Climate box

UNBOX IT

Climate Box

IO2 Learning Activities

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Content

Module 1: Climate Change and Personal Impact

Climate change is becoming increasingly important as a phenomenon strongly influenced by the choices we make every day, and one that affects all of us. Both individual and collective consumption choices of goods and natural resources have an impact on the environment and a strong influence on climatic events too. The problem is not just warming due to climatic variations, but the global upheaval and possible destruction of the ecosystems and the territories in which we live. We see that when every small increase in the earth's temperature is of crucial significance, our individual consumption choices and our "lifestyle" in general will also be decisive now and in the future. The objective of this Module 1 is to allow learners to first acquire an awareness of their consumption choices and their lifestyle, measuring their ecological impact and also understanding the nature of their consumption (primary goods, secondary goods, organic or non-organic goods, fresh or processed goods…). Therefore, the learners will be able to draw up and start a personal “ecological pathway”, thinking about small daily actions, easy eco-tips and eco-friendly gestures that can be applied at home, at work, when travelling, so as to take personal responsibility and commitment for the environment.

Content:

Topic 1: Climate change

Topic 2: Where does it come from and personal impact

Topic 3: Climate protection

Topic 1: Climate Change

By now everyone is aware of the issue of climate change. It tends to show up quite often on the news and everyday-life conversations.

Let us see what it is in more detail, then!

Planet earth is surrounded by a thin layer of gas called the Atmosphere. This thin layer of gas is composed of several elements (nitrogen 79%, oxygen 19%, other gasses 1% (including, but not limited to: water vapor (H2O), Carbon dioxide (CO2), ozone (O3), methane, and several others).

The atmosphere is one of the basic building blocks of life since it gives us the oxygen to breathe, it protects us from solar radiations through the ozone layer and gives us water to drink, farm the land, and so on. The atmosphere also makes sure climate patterns are stable and this is crucial for all life on the planet.

All ecosystems depend on variables such as average temperatures throughout seasons, rain patterns, dry vs. rainy seasons, etc. These variables, as long as they are stable, allow species to thrive (including Humans). Otherwise, if this predictability is compromised, both animal and plant species struggle to adapt to the changes, and eventually the ecosystem loses its ability to sustain itself and crumbles down.

On a planetary scale, all current ecosystems developed to thrive with an average temperature of 14° Celsius. This average temperature makes sure that the climate functions regularly and the ecosystems thrive, producing resources, oxygen and fertilizing the soil for us. Since the 1980 onwards though, Earth's average temperature rose by roughly 1° Celsius. Let us find out what that means for us and why it happened!

Temperature rose because of the greenhouse effect. This is the build-up of entropic energy in the atmosphere. All energy on earth comes from the sun. Some of it stays on the surface, making planet Earth suitable for life. Solar energy is what powers up the plants, makes them

grow and produce oxygen (and food) for us as well as the entire food-chain (all the other animals). This process takes places both on land and in the ocean. Actually 80% of the oxygen we breathe comes from marine life.

What is the Greenhouse effect? The greenhouse effect is what traps the Sun's energy inside the atmosphere, allowing Earth to maintain its temperature high enough to support complex life forms, and make sure that the excursion between night and day is minimal.

As such, the Greenhouse effect is beneficial to the planet and life on Earth. However, there has recently been simply too much of it!

Why? The Greenhouse effect is generated by greenhouse gasses. Among these, CO2, methane and hydrogen are the most relevant. The presence of these gasses in the atmosphere makes sure that some of the solar energy hitting the planet does not bounce back into the space void, and stays just a little longer before leaving Earth, warming it up.

Therefore, the more greenhouse gasses are present in the atmosphere, the more energy stays in it, causing the average temperature to rise, and this affects:

- The weather
- The ecosystems (terrestrial and marine)
- The Oceanic currents (the gulf current is one of them and it is in danger of changing course if the temperature keeps raising)

Why is the gulf current important? Because it is the main reason Europe does not look like Canada or Siberia most of the year!

To sum up, if the amount of greenhouse gasses in the atmosphere continues to grow and the Earth's mean temperature continues to rise, eventually we will reach a point where (Human) life on earth will not be possible.

