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# CLUVEX

CLIMATE UNIVERSITY FOR VIRTUAL EXCHANGES

WEEK 1: 14.-18.10.2024

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## Collaborative Climate Horizons

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Денис Галабурда



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Amina

Iliya

Alina Tashku

Taylor Smith

Filomila Dimitrova

Marta Gaspar

Visiting Sculptor

Алина Дмитриева

Visiting Builder

Visiting Inventor

Максим Недострелов

Eduard

Kristina Kinnunen

Visiting Architect

Андрей Едуардович Лозан

Veronika

Mariia

Anastacia Novoselska

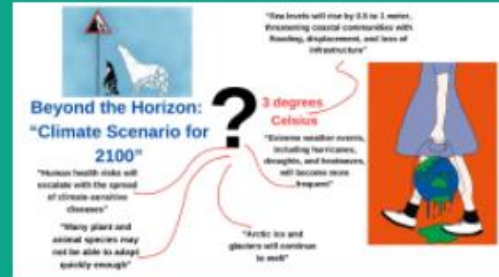
maryam ashenakhah

Eco Ambulance

Ziqiong WANG

# Group 1

We live in a world where climate change is no longer a distant future—it is the reality of today.



Statistics from the latest IPCC report support this. What was considered a 1-in-10-year extreme heat event, such as a heat wave, in the late 1980s would be more than 5.6 times likely to occur in a 3-degrees-warmer world.

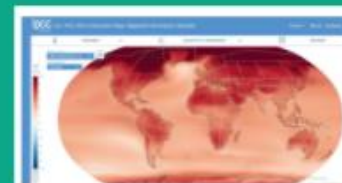
In a 3-degrees-warmer world, the coastlines of today will largely be gone, endlessly reduced over the coming centuries by rising seas.

Perhaps the most frightening thing about a 3-degrees-warmer world is an uncertainty about how it would impact the way our natural so-called carbon sinks — think plants and trees, soil, and even the ocean — regularly and consistently pull carbon dioxide out of the air.



Do not exploit nature to avoid natural disasters and serious climate problems

## ACTION FOR EVERYTHING



Visualization that the temperature will rise to 3 degrees by 2100.  
Source: <https://interactive-atlas.ipcc.ch/>

According to a number of studies, Global vegetable production yields could fall by 35 % globally by 2050 due to water levels due to water increase. US production of corn could be reduced by 10 % by a 2 °C increase. Seafood will be impacted by climate change too as many fish and

The world is on a trajectory to heat up by nearly 3°C this century unless governments take "relentless" action to cut greenhouse gas emissions, according to a new report released Monday by the United Nations Environment Programme (UNEP).



Take the right steps to achieve good results in the future.

### Being optimistic about changes



to look for alternative ways, instead of ruthlessly harming nature and helping it





## Group 2

### THINK GLOBALLY, ACT LOCALLY

Concrete utopias  
leverage actual  
potentials for change  
in the existing activity,  
related with hope.

(Bloch, 1986)



#### Brain storm about problems and how to deal with them

##### Problem

- Drought: "climate change causes disruptions in water circulation and availability"
- As we found out on this course water is the key -> on the IPCC websites we are able to analyze and compare different scenarios related to the average temperature and other climate conditions.
- By comparing possible changes in different time spans related to climate conditions, we can better plan future actions and effects with the help of scenarios and other available data.

##### How to manage/what we can do

- preventing water pollution, wastewater can be cleaned before it is released into nature
- in addition:
  - in agriculture and forestry:
    - to prevent nutrient runoff of the soil
    - reforestation of wetlands
  - The growth conditions can be taken care of by choosing plant species that are suitable for the crop rotation, and complement each other, as well as by, for example, different tillage methods
  - Taking care of the soil's growth condition can also support the soil's carbon sequestration capacity. On mineral soils, the purpose is to support leaching, and on peat soils, on the other hand, to prevent release



#### Examples of successful initiatives



#### COLLABORATIVE CONCLUSIONS

- cross disciplinary collaboration is crucial
- there is a need for developing programs to raise public awareness about climate change
- a wide range of tools must be used to examine issues more deeply
- modeling is important in terms of risk management, preparedness and coping with risks



During our studies, we have sharpened our vision of the topic in terms of climate change. Our dreams and aspirations must be implemented into concrete actions. Developing a wide selection of strategies is going, with the goal to reduce the already greenhouse gas emissions, we can see where renewable energy sources as well as reforestation and bioenergy conservation remain crucial. This will be a win-win, where a long lasting ecological impact is achieved in our house and in the planet, where children learn from a young age how to prevent it to go green our earth.

Climate Horizon ideas could focus on creating sustainable cities of the future, where transportation runs on renewable energy, buildings are energy-efficient, and waste is recycled. Additionally, develop programs to raise public awareness about climate change and engage communities in addressing this issue. An idea for the climate horizon is a future where cities are redesigned with green roofs, vertical gardens, and extensive urban forests that not only mitigate the heat island effect but also provide fresh food and clean air.

