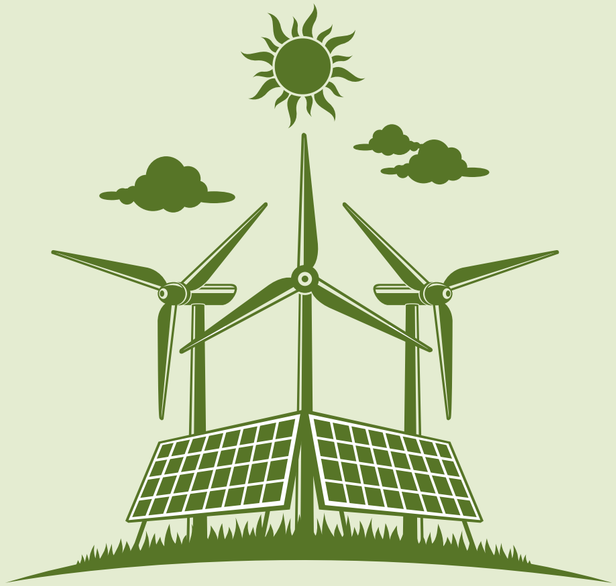
IMPACT:

- Since most energy is produced from fossil fuels, reduced consumption lowers carbon emissions.
- Water conservation is especially critical in the fight against drought.
- Saving 1 kWh of energy prevents approximately 0.5 kg of CO_2 emissions.

OUTCOME:

1. Lower energy costs
2. Stronger climate action
3. Protection of water resources

5. SUPPORTING RENEWABLE ENERGY SOURCES



Investing in or switching to renewable energy sources such as solar, wind, and geothermal power is one of the most effective ways to combat climate change. Unlike fossil fuels, renewables generate electricity without emitting greenhouse gases.

IMPACT:

- Solar and wind energy generate power with zero carbon emissions.
- They significantly reduce the carbon footprint of the energy sector.
- In the long term, they also provide energy independence.

OUTCOME:

1. Reduced greenhouse gas emissions
2. Improved air quality
3. Clean energy for future generations

6. PLANTING TREES AND PRESERVING GREEN SPACES

Trees play a vital role in absorbing carbon dioxide, regulating temperatures, and supporting biodiversity. Planting trees and protecting existing green areas enhances urban resilience and ecological health



IMPACT:

- One tree absorbs about 21 kg of CO_2 annually.
- Trees provide shade and cool urban areas through evaporation in hot weather.
- They support biodiversity and help prevent soil erosion.

OUTCOME:

1. Increased carbon absorption
2. More livable cities
3. Preservation of ecological balance



7. COMPOSTING ORGANIC WASTE

Composting is a method of recycling organic waste like food scraps and garden waste into nutrient-rich soil



IMPACT:

- Reduces methane emissions from landfills .
- Converts food and garden waste into nutrient-rich compost for soil.
- Improves soil structure, moisture retention, and fertility.
- Decreases the need for chemical fertilizers, which can pollute water sources.
- Supports carbon sequestration by promoting healthy so

OUTCOME:

1. Household waste is reduced significantly.
2. Greenhouse gas emissions are minimized.
3. Soil health and local food systems are strengthened.
4. Sustainable agriculture is promoted.

8. USING ECO-FRIENDLY CLEANING AND PERSONAL CARE PRODUCTS

Many conventional cleaning and hygiene products contain toxic chemicals and are packaged in plastic. Choosing biodegradable, natural, or refillable alternatives reduces pollution and exposure to harmful substances.

IMPACT:

- Reduces the use of toxic chemicals that harm air and water quality.
- Cuts down plastic waste through refillable or plastic-free packaging.
- Limits the release of aerosols and volatile organic compounds (VOCs).
- Improves indoor air quality, benefiting human health.
- Prevents chemical runoff into rivers and oceans, protecting aquatic life.

OUTCOME:

1. Pollution of water and air is minimized.
2. Plastic consumption and packaging waste are reduced.
3. Safer, healthier home environments are created.
4. Pressure on waste management systems is lowered.



9. SUPPORTING LOCAL AND SUSTAINABLE FOOD

Buying locally produced and seasonal food reduces the environmental cost of long-distance transportation and packaging.

IMPACT:

- Reduces carbon emissions from long-distance food transport ("food miles").
- Supports organic farming, which avoids pesticides and protects soil.
- Reduces methane emissions from livestock by lowering meat consumption.
- Prevents food waste, which is a major source of landfill emissions.
- Strengthens local economies and food resilience.

OUTCOME:

1. Greenhouse gas emissions from agriculture and transport are reduced.
2. Soil, water, and biodiversity are protected.
3. Local farmers and sustainable practices are supported.
4. Climate-friendly eating habits are encouraged.