Before that point is reached, with temperatures increasing we will witness more floods, storms, wildfires and crop failures. Mass-extinction events will happen more frequently and hit us harder than they used to.

Methodology:

As a trainer, you should be able to pass on the knowledge about climate change putting a little bit of focus on the connection between CO2 build-up and extreme weather events. Support the students in coming up with their own connection and if they don't, help them do so by asking them questions such as:

- How do you think the climate and the weather are different?
- Why does climate change put us all in danger?

Learning Objectives:

- Objective 1: To understand Climate Change
- Objective 2: To find additional reliable resources on climate change

Learning Activities

Activity Nr.	
M1-U1-A1	
Activity Name	Climate grid
Activity Type	Research activity
Duration	1:30h minutes
Nr. of participants	4 to 20
Language Level	☐ Moderate ✓ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced

Description

Step 1: Research: Ask participants to do a little bit of research activity on the following topic (assign them randomly – a good way would be writing them on small pieces of paper and have them picked out from the inside of a jar/hat).

Research topics:

- Greenhouse effect
- Climate change
- Carbon sinks
- Deforestation
- Industrialization
- Ecosystem services
- Mass-extinction events
- Resource use

This list is indicative you can expand it if the group exceeds the item on the list. Another solution for that would be having students do groupwork, dividing them in pairs and having them do shared research. The duration of this step would be roughly 30 minutes, and once everyone has completed their research, step 2 can begin.

Step 2: Presentation: each individual/group presents the outcome of the research to the rest of the class. As a facilitator, make sure you take notes on a whiteboard or flipchart so that each topic is there, once presented.

Step 3: Making the grid: ask the class to discuss the connections they find between the issues presented by each group and ask them to draw a line connecting the items on the flipchart anytime they see a connection.

Step 4: Debriefing: At the end of the activity, you will have a set of connections made by the students themselves on the interaction between the issues in the list above and the additional ones you have included (if any). Based on the visual image, students will be able to understand better the several cause-effect relationships among all these elements. If there is something they did not find as a connection, during the debriefing phase you can integrate their work and explain to them what they're missing.

In order to help them learn additionally, suggest to them to further research the topic. You can advise them to read some of the resources listed in the "additional resources section".

Additional Remarks	This activity is intended to help students learn autonomously about climate change. In doing so as a trainer/facilitator, you should especially help them in identifying fake news on climate change since this is a major subject for the expansion of wrongful information, and if this is not stressed enough it might lead to further misinformation on the topic.
Online Implementation	When implementing this activity online, Zoom is strongly recommended since it allows for groupwork to take place in "breakout rooms". In addition, to annotate all presentations topics,

	you can prepare a slide on Jamboard which enables drawing. This will be helpful to highlight the connections between all the research topics.

Activity Nr.	
	M1-U1-A2
Activity Name	Our experience with climate change
Activity Type	Story/Experience sharing
Duration	30 minutes
Nr. of participants	10
Language Level	✓ Moderate ☐ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced

Description

Step 1: Reflection: find a newspaper article on the impact of climate change and have your learners read it (e.g. https://www.theguardian.com/environment/2021/jul/16/climate-scientists-shocked-by-scale-of-floods-in-germany). While they read it, invite them to reflect on events which happened to them or in their surroundings which they can connect to climate change.

Step 2: Ask each participant to share a story/experience they've had which is connected to climate change. The focus here would be to bring forward either events that happened to the participants, stories they remember, or observations they have made and can connect to climate change.

Step 3: Invite participants to suggest what could be done to avoid the occurrence of these events, putting emphasis on practical solutions. Ask them who should do something about it? Why?

Additional Remarks	The aim of the activity is to help participants reflect on the already strong presence of climate change and its impact on our daily life as well as invite them to reflect on possible solutions. Of course, the activity will strive to propose solutions which go more towards adaptation to climate change rather than the mitigation of it.

Activity Nr.	
M1-U1-A3	
Activity Name	NASA's quiz
Activity Type	Quiz
Duration	30 minutes
Nr. of participants	Irrelevant
Language Level	☐ Moderate ✓ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced

Description

Step 1: Go to https://climate.nasa.gov/quizzes/global-temp-quiz/ and ask the participants to give a collective answer to each question. Give 5 minutes so that the group can brainstorm the answer. Once they give it to you, explain to them whether it is the right one or not, and why.