SLAYED  
IT

GIF



## Group 3

similarity



similarities: forest  
fires, droughts,  
discussions of  
future, use the  
same tools



Collaborative Climate  
Horizon 3rd group

Iryna Dunder,  
Olena Palamarchuk

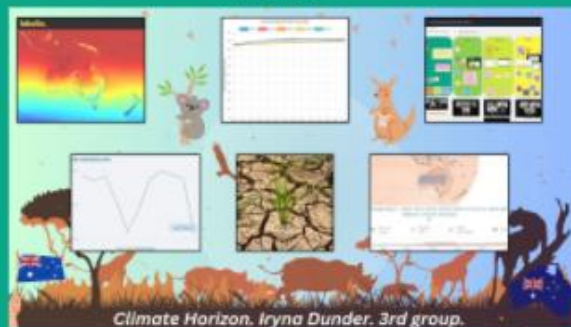
difference



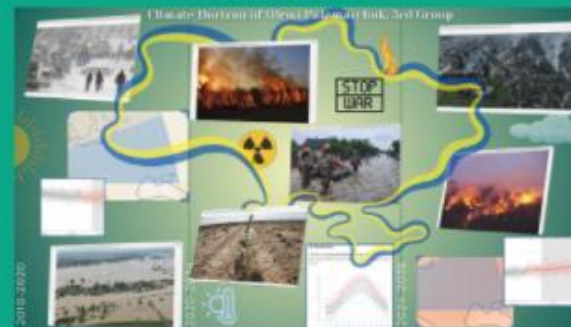
difference: vision  
of future;  
countries; climate  
changes;  
information  
submission.



