



# Digitalisation and new technologies against climate change

Date: 05/03/2023 –11/03/2023

Hosting school: Aristotelio College (Greece)

Sending schools: Stiftsgymnasium St. Paul  
(Austria) & Gymnasieskolan Spyken (Sweden)

Aggelopoulou Christina, Alexiou Dimitra, Delidimakos Giannis, Zeza Lydia, Zidrou Ioanna, Karavelaki Elena, Kazantzidou Christina, Kefou Christina, Koulaouzides Aris, Kremmyda Anny, Lagoutari Ismini, Nikolaidou Stamatia, Patakidou Vicky, Sfairopoulou Vasileia, Stefanidis Alexandros, Theodoridis Alexandros, Tziola Artemis, Vasiou Katerina, Zartaloudis Evripidis, Zoulfou Natalia



Co-funded by the  
Erasmus+ Programme  
of the European Union

# ➔ What is Climate Change?



Climate change describes **a change in the average conditions** — such as temperature and rainfall — in a region over a long period of time.

Earth's climate has changed radically many times since the planet formed 4.5 billion years ago. It fluctuated between warm periods and ice ages. These cycles each lasted tens of thousands or millions of years.



Think Smart - Act Green  
2020-2022

Erasmus+



## Automobiles

Vehicle pollution contributes to global warming as greenhouse gases heat the planet and deplete the ozone layer. This is causing the average temperatures to rise, leading to rising sea levels and increase in natural disasters.



## Power Stations

Generating electricity and heat by burning fossil fuels, causes a large chunk of the greenhouse gases, such as carbon dioxide, that blanket the Earth and trap the sun's heat.

## Urban Land

Urban activities are major Sources of greenhouse gas emissions. Estimates suggest that cities are responsible for 75 percent of global CO2 emissions, with transport and buildings being among the largest contributors.

## Planet Earth

more frequent wildfires, longer periods of drought in some regions, and an increase in the duration and intensity of tropical storms.



# Environmental Problems

1. Pollution
2. Soil Degradation
3. Global Warming
4. Overpopulation
5. Polar Ice Caps
6. Acid Rain

However, those aren't the only environmental problems that we should be concerned about. All across the world, people are facing a wealth of new and challenging environmental problems every day. Some of them are small and only affect a few ecosystems, but others are drastically changing the landscape of what we already know.







Digitalisation against

## ➤ What is digitalisation?

Digitalization is the use of digital technology to transform a company model in order to improve revenue and value-added prospects. It is the process of moving to a **digital business**.

It incorporates the process of adapting old business models to new technologies and embraces digital technology's potential to collect data, identify patterns, and make smarter business decisions.



## ➤ Why is digitalisation important?

Digitalization is not simply a matter of “**more technology.**” Digitalization is important for an organization because it unlocks new thinking and approaches in how the organization perceives its role within its ecosystem and its opportunity for increased profitability. The technology is not an end in itself.

# Digitalization





# How does digitalisation help the environment?

- There's no doubting that most digital gadgets or platforms are eco-friendly and have contributed to minimizing carbon emissions. HCL has completely embraced digital in most activities, with all paper publications converted to e-publications. miPads, laptops, and mobile phones can access the reports and data.
- This method reduces the amount of paper used as well as the expense. Similarly, conducting business online rather than using physical resources has contributed to environmental conservation. It is estimated that 1% of the cost of turning digital in various ways may be saved for a healthier environment





# New technologies against climate change

# What technologies are being used to tackle climate change?

## 1) **More efficient and greener buildings**

Intelligent control systems can drastically reduce a building's energy consumption by taking into account weather forecasts, occupancy and other environmental conditions to adjust the heating, cooling, ventilation and lighting needs of indoor spaces.

## 2) **Discovery and usage of new materials**

Scientists are starting to develop materials that harvest, store and use energy more efficiently.

## 3) **Switch to sustainable transport**

Petrol and diesel vehicles, planes and ships use fossil fuels. Reducing car use, switching to electric vehicles and minimising plane travel will not only help stop climate change, it will reduce air pollution too.



Think Smart - Act Green  
2020-2022

Erasmus+



Green Banao



# Benefits Of Green Buildings



## Environmental Benefits



Green Buildings are inherently designed to make the best use of natural resources. A Green Building is much more friendly to the environment than a normal building.

## Economic Benefits



The overall cost of a Green Building is less as compared to a normal building because it uses less resources like energy & water. It also increases the value of the property.