Step 2: After the quiz, take some time to ask the participants how they feel about what they just learned, and whether they have further questions. Ask them:

- Do you feel you understand climate change better now?
- Was it hard to answer all these questions?
- Which ones were more difficult for you? Why?

Additional Remarks	This activity can be used both as a general assessment of the previous knowledge on climate change among the class, as well as an interactive way to find out together what climate change is.
Online Implementation	For online implementation, a Zoom call will do the trick. Using the "share your screen" button, you'll be able to share with the participants each question of the quiz and discuss with them the correct answer.
Sources	https://climate.nasa.gov/quizzes/global-temp-quiz/

Topic 2: Climate change where does it come from, and our personal impact

Where do all the excess greenhouse gasses come from, then? Science is pretty clear; it's coming from human activities beyond any reasonable doubt!

After the industrial revolution, or to be more precise – from 1800 onwards, levels of CO2 in the atmosphere have now risen to unprecedented levels, and continue to increase with each year. But how are the industrial revolution and climate change connected?

In the 19th century, humanity discovered how to harness the energy of fossil fuels (coal, petrol and methane), and developed all sorts of technologies to make it serve the military, commercial and entertainment purposes. Since then, most of what we use in our daily life has been the product of burning fuel and producing CO2 in the process.

Another key point to pay attention to is the use of resources. Since the industrial revolution the human population has been exploiting natural resources on a grand scale. The Industrial age brought along many positive outcomes – in fact, the poverty level has never been lower, and people enjoy unprecedented comfort and quality of life compared to all previous historical periods. However, this increase in access to goods and services brings unbearable levels of stress to the natural world and its ecosystems. Everything comes from raw materials, from our food, to everything we consume on a daily basis. This means extracting resources is done at the expense of natural ecosystems, which are the main CO2 sinks.

Transportation is another huge sector that brings pollution and is strongly connected with climate change. Nearly all transportation means known to us are powered by fossil fuels – motorcycles, cars, trains, ships, busses and planes all burn fossil fuel in order to function. This means the CO2 produced by all these transportation means adds to the CO2 released by industrial processes and the overuse of natural resources.

With regards to electricity, very few will disagree how much easier and entertaining it has made our lives, but we need to remember that electricity is still largely produced by burning fossil fuels. For this reason, however, this sector is one of the most promising to reduce CO2 levels since there is a highly reliable set of new and cleaner technologies to produce electricity without fossil fuels. These technologies are generally called Renewable Energy Sources (RES), and work by harnessing the energy of natural forces (wind, water, sun) and turning it into electricity. Generally, these sources are referred to as hydro-power, wind power and solar energy. The idea is to convert the Energy mix (mix of all resources used to produce energy) away from fossil fuels and invest more in renewable energy sources.

Furthermore, heating our homes produces additional CO2 since it is mostly done by burning methane or other types of fuel. Some new technologies are also available, such as solar or geothermal heating systems, but they are either scarcely deployed or just cover a small spectrum of the entirety of the heating compartment, e.g., solar heaters are extremely efficient when it comes to heat up water, although their performance varies due to latitude and exposure of the roof surface where they are installed.

To sum up, our way of life is contributing to climate change in each and every aspect, and although some technological solutions are already available, it is important to back them up by acting on the efficiency of our consumptions, reducing it to a minimum and within acceptable life-quality standards. If all of us become concerned, by using efficient technology and deploying the right behaviours, we can achieve substantial CO2 emission reduction without spending 1 euro, and potentially saving a lot! More on this in the upcoming modules.

Methodology:

Interconnectedness, multidisciplinary and local interactions are key competences students need to achieve as result of this module. As a trainer, you will have to support them by making the right connections and understanding how the small scale impacts the larger scale as a direct result of our consumption pattern in the following spheres:

- Consumption
  - Food

- Clothing
- Single-use VS reusable items
- Home Appliances

- Energy
- Transportation
- Heating

The informal learning activities below are intended to support students develop the above-mentioned skills through a participative and empowering approach.