Iryna Dunder



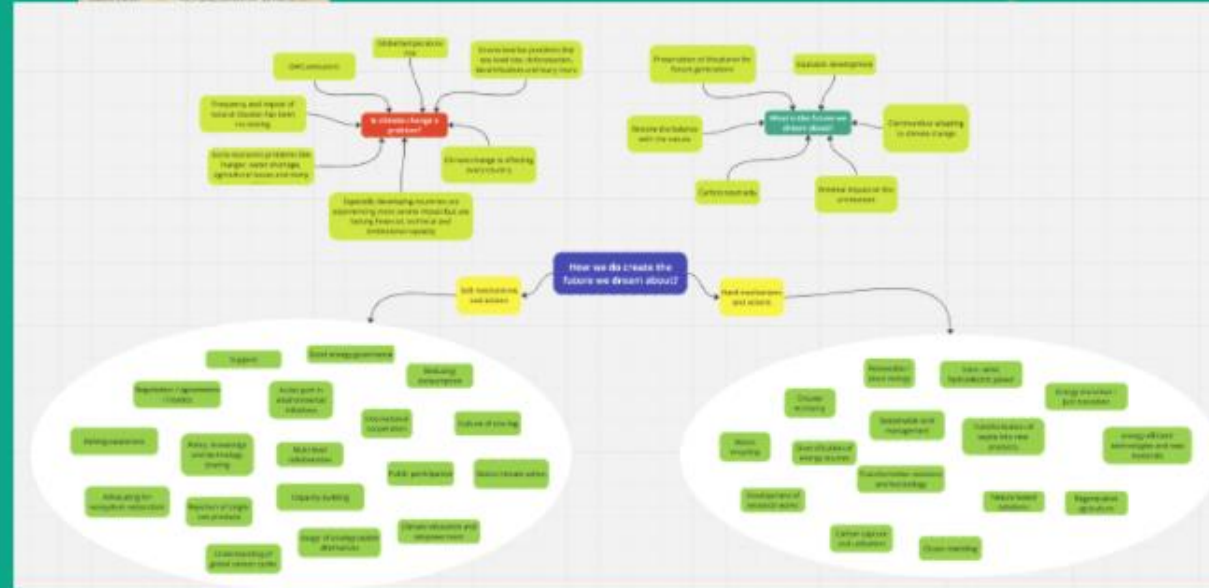
Olena Palamarchuk







# Group 4

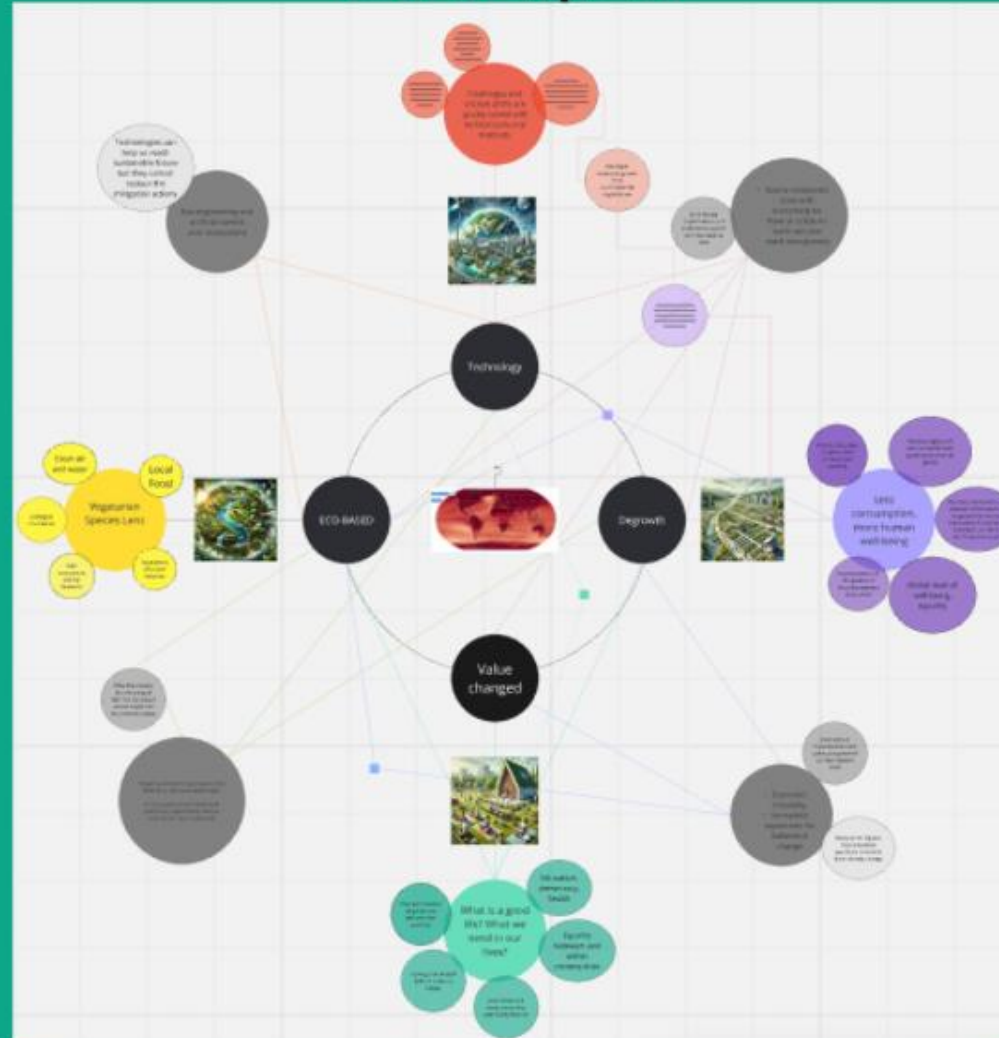


Carbon neutrality through clean energy, circular economies, and cooperation

As the moderator, I conclude that the collaborative climate horizon and Virtual Exchange Workshop fostered insightful discussions on carbon neutrality, renewable energy, and circular economies. Participants emphasized the importance of global cooperation, knowledge sharing, and supporting developing countries. This week showcased a collective drive toward a sustainable, inclusive future.

The fight against climate change is a global challenge that requires the joint efforts of governments, business and civil society. Each of us can do our part to save the planet by changing our consumption habits, supporting environmental initiatives and demanding decisive action from politicians. However, we should not forget that the result depends on each of us, so let's start with each of us!

# Group 5



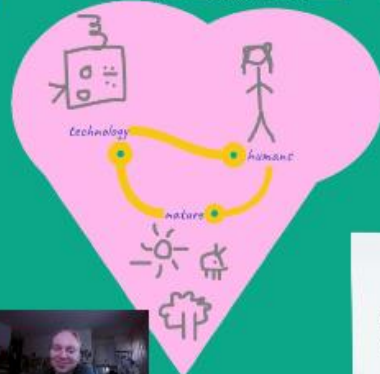


## Group 6



Fight for nature

- Shifted to the widespread use of renewable energy and circular economy.
- Ambitious climate targets to go net zero have been reached.
- Implemented a low-emission transport system
- Nuclear energy has become the bridge between coal, oil and gas power and renewable energy sources.
- Ukraine becomes a leading nation in eco-technology.
- Everyone's voice is heard and matters, collaboration holds strong.
- Ecosystems are restored and protected, i.e. blueberries and kelp forests in Norway
- Coral reefs are recovered (i.e. Great Barrier reef)
- And end to misinformation - lobbying by big companies seeking profit, greenwashing, etc



Let's The World Sustainable and Green Again!



### HOPEFUL FUTURE FOR AZERBAIJAN

- Azerbaijan should shift from fossil fuel dependence to renewable energy and implement reforestation and sustainable agricultural practices
- Azerbaijan has begun installation of solar panels at its 320 MW Garadagh plant, the country's first major solar power plant. Developed by United Arab Emirates based renewable energy company Masdar.
- Azerbaijan has set a target of generating 30% of its energy capacity from renewables by 2030.
- The 2020 annual UN climate conference will be held in Baku from November 22 to 25, 2024.



### HOPEFUL FUTURE FOR FINLAND

- Finland should shift to the widespread use of renewable energy and circular economy models, integrating urban areas with green infrastructure to boost mitigation.
- Finland set very ambitious climate target, to go net zero by 2035
- Nuclear Power provides around a 30% of its electricity
- Having a low-emission transport system



- To live in the world, where there are no poverty and wars, and seeing happy faces all around the globe
- I want to do meaningful work with good people at the top floor in skyscraper talking about how to improve the world

YES!



**Climate Herbs**  
I will focus the media on the political aspects I wish would change.  
As said in video response -> a future where people will not spread fake and harmful information (as to support their own agenda) while cooperation is strong and critical thinking more widespread, I think



We all notice that the climate is changing in the different parts of the world, where we are from. It might be changing differently depending on where we live, this means that we all have to adapt.

We realize that climate change is a threat to nature and us as part of nature. It is also limiting our future possibilities to experience the world as horizons are disappearing and extreme weather events damage our society.

Climate change evokes feelings of anxiety, as we are uncertain of what the future entails.

Many of us dream of a simpler life in harmony with nature, maybe living in a small town. We also dream to live in a society where everyone takes responsibility in combatting climate change.

We want to achieve harmony by conserving biodiversity and habitats.  
Some of us also dream of a modern society with smart cities with green spaces.

We have all chosen to stay positive and believe that humans still have time to change, so that we will succeed in mitigating climate change. Most of us believe that our climate horizon is still possible in some mid range scenario (SSP2), but we choose to still hope for scenario SSP1.