10. GOING DIGITAL AND REDUCING PAPER USE

In workplaces and schools, switching from paper-based systems to digital alternatives (e.g., e-books, online forms) reduces deforestation and waste.

IMPACT:

- Reduces deforestation, protecting forest ecosystems and biodiversity.
- Minimizes paper waste, lowering the amount of trash sent to landfills.
- Saves energy and water used in paper production processes.
- Encourages resource efficiency and smarter consumption in offices and schools.
- Supports the adoption of technology-driven, low-impact systems.

OUTCOME:

1. Fewer trees are cut down for paper production.
2. Waste management systems face less burden.
3. Institutional sustainability practices improve.
4. Eco-conscious behavior is promoted among students and employees.

PLASTICS



Plastics are among the most persistent and widespread pollutants in the modern world. They are used in packaging, consumer goods, textiles, electronics, and countless other applications. However, plastics do not biodegrade; instead, they break down into microplastics, which contaminate soil, freshwater systems, and oceans. These particles are often ingested by animals and even humans, entering the food chain and potentially causing health risks.



PLASTICS



Plastic waste clogs rivers, harms marine life, and leads to the destruction of natural habitats. Sea turtles, seabirds, and fish commonly ingest plastic debris, mistaking it for food, which can result in injury, starvation, or death. Moreover, plastic pollution can disrupt entire ecosystems, especially in marine environments, by affecting feeding and reproductive behaviors of wildlife.

- Plastics also have a significant carbon footprint across their life cycle. Most plastics are made from petrochemicals derived from fossil fuels such as oil and natural gas. The extraction, refining, and manufacturing processes are energy-intensive, resulting in the emission of large quantities of greenhouse gases (GHGs) such as carbon dioxide (CO_2) and methane (CH_4).
- Additionally, when plastic waste is incinerated, it releases toxic gases and CO_2 into the atmosphere, further contributing to global warming. According to studies, by 2050, the plastic industry could account for up to 15% of global carbon emissions if current trends continue. In this way, plastics contribute not only to visible pollution but also to the invisible acceleration of climate change.

To fight plastic pollution and its climate impacts, several green approaches have been developed:

- Biodegradable materials made from corn starch, sugarcane, or seaweed that break down naturally without harming ecosystems
- Compostable packaging that returns safely to the earth instead of lingering for centuries
- Reusable products, such as cloth bags, stainless steel bottles, and bamboo utensils, that replace single-use items

AEROSOLS



Aerosol products, such as spray deodorants, air fresheners, hair sprays, and certain cleaning products, often release harmful substances into the environment. Traditionally, aerosols used chlorofluorocarbons (CFCs), which severely damaged the ozone layer. Although CFCs have largely been phased out, many modern aerosols still contain hydrofluorocarbons (HFCs) or volatile organic compounds (VOCs).





AEROSOLS

These compounds contribute to air pollution by forming ground-level ozone, which is harmful to both human health and vegetation. VOCs can irritate the eyes and respiratory system and have been linked to long-term health issues. Additionally, aerosol packaging – usually made of metal and plastic – adds to the global waste problem if not properly recycled.



While aerosols may seem small in scale, the gases they emit are highly potent. HFCs, for instance, are super greenhouse gases – thousands of times more effective at trapping heat in the atmosphere than carbon dioxide. Although they exist in smaller quantities, their global warming potential (GWP) is extremely high.



Furthermore, the production and disposal of aerosol cans also involve emissions from manufacturing and transportation. The accumulation of such emissions across billions of units annually contributes significantly to the rise in global temperatures. The use of these gases also hinders progress toward climate targets set under international agreements such as the Paris Agreement and the Kigali Amendment.

To replace harmful aerosols, green alternatives include:

- Pump spray systems that use natural air pressure instead of chemical propellants
- Bag-on-valve technology, separating the gas from the product and reducing emissions
- Solid or natural alternatives, like deodorant sticks, cleaning tablets, or essential oil diffusers that do not need pressurized gases



GREEN ENTREPRENEURSHIP

Green entrepreneurship refers to the creation and development of businesses that are environmentally sustainable.



ECOVATIVE

- Ecovative designs packaging materials made from mushrooms (fungi).
- These materials naturally biodegrade in the soil in a few weeks, unlike Styrofoam which lasts for centuries.
- It offers an eco-friendly solution for companies like Dell and IKEA.

BY HUMANKIND

- By Humankind sells solid deodorants and refillable containers to replace aerosol sprays.
- Their focus is to cut down on both plastic waste and harmful gas emissions from everyday hygiene products.

LUSH COSMETICS

- Lush offers solid shampoos, conditioners, and bath products that are sold without any packaging.
- Their shops often display colorful "naked" products to promote zero-waste lifestyles.

THANK YOU