Learning Objectives:

- Understand the reasons behind climate change.
- Being able to assess their own impact on climate change.
- Identify possible aspects of their lifestyle where they can have a positive impact.

Further Reading:

Naomi Klein “This changes everything – capitalism vs climate change”.

Naomi Klein “On Fire”.

George Pollin “Greening the global economy”.

Yuval Noah Harari “21 lessons for the 21st century”.

Learning Activities

Activity Nr.	M1-U2-A1
Activity Name	Ecological footprint calculator
Activity Type	Discovery Learning
Duration	Add approx. time, min. 5 minutes
Nr. of participants	Irrelevant
Language Level	✓ Moderate ☐ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced

Description

Step 1: Using the ecological footprint calculator developed by the Global Footprint Network (available at: https://www.footprintcalculator.org/), invite participants to assess their own ecological footprint.

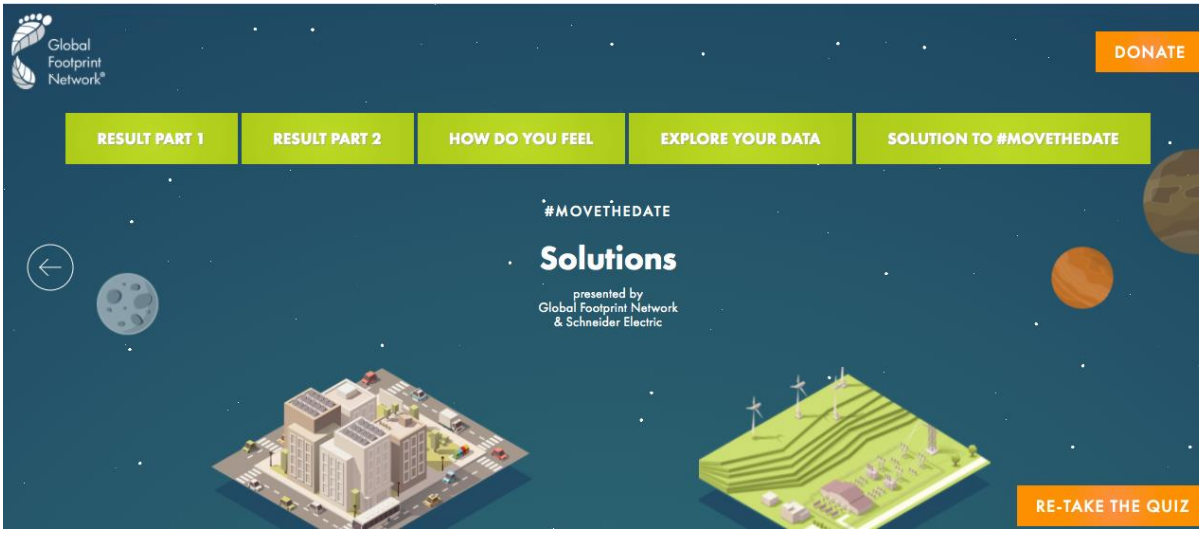
Step 2: Once each participant has completed the test, ask them to share with the group their results. Ask them if the result is something they were expecting and whether they are surprised by the outcome.

Step 3: Ask the group to brainstorm which are the easiest, cheapest and most directly actionable behaviours which would help them reduce their negative impact on the planet.

Step 4: Ask the group to reflect what are the obstacles or challenges they might face when trying to reduce their footprint.

At the end of step 2, by using the "explore your results" function on the upper part of the screen you can support the participants in finding out more about the issue of personal

impact, as well as which areas of life are directly actionable by citizens themselves, and which areas are political issues instead. Having participants discuss this is vital in order to help them put into the right framework the distinction between individual behavioural change and societal and economical change, since these two areas are key, and one alone will not be enough of a solution to climate change.



Additional Remarks	Although being easy and fun, this activity is a key to understanding the concept of personal impact as well as its limitations of scope. Of course, we all need to do more to reduce our negative personal impact on the planet, but another key area is politics, and it should be included in the picture of personal impact as well through democratic participation.
Online Implementation	The online implementation of this activity can easily happen via Zoom. In order to help participants, access the test you can send them the link in the chat.
Sources	https://www.footprintcalculator.org/

Activity Nr.	
M1-U2-A2	
Activity Name	Postcard from the future
Activity Type	Visual Learning

Duration	2 hours
Nr. of participants	10 people
Language Level	✓ Moderate ☐ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced

Description

Step 1: Introduce the activity after the participants are well aware of the causes and consequences of climate change. Then, ask them to individually envision being 20 years from now where there are no guidelines for how the world is. They can decide for themselves either a worse or a better world, it does not matter.