There are already many examples around the world of how to live more in harmony with nature, and if different countries, come together and learn from each other, this can be achieved globally :)

## Group 9







# Group 10

Similarities between Ukrainian and Finnish climate changes based on the research:

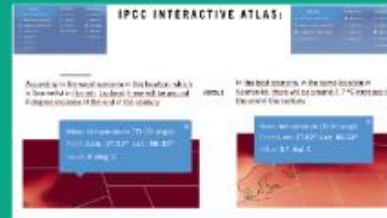
- damage on the biodiversity
- common temperature increase
- less snowy and more rainy winters
- population's awareness about the change
- forestry damage



High emissions scenario (RCP8.5):  
Rising temperatures: Average temperatures could rise by 4.5°C by 2100.  
Extreme weather events: Heat waves, heavy rains and droughts are becoming more frequent and more intense.  
Precipitation: More intense rainfall, which may lead to flooding.  
Impact on ecosystems: Strong pressure on local ecosystems, loss of biodiversity and changes in species distribution.  
Intermediate scenarios (RCP4.5 and RCP6.0):  
Moderate temperature increase: Average temperatures may increase by 2-3°C.  
Weather events: Extreme weather events will become more frequent, but will be less intense than in the RCP8.5 scenario.

Differences:

1. Focus on two different areas: Ukraine and Finnish Lapland in the Arctic region.
2. The increase in temperature is stronger in the Finnish Lapland compared to Ukraine.
3. We had different ways to present our climate horizon: a few with a letter to your group and one power point presentation with pictures and graphs.
4. Our horizons had different themes varying from overall climate impacts with social impacts to only focusing on environmental impacts.



Climate change poses serious threats to regions across the globe, from the Arctic to Ukraine. In Finnish Lapland, the Arctic is warming four times faster than the global average, leading to drastic changes such as thawing permafrost and shifting ecosystems. By the end of the century, temperatures in the region could rise by 3.7°C, with hopes pinned on achieving the SSP1-2.6 scenario to limit this warming. Similarly, Ukraine faces significant challenges, with rising temperatures—up to 4°C by the century's end—threatening agriculture, biodiversity, and increasing the risks of droughts and floods. As the impacts of climate change become more evident worldwide, it is crucial to prioritize global cooperation and balance competing concerns to effectively tackle the issue.



# Cozy rainbow

## Group 11

as an ecologist, I believe that our planet is a living organism, and global warming is a response to humanity as an irritant. We use non-renewable energy sources simply because they are cheap and provide short-term profit, but we should be thinking about the distant future. I think that in the future, we will face more serious consequences of global warming until humanity realizes its dependence on the state of the planet. After that, I think humanity will pay closer attention to the planet's condition and learn to live in synergy with our home.



to have a more sustainable city and avoid the negative effects of climate change, the following steps should be implemented: 1. improve public transportation, 2. create green spaces, 3. use renewable energy sources, 4. use green buildings, 5. use green cars, 6. use green food, 7. use green clothing, 8. use green furniture, 9. use green toys, 10. use green everything.



I agree that we have to manage the waste and it sounds possible to make people use car less or make car more ecological

I like the idea of creating more green zones in the cities

It might be too late to start from small steps but I think what local city authorities can do to aid the efforts are the following: create and improve green spaces with local flora, switch to electric public transportation and improve the overall system so that less people need to use a personal car to commute, manage and minimize waste and instead of adapting to the ecosystems around the urban area, try to adapt the city expansion to the local landscape and ecosystem.



I like that idea, public transportation is enough to travel in city, and it will be faster and solve problems with traffic.

An idea of people who should be symbiotic species instead of being parasites

I agree with you and unfortunately that price to pay might be very high for us. People need to learn to not treat the planet as just a resource.



I think reduce emissions only in Europe isn't solve a problem because it's more complex and we should to force all world to reduce emissions as well.

By 2050, Europe can reduce emissions by 55%, keep the temperature at 2.5-3.5°C above the pre-industrial level, and adapt to extreme weather events.



Genius!



If they could make it, that would be perfect, cause lots of weather events in previous years made lots of damage.

I think we already some sort of late, because we have already some process in climate change that can't be stopped, just slowing down.



Lots of points we've discussed show us how many scenarios we can receive. Pessimistic one with lots of pollution, temperatures growing and even some territory changes, because of glaciers melting. And fortunately we have optimistic future with world full of peace, green, clean air and water and so on. So there is lots of work that must be done, and lots of it should already be finished. But I think it is never too late to start.

Well I'd like to see that perfect world, nevertheless it doesn't seem realistic to me.

Agreed, but even slowing down those process is better than go with the flow.





Group 12

## Hope for a better world



Soil erosion!!!



Agricultural Drones can help with irrigation!



In recent decades, everyone has noticed and worried about climate change. We all agree on the need to start protecting the environment around us. In our perspective, our environment is facing multiple environmental problems. Ukraine is suffering a lot from the droughting problems with less irrigation and severe soil erosion, we need to reduce the intensity of land cultivation. For Sri Lanka, the forest cover is dropping from 40% to 29% from 1990 to recent years, we need to make sure that the forest land is rationally developed and utilized, or converted to cropland. It's important to cooperate with each other in solving the climate issues. Sri Lankan, Chinese, Finnish and Ukrainian specialists could work together and help the whole planet. For example, Ukraine could share our drone-irrigation systems and help to make the watering easier and cheaper. After all, protecting the environment is not just about protecting the planet, but also about protecting ourselves as human beings. The eager for a better life will definitely required us to take our steps on the climate protection actions.