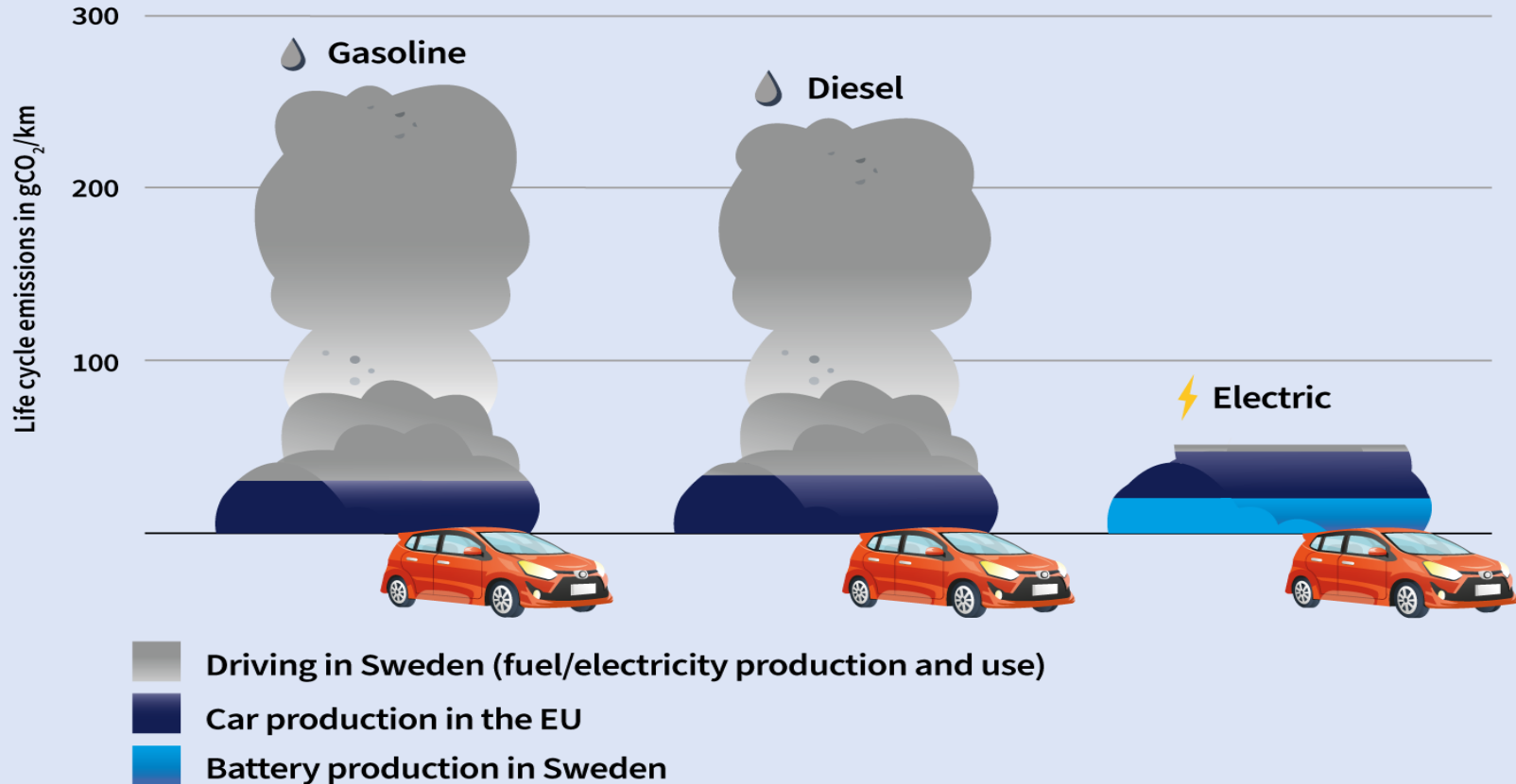
## Social Benefits



Green Buildings are very good for the health of entire eco-system that occupies it. They also decrease the load on local infrastructure.



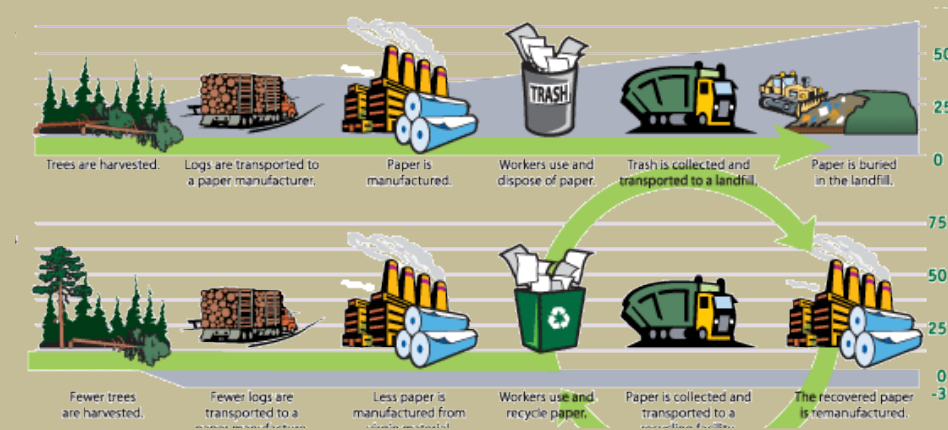
# Best case scenario, EU electric cars emit 80% less CO<sub>2</sub> than diesel and 81% than petrol



# Technology and Recycling

## What is recycling and how it connects with the environment?

➤ Recycling is the process of collecting and processing materials that would otherwise be thrown away as trash and turning them into new products



➤ Recycling helps reduce greenhouse gas emissions by reducing energy consumption. Using recycled materials to make new products reduces the need for virgin materials. This avoids greenhouse gas emissions that would result from extracting or mining virgin materials.



➤ **Collection:** Collection of end-of-life plastic products from separate and mixed waste streams

➤ **First sorting:** Once plastic waste arrives at the recycling plant, it is sorted. While some sorting may have taken place at the collection stage, further separation by color or thickness may be necessary.

➤ **Shredding:** Plastics need to be shredded into smaller pieces before they can go on for reuse.

## Recycling technologies:





➤ **Washing:** Washing removes dust and dirt to ensure plastics are clean before they go onto the next stage. This can include removing traces of food, drink or labels.

➤ **Second sorting and control:** Plastics are sorted again and controlled before being sent to extrusion.

➤ **Extrusion:** Plastics flakes are finally converted into homogenous pellets ready to use in the manufacture of new products







# A new and healthy planet

In conclusion, the secure and creation of a clean, healthy and viability environment are in our hands. If we follow the recycling program and limit our harmful to the environment actions, we can create a better planet for us and the following generations. Because as Bill Nye said “To leave the world better than you found it, sometimes you have to pick up other people’s trash.”

*Thank you for  
your attention!*