Step 2: Ask them to draw or make a collage using cut-outs from a magazine or newspaper, a postcard from their own future vision. During this, participants should imagine also a short story connected with what they are representing in the postcard.

Step 3: Ask participants to show their postcards to the group and talk about the future they have imagined. Ask each participant whether they would re-elaborate the story of their future in terms of probability, possibility and preferability.

At the end of the group presentations, you will have 10 alternative futures. Ask the participants how they feel about them. Ask them if they would be happy to live in the future they have imagined or not. Ask them what steps can be taken to make those futures real in 20 years' time.

Additional Remarks	This activity has been inspired by the concept of design fiction. The aim of design fiction is to use fiction to explore the possible futures which laying ahead of us. This serves the purpose of escaping the deterministic views for the future. It also helps to open up a space for imagining the future as something we all have control over and which we can actively shape and imagine. The purpose is to help

	people realise that the question they should ask themselves is not how the world is going to look like in 20 years, but instead how they wish the world to look like 20 years from now.
Sources	https://hannarasper.medium.com/design-fiction-at-city-scale-fc71f05c275f

Activity Nr.	M1-U2-A3
Activity Name	What do you eat to help preserve the climate?
Activity Type	Story/Experience sharing
Duration	2 hours
Nr. of participants	10 people
Language Level	✓ Moderate ☐ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced
Learning Objectives	Understand how the foods we choose and eat can have an impact on the climate, both in their stages of production, consumption and final disposal.

Description

Step 1: Make your shopping list where you will write down the products you bought, or you want to buy.

Step 2: Take your shopping list and divide the products into a column grid. In each column you will indicate:

1. The type of food: fresh product or non-fresh product
2. The type of packaging: packaged product or unpackaged product (bulk product)
3. The type of packaging material: plastic, paper or biodegradable material

4. The origins: local product (locally made and/or grown) or non-local, imported product
5. The final disposal: what happens to it once consumed? Do you throw it, and where? Is it a disposable product? (We buy, use and throw away).

Step 3: Show your shopping list to the group and exchange.

Step 4: Together with the group, you can start listing a series of 10 eco-friendly practices in the form of simple and easy "eco-tips", small actions to save the planet concerning responsible consumption and the choice of sustainable foods. You can take example from this list of eco-friendly practices concerning food:

1. I use fresh and organic food while avoiding processed food
2. I eat healthy, fresh and local
3. I buy food from the local producer
4. I buy food that is locally made/grown
5. I avoid any use of plastic when purchasing food
6. I try to consume in bulk
7. I consume unpackaged food
8. I avoid the oversupply of food
9. I avoid overconsuming food
10. I prevent food waste: I reduce the quantity of food (bought and/or consumed)

Step 5: Through exchanging with others, the participants will be able to find alternatives to the foods they usually buy, thus reducing their ecological footprint. They can also share where and from whom to buy fresh and local products… In addition, participants can also jointly develop a list of sustainable food alternatives to be shared.

At the end of the activity, the participants will acquire a greater awareness of how minor changes in their food consumption practices can reduce their environmental impact and climate change. The consumption of fresh food rather than processed food, in particular, makes it possible to limit food packaging, thus limiting the use of plastic, paper and the

	emission of gas in order to preserve the environment. In fact, processed foods require large CO2 emissions during all stages of production, transformation and distribution.
Additional Remarks	We can increase the difficulty of the exercise, i.e., in point 1 "the type of food" we could ask the participant to specify if: it is a seasonal food or a greenhouse food? Or, whether it is genetically modified food? Is it a 0km food, locally made and/or grown? Have pesticides been used? In point 4, when asking for the origins we could also investigate: how is the food stored? How is it produced; in which supply chains? How is it transported, using what means of transport, and how long does it take to reach our tables?
Online Implementation	The activity can be proposed in the form of focus groups or open discussions online, on Zoom, etc.
Sources	To understand how our consumption patterns can have a negative effect on the environment and the climate, visit: https://publications.jrc.ec.europa.eu/repository/handle/JRC99443 https://www.eea.europa.eu/signals/signals-2015/articles/agriculture-and-climate-change