Some part of Ukraine is facing the danger of sea level rising!



Tea farm with a rugged terrain



Forest fire!



Our nice little group XD

A<sup>1</sup>



# Group 13



- Use of renewable energies, such as wind and solar power
- Policies that aim for a sustainable future
- Educating people and future generations
- Reusing clothes, circular economy,

*Together, we can make a positive impact and protect our planet for the future.*



-shared transportation  
-affordable green transition for all



- Recycling bottles
- Second-hand products
- Use reusable of bags
- Using electric cars
- Reforestation
- Vegetarianism (helps reduce greenhouse gas emissions, preserves forests, and requires less water, land, and energy)



Reduce, reuse and recycle:  
Buy clothes and things in second-hand stores.  
Cycle or walk instead of driving cars.  
Support for local food production and markets









# Take action now

## Group 15



My dream is to live autumn experiences in Croatia, Greece. It is a place where I have spent many memories with my family and I want to make memories there with my own family and some more.



I live talk about my dream life, I imagine living in the Netherlands, Rotterdam. Speaking about what dreams I have regarding society, I would like us all to live positively.



I want to live in a peaceful, stable world where both people and nature are treated with respect. We recognize that climate change is threatening the regions we hold dear, and we are determined to take action to mitigate its impacts, so that we can pursue these dreams. After listening to each other's climate horizons, we've realized that our aspirations and goals are deeply aligned. Together, we call for immediate climate action, so that we—and countless others—can live the lives we deserve.



My dream is to live in a vibrant metropolis where I can also find time to relax in contact with nature.



### Impacts on Autumn Experiences

#### Grape Harvest

The grape harvest in Europe now starts about 4-5 weeks earlier than in the 1970s due to warmer temperatures.

#### Migratory Birds

Studies have documented a 10% decline in migratory bird populations in Central and Eastern Europe over the past few decades, with some species disappearing entirely.

#### Coastal Changes

Beaches in Croatia are experiencing significant erosion, with some areas losing up to 10m of sand per year. Sea levels in the Eastern Mediterranean have risen by about 20cm in the last century.



Climate change has played a significant role in shaping our understanding of the world. The impact of climate change is not just a future threat, but a present reality. We need to take action now to mitigate its impacts and adapt to the changes that are already occurring.

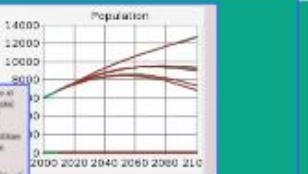
Climate change is already having a significant impact on the Netherlands. The main consequences include sea level rise, increased frequency of extreme weather conditions, lowering the groundwater level, ecosystems and biodiversity. The Netherlands is actively adapting to these challenges by implementing sustainable development programs, reworking water systems and switching to renewable energy sources.



This report shows that climate change is a global problem. The main consequences include sea level rise, increased frequency of extreme weather conditions, lowering the groundwater level, ecosystems and biodiversity. The Netherlands is actively adapting to these challenges by implementing sustainable development programs, reworking water systems and switching to renewable energy sources.



In recent decades, there has been a general increase in average annual temperatures. Climate change also causes an increase in the number of extreme weather phenomena, such as heavy showers, squalls, hail.



### The Impacts of Climate Change on Kyiv

#### Increased Flooding

Heavy rainfall and snowmelt can lead to flooding, damaging infrastructure and property.

#### Extreme Temperatures

Hot summers can lead to heat stress, while cold winters can lead to ice damage and power outages.



#### Greening Kyiv: Urban Initiatives to Combat Climate Change

- 1. Green Roofs: Installing green roofs on buildings to reduce heat absorption and improve air quality.
- 2. Urban Parks: Creating more green spaces and parks to absorb CO2 and provide shade.
- 3. Tree Planting: Encouraging citizens to plant trees to improve air quality and reduce urban heat island effect.

Before it's too late, people should start taking some measures now so that the worst-case scenarios don't have to suffer from the consequences and get rid of even bigger problems that await them. Climate change can be changed for the better by reducing human impact on the environment and adapting to changes that are already occurring.

I hope for the future in Poltava because this city has the potential for environmental development, preservation of natural beauty and a comfortable life. It is a place where you can leave your positive contribution to the city development and live in harmony with nature and traditions.

### Envisioning Kyiv's Sustainable Future: Strategies and Innovations

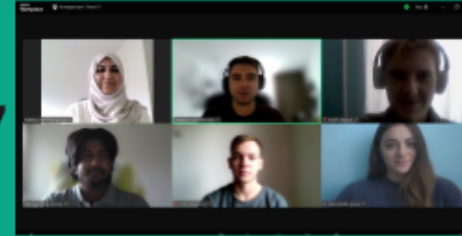
- 1. Sustainable Urban Planning: Integrating green spaces and infrastructure into urban development.
- 2. Green Technology: Investing in renewable energy and smart infrastructure.
- 3. Community Engagement: Encouraging citizens to participate in sustainable development initiatives.

Our group's Climate Horizon is rooted in our shared dreams of living in a peaceful, stable world where both people and nature are treated with respect. We recognize that climate change is threatening the regions we hold dear, and we are determined to take action to mitigate its impacts, so that we can pursue these dreams. After listening to each other's climate horizons, we've realized that our aspirations and goals are deeply aligned. Together, we call for immediate climate action, so that we—and countless others—can live the lives we deserve.