Activity Nr.	M1-U2-A4
Activity Name	My sustainable lifelong commitment
Activity Type	Story/Experience sharing
Duration	1 ½ hour
Nr. of participants	6 people
Language Level	☐ Moderate ✓ Progressive
Depth of information	☐ Basic (no required background knowledge)

	✓ Advanced
Learning Objectives	Starting from the analysis of the Sustainable Development Goals (SDGs), participants must have identified a series of good practices to be put into practice in their daily lives, responding to the 5 priorities – the five Ps of the SDGs (People, Planet, Prosperity, Peace, Partnership), and have them linked to their personal climate footprint.

Description

Step 1: Provide participants with a general introduction about the Sustainable Development Goals: https://sdgs.un.org/goals and the 5 priorities.
(15 minutes)

Step 2: For each priority, each participant will identify 2 personal daily behaviours and/or choices of consumption (of food, or any other product), how to move (transport), what to throw away, and waste reduction in order to meet each specific priority (People, Planet, Prosperity, Peace, Partnership), with a specific focus on climate change, its impacts and its protection.
(45 minutes)

Examples could be:

- Priority 1 "People" (aim: end poverty and hunger, ensure equality) ➔ good action:

I buy only what I truly need without piling up too many ingredients in my food shopping list

- Priority 2 "Planet" (aim: protect our planet's natural resource and climate) ➔ good action:

Ex. I reduce the use of packaging and try to choose biodegradable products

- Priority 3 "Prosperity" (aim: ensure prosperous lives in harmony with nature) ➔ good action: I ensure the quality of *life* of *local* communities and local economic prosperity while choosing local food and buying food in local markets

- Priority 4 “Peace” (aim: just and inclusive societies) ➔ good action: I choose responsibly what I buy, making sure that my purchasing habits do not encourage the overexploitation of natural resources and the destruction of territories
- Priority 5 “Partnership” (aim: global solidarity) ➔ good action: assumption of personal responsibility for climate change, personal choices in many areas such as diet, means of long and short-distance travel, household energy use, etc...

NB. Each good action should focus specifically on the climate.

Step 3: each participant shares her/his own experience with the others and get feedback from the group (30 minutes: 5 minutes each* 6 participants).

Additional Remarks	The difficulty lies in detecting / finding a personal behaviour or consumption choice that not only has an environmental impact but has a specific climate impact (that could be indirect or not immediately visible and immediate). This exercise allows for a broader reflection and to understand how each choice is directly or indirectly the cause of a climatic phenomenon.
Online Implementation	The discussion and sharing of personal experiences can be done online (Skype, Zoom …)

Topic 3: Climate protection

The issue of climate change has grown in relevance within the international community as a direct result of mainly two factors: 1) with the rapid developments in modern day technology and scientific research, the effects of climate change are becoming ever more visible and worrisome; 2) the growth in concern among the public is not reflected by adequate, sustainable action on the side of big corporations, and the disregard for the importance of climate issues advocated by environmental associations and society in general is becoming more appalling by the day.

In response to this, governments started an international worldwide negotiation process to address the issue. It all started in 1992 when representatives of 157 nations gathered together at the Earth Summit in Rio De Janeiro. The direct results of these opening negotiations brought to life the United Nations Framework Convention on climate change. To this day, 197 countries have ratified it, and the subsequent international treaties are the following:

- Kyoto protocol (1997) – established a general policy for Greenhouse gases emission reduction, and placed the roots for other coalitions to arise, aiming at mitigating the negative human impact on the climate (i.e., The Doha Amendment to the Kyoto protocol & The Paris Climate Agreement). The Kyoto protocol placed a heavier burden on developed countries because it recognized they are largely responsible for the current high levels of GHG emissions in the atmosphere. However, The U.S. dropped out of the protocol as they believed the agreement was unfair since it called only for industrialized nations to limit emissions reductions, and it felt that doing so would hurt the U.S. economy. Global emissions were still on the rise by 2005. The United States and China—two of the world's biggest emitters—produced enough greenhouse gases to mitigate any of the progress made by nations who met their targets. In fact, there was an increase of about 40% in emissions globally between 1990 and 2009. The Kyoto protocol was amended in 2012 by the Doha agreement which also led to no success.
- Copenhagen accord (2009) – widely recognized as non-effective due to the low targets and the rejections from the developing countries.

- Paris Climate Agreement (2015) – Today, the Paris Agreement is in force. It is based on a system of legally binding individual goals aiming at limiting the rise of global mean temperature below 1.5 degrees Celsius. This is ensured by a monitoring system which allows countries to set up additional goals and helps them monitor the effectiveness of their emission reduction actions.

As a direct consequence of the Paris agreement and its ratification by the EU, the green deal for Europe has been launched. The green deal is the European plan for reaching carbon neutrality (net-0 emissions) by 2050.

Other big polluters such as Japan and China stated their carbon neutrality goal for 2050 and 2060, respectively.

The United States of America, after first exiting from the Paris agreement under Donald Trump's presidency, re-entered it once Joe Biden was elected as current President of the United States.

Although all this gives us hope, climate protection requires delicacy on our side, as it stands in direct antagonism against the mainstream industries responsible for the major bulk of CO2 emissions. These industries have in the past been particularly proactive in lobbying against climate protection policies both on a national and international level. Up to date, there is still a conspicuous chunk of the voting population throughout all major democracies that does not believe in climate change. This is in direct consequence of the disinformation campaigns actively financed by major CO2 emitting industries e.g., Petrol industry, agriculture-farming multinationals, and so on.

It is key then that public opinion remains active and supportive of climate protection policy since this is the only back up force in defence of the environment, and ultimately – life on planet Earth.

Other relevant issues:

- Climate justice: This concept refers to ethical issues connected with the root causes of climate change, its impact and people's responsibility to address it. Broadly, the idea is that since already rich and developed countries are those who are historically responsible for climate change, they have to reduce their carbon footprint while supporting developing countries to progress, while guiding them through a more sustainable and eco-friendly conduct. This responsibility goes together with the acknowledgement that since most developing countries are situated in equatorial areas, they will be the first to suffer from the impact of climate change. Due to their lack of infrastructures, they will not be able to adapt, and thus cease existing (as in the case of small island nations in Polynesia). This calls for major support towards developing countries in providing them with the necessary resources to accommodate the climate and shield thier population from its dreadful consequences.

- Adaptation and mitigation: even if the international community achieve its target to stay within 1.5 °C increase in average global temperature, our impact on the climate is yet to be the cause of extreme weather events, floods, inconsistent variations of rain patterns, wildfires and crop failures. This has put society at huge risk from damages (both physical and economical), as well as increased the stress over the global availability of essential goods such as water, food and energy. This means that even if we succeed avoiding the worst-case scenarios, major investments still need to happen in order to shield all populations from the above-mentioned dangers. On the other hand, mitigation refers to those investments and measures that reduce our impact on climate change, hence contributing actively to either the reduction of our CO2 emission or sequestering the already emitted CO2.

- Carbon sequestration: Carbon sequestration is the concept of storing CO2 away from the atmosphere, hence sequestering it. This is something the natural world already does for us: vegetal life (both marine and on land) already contributes through photosynthesis to reducing the amount of CO2 produced globally, turning

it into oxygen and carbohydrates (AKA food's energy sources). In order to increase the amount of CO2 stored, we need to defend natural ecosystems, renew and rejuvenate forest areas by planting new trees, protect life under water by avoiding natural disasters at sea, and protect marine life.

- Carbon sinks: carbon sinks are those natural ecosystems globally absorbing more CO2 than they produce, these are forest areas, grasslands and meadows, coral reefs and shallow waters ecosystems.

Methodology:

Throughout the module and its activities, students will be able to deepen their knowledge on what action has been taken so far to protect the environment from climate change, as well as the main political issues connected with climate action on a European and international level.