## A Greener Tomorrow Starts Today

# 😊 Group 17



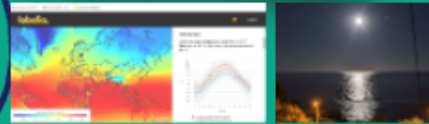
### Optimistic horizon

1. Finland;
2. Finland achieves its goal of carbon neutrality by 2035, setting an example for other nations. It leads in renewable energy adoption, including wind, solar, and bioenergy, and successfully transitions to a circular economy with minimal waste.
3. Finland not only achieves its own sustainability and development goals but also inspires and influences positive changes worldwide.



### Intermediate horizon

1. Ukraine;
2. Utilizing climate tools (ERA-5, IPCC, World Bank Open data etc.) can help to study climate change, indicate consequences of climate change, find new measures of climate mitigation and climate adaptation.
3. Uneven precipitation, droughts, extreme weather events, access to fresh water, soil erosion, drying up of rivers.



### Pessimistic horizon

*Bangladesh;*  
Utilizing climate tools (ERA-5)  
If the sea level rises by 1 meter by 2050, it is estimated that 17-20 million people in Bangladesh could be displaced. This projection is based on the country's low-lying geography, especially the coastal areas around the Bay of Bengal, where much of the land is less than a meter above sea level.



#### Climate Horizon:

In Finland, the climate horizon is typically considered in line with common international benchmarks, such as 2050/2060.

#### Personal considerations:

Minimised Climate Risk Index  
25 Sustainable Energy Practices  
Clean Technology Development  
Shift toward Sustainable Agriculture  
Utilizing AI and data science to monitor and predict climate change  
New AI and data science tools to monitor and predict climate change  
Utilizing AI and data science to monitor and predict climate change



### Possible Solutions:

1. Sustainable Energy Transition
2. Awareness in the less developed nations.
3. International policies regarding water control.
4. Coastal Protection

## Idea of a sustainable future



We hope for a better world

# Group 18

By 2051, due to global temperature rise, this so far will face constant heatwaves and unpredictable weather conditions. Rising sea levels and frequent natural disasters will make life difficult, all while sea levels and pollution will turn every day experience into something dangerous and alarming. In search of better conditions, people may consider relocating to cooler regions such as Canada or Scandinavia, where the climate is expected to remain more stable and healthy despite global changes.

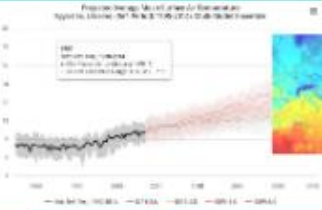
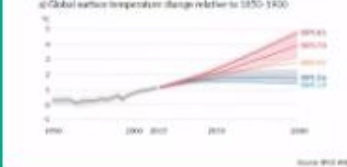
We must take steps to move to responsible consumption and reduce the effects of climate change to preserve life on the planet

## MY EXPERIENCE WITH THE CLIMATE UNIVERSITY'S VIRTUAL EXCHANGE

During my participation in the Climate University's Virtual Exchange, I gained valuable insights into global climate issues and collaborated with peers from various countries. The program provided a platform for knowledge sharing and fostered a sense of global citizenship. Through interactive sessions and discussions, I learned about different perspectives on climate change and the importance of collective action. The experience was both educational and inspiring, reinforcing my commitment to addressing the challenges posed by climate change.



## Global warming effects of radiative forc levels



## SSP5-8.5 in Kyiv

- Season borders will become less clear
- Health issues rate will increase due to heat
- Changes in the crop production cycle
- Developing of hydrological systems and air used for heating systems
- New standards in building and urban planning
- All products that make life easier in a harsh climate will make up a significant share of the economy

## Forecast to the 2100



Even though I was in the Climate University's Virtual Exchange, I was not able to visit any of the locations. I was very excited to be able to participate in the exchange, but I was not able to visit any of the locations.

I think of cities that are not just technological, but actively help restore ecosystems.

In future we should think how to make our cities ready for such a world.

## BOOKLIST!

Read about the environment, climate change and ecology.



From now I can use new interesting tools for my scientific presentation.



Climate change is a global issue that affects everyone. We need to work together to find solutions and reduce our carbon footprint.

## Addressing the Climate-Globalization

Globalization Problem	Transitioning to a Green Economy	Collaborative Action
Increased greenhouse gas emissions due to industrialization and globalization.	Investing in renewable energy sources and sustainable infrastructure.	Establishing international agreements and partnerships to address climate change.

During my participation in the Climate University's Virtual Exchange, I gained valuable insights into global climate issues and collaborated with peers from various countries. The program provided a platform for knowledge sharing and fostered a sense of global citizenship.



Inspired by others' ideas and more interesting graphs, I kept for my presentation.



Had a great time with fellow students and our moderator! Learned a lot of new things.

During my participation in the Climate University's Virtual Exchange, I gained valuable insights into global climate issues and collaborated with peers from various countries. The program provided a platform for knowledge sharing and fostered a sense of global citizenship.

Thanks to the virtual exchange, I was able to meet people from different countries and learn about their perspectives on climate change. It was a great opportunity to share my own experiences and learn from others.

During my participation in the Climate University's Virtual Exchange, I gained valuable insights into global climate issues and collaborated with peers from various countries. The program provided a platform for knowledge sharing and fostered a sense of global citizenship.