As a trainer you will have to lead them through this discovery process, making sure they understand the issues connected to climate protection from an economic and political point of view, as well as understanding the importance of caring for such issues.

Learning Objectives:

- Understand the European and international climate action measures and its main milestones.
- Understand the concept of climate justice.
- Identify the role of public opinion in either supporting or weakening climate protection.

Learning Activities

Activity Nr.	M1-U3-A1
Activity Name	Climate legislation: does it go far enough?
Activity Type	Research activity
Duration	1 hour and 30 minutes
Nr. of participants	10
Language Level	☐ Moderate ✓ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced
Learning Objectives	Familiarisation with the new concepts of climate justice, as well as revision by putting to use the knowledge from the Topic 3 introduction.

Description

Step 1: Divide the group into pairs, and ask each pair to prepare a presentation on each of the following topics:

- The Kyoto protocol
- The Copenhagen accord
- The Paris Climate Agreement
- United Nations' sustainable development goals
- The European Green Deal

Give each pair 45 minutes to prepare a five-minute presentation on one of these topics. You should assign one topic to each pair until all five topics are covered. If participants are less than 10, take one out. If participants are more than 10, make larger working groups, such as three instead of two people.

Step 2: Each pair/group presents the outcomes of their research.

Step 3: Group discussion on what has been learned. Help participants make their own connections in-between all the different policies, and how (or whether) the major international political players are moving towards them.

Additional Remarks	It would be great to first have them understand the concepts of climate justice, adaptation and mitigation, and carbon sequestration.

Activity Nr.	**M1-U3-A2**
Activity Name	Documentary
Activity Type	Discovery Learning
Duration	2 hours
Nr. of participants	4 to 10
Language Level	✓ Moderate ☐ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced
Learning Objectives	Getting in touch with our connection to nature, and reflecting on the hardships in sustaining it amidst the chaotic nature of our modern lives.

Description

Step 1: Watch the film "David Attenborough – a life on our planet".

Step 2: Discuss the issues presented by the movie. Have the participants' focus on two matters: (1) the urgency of taking action; (2) the best way to make sure the correct actions are taken in order to avoid the most dreadful consequences.

Step 3: Ask participants how they feel about the movie, what feelings and states of mind do they acquire as a consequence of watching the movie, how hard is it to sustain them, and why.

Additional Remarks	We suggest the movie "David Attenborough – a life on our planet" which is a pretty strong and compelling one. Based on the life experience of the most iconic documentary film narrator, the movie points out the issue we must face all face regarding our relationship with nature, while providing a good overview of what needs to be done in the future to restore the natural balance. Of course, other movies are also good for this purpose, you'll find them listed below: • Tomorrow • Last call • Before the flood • An Inconvenient truth • 2040 • Seaspiracy • Mission blue • Chasing coral • How to change the world
Sources	https://www.youtube.com/watch?v=64R2MYUt394

Activity Nr.	**M1-U3-A3**
Activity Name	Our climate action plan
Activity Type	Story/Experience sharing Research activity
Duration	2 hours
Nr. of participants	9 people (8 people to be divided into pairs + 1 facilitator)

Language Level	☐Moderate ✓ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced
Learning Objectives	The activity aims to support the ability to analyse an environmental and climatic problem. The final goal will be to make the participants aware of climate change while at the same time helping them take a position, have a clear opinion and act as active citizens, proposing ideas and concrete actions to be taken.

Description

Step 1: The participants are provided with a descriptive card, picture, or video that introduces a scenario. We can also select two pictures, one taken before and one taken soon after, to demonstrate the environmental change, like in the case of the drying up of the Aral lake. We choose a real scenario to be used as reference model in order to show a general climate problem.

Step 2: The group is split into pairs to discuss on how to implement a climate protection strategy (60 minutes). Each pair selects 10 actions to be taken.

Step 3: Everybody join the plenary together with the other pairs to share their actions and make a common plan to find solutions (60 minutes). The collective plan can be expressed in the form of a SWOT analysis or in a more complex and detailed way using a Canvas Model. We will sit around a single table to work out the joint action plan.

Online Implementation	There is the possibility of dividing the pairs into 4 rooms (in Zoom), and then initiating the plenary session where the common action plan will be created using an online Jamboard or other free online tools.

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