# Group 19

## Green Innovators



Finland - A present day utopian nation, where all humans can thrive



To create more climate change awareness, we need more globally available courses & lecture events, perhaps closely connected network of climate researchers.



To address climate change, we need:  
**Mitigation:** Reduce emissions with renewable energy and sustainable practices.  
**Adaptation:** Strengthen infrastructure and restore ecosystems.  
**Global Cooperation:** Foster international collaboration and align with the Paris Agreement.



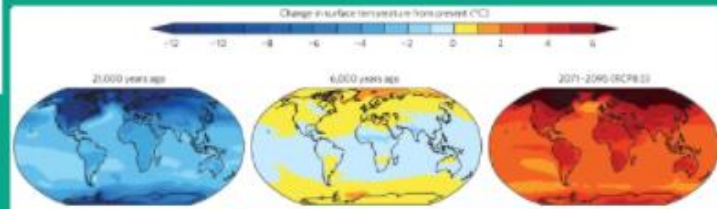
As we can see from the graphics for 1990-2021, CO2 emissions have been decreasing worldwide since 2018. For Ukraine, the decrease is significant since independence until today, with some increases in 2010th. For Iran the emissions are getting bigger, as its inherently for developing countries. And for Finland it is quite stable, as the country has stuck to sustainable initiatives for decades.



Finland, Ukraine, and Iran face distinct climate challenges. Finland aims for carbon neutrality by 2035 through renewable energy. Ukraine is addressing rising temperatures with a platform for a greener economy post-conflict. Iran anticipates severe impacts, including higher temperatures and reduced rainfall, threatening water supplies and agriculture due to fossil fuel reliance.

Carbon emissions fall in general, but rise for the least developed countries. The drop in Ukraine can be explained by a decline in manufacturing and greater out-migration.

Idea of future climate changes in whole world: The future of climate change poses significant challenges, with global temperatures projected to rise by 1.7°C to over 5°C by the century's end. This increase will likely result in more frequent severe weather events, such as droughts, floods, and heatwaves, affecting ecosystems and human health.



Solar panel on water



# BEYOND REALITY

Group 21



## our ideas

Build energy systems that **protect** and improve **climate and health**. Ensure a just and inclusive transition to renewable energy to save lives from air pollution, especially from coal.

**Climate Education Programs:** Develop educational initiatives to raise awareness about climate change and sustainable practices. Focus on engaging schools, universities, and communities through workshops, seminars, and online courses.

**Renewable Energy Expansion:** Focus on promoting and expanding the use of renewable energy sources like solar, wind, and geothermal power. Explore ways to make clean energy more accessible and affordable for communities around the world.

**At the foundation of the future world, its structure, and its worldview orientation, there must be a *cosmopolitan approach*.** This approach is based on the idea that humans are not only part of nature but also play an active role in the development of the planet through conscious actions and thought.

*The cosmopolitan approach is embodied in the principle of global citizenship and responsibility for the planet, which is based on the idea that humans are not only part of nature but also play an active role in the development of the planet through conscious actions and thought.*

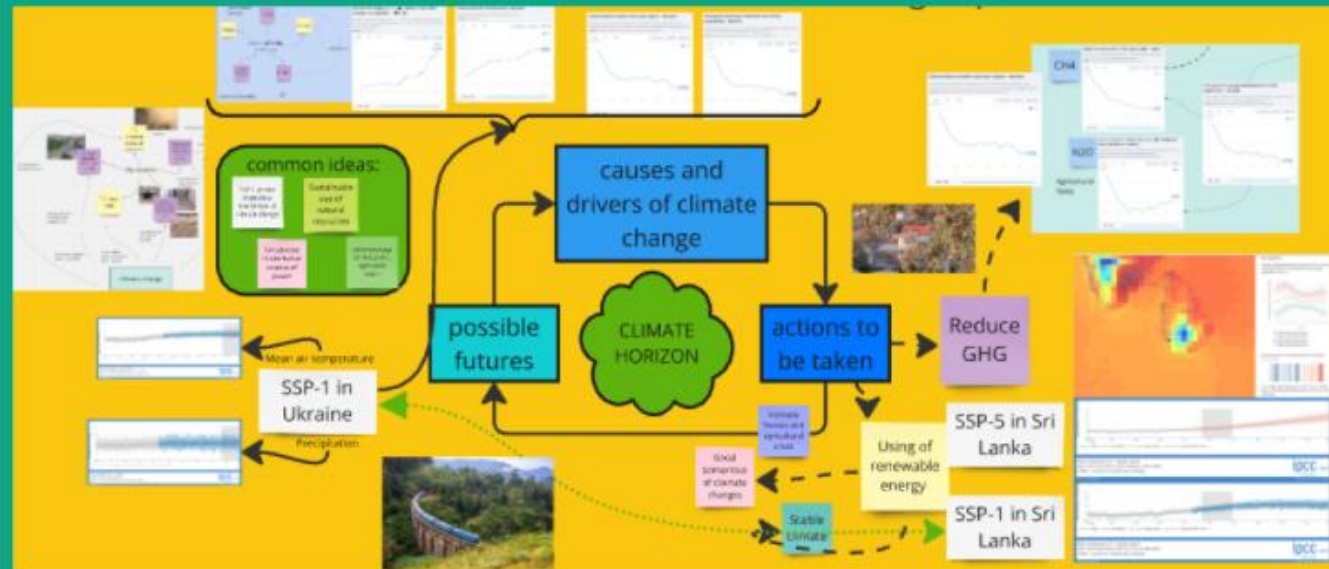
**Reforestation and Conservation:** Advocate for large-scale reforestation efforts, especially in regions affected by deforestation. Support policies and projects that protect biodiversity and promote ecosystem restoration.

THANK YOU

Group members: Jinge Yang, Hustenko Oleksiy, Andrii Buchka, Sunita Khatri, Tatevik Movsisyan



# Group 22



# Group 23

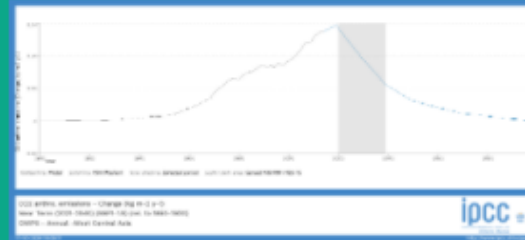


## My Sustainable Climate Vision

As the world's largest of long-term climate policies, the Paris Agreement is the best chance for humanity to achieve a sustainable future.

My vision is to see a world where the Paris Agreement is not just a document, but a way of life. A world where the Paris Agreement is not just a goal, but a reality.

My vision is to see a world where the Paris Agreement is not just a goal, but a reality. A world where the Paris Agreement is not just a goal, but a reality.



we are all craving for ecological safety. we are dreaming of clear blue sky, the clean fresh air, pure and tasty tap water. We want our future kids to be born into freedom and equal women rights society.

This is a vision of a sustainable future. It is a vision of a world where the Paris Agreement is not just a document, but a way of life. A world where the Paris Agreement is not just a goal, but a reality.




In order to draw our **Climate Horizon** more easily, it is a very good solution to get an idea of the lifestyle of our ancestors 200-300 years ago and the balance of earth and man.


instead of destroying or shutting down industries, I believe we should focus on **Optimizing** both our technologies and our lifestyles.

- Monitoring governments and dealing with institutional corruption
- Using sustainable technologies to change production methods and change industries
- The pressure of governments to create culture through various methods such as advertising to change people's lifestyles, especially excessive consumerism.





Utopia cities can become centers of innovation, combining technology, circular economy and ecological values. They can serve as an example of how humanity can harmoniously exist on the planet, reducing its impact on the environment and making its contribution to the fight against climate change.




Only through collaborative work of the global community a global problem such as climate change can be combated!

Reforestation:  
Forests as carbon sinks and climate and water regulators




Renaturalization:  
Reconnecting with nature and transferring ecosystems back to their origins and species composition

# Group 24



Nature is at the core and  
Humanity is not external to  
nature - WE ARE NATURE



Education  
about climate  
change needs  
to continue

We have to  
be united in  
protecting  
our nature

Green cities are the  
key for climate  
change adaptation.  
This ensures liveable  
conditions for many

# Environmental Protection Technologies (EPT)



## Group 25



Definitely need to move towards green/solar energy. The sooner the better



The consequences of climate change will only increase every year, so in addition to reducing greenhouse gas emissions, it is necessary to adapt to existing or expected risks caused by climate change. And put in the budget adequate funding for adaptation measures.



It is necessary to abandon the use of plastic.  
Expand the network of plants for energy utilization of waste.  
Appropriate and rational use of water.  
Development of renewable energy sources.  
Reduce the use of fossil fuels.  
Open environmental culture schools for all age groups.



## Group 26<sup>s</sup>



Indoor air quality monitoring systems will allow the city to spot pollution levels and provide timely alerts to residents.

This will help people adjust their activities, especially those with respiratory conditions. In addition, the expansion of parks, urban forests, and green spaces will reduce pollution and cool the city, helping to counter the urban heat island effect. Green infrastructure not only improves air quality but also creates more enjoyable public spaces for residents.



THANK YOU

[illegible]

One important factor to be able to achieve the desired future is to keep the pupil-teacher ratio low, so that the education system can provide the best environment for learning. Low pupil-teacher ratio enables children to be able to get all the help and information needed, while keeping the teachers' workload on a tolerable level.

We had to wear T shirts everyday

5 Except on rainy days when the drains overflowed  
Spilling stinking sewage into the streets, into our homes  
We moved from a situation where politicians and the  
powerful ignored us

Excusing their polluting policies with lame-duck soundbites, saying

'It was just bad management'

BUT, we said, "We have the tools - it's in our hands"

Forever we must be climate champions.

Follow the example of eco-activists - Friends of the Earth, the  
WWF

And so we came at last to a place of peace  
Where human rights and democracy laid the ground for a  
better future

Here Mother Nature is alive and well  
In the classrooms of all our children, in the after school  
activities

And the Saturday clubs, in every university course  
Inter-generational life-long learning becomes us  
We trade knowledge with our elders  
They respect our concerns

Outside our smart homes built with natural materials  
Like, bamboo, reeds, hemp, clay, and recycled waste  
We hear water, the rivers, lakes and oceans lap our feet  
Grateful for our clean up operations

Vertical forests soothe the mind  
We live within 15 minutes of everything we need  
Smart solutions for everything  
We waste nothing  
Life is a harmonious circle

We welcome ethical tourists  
We have much to share - past, present, future  
How we arrived at this promised land  
How we made the transition to sustainable living

Everyone has a Green job





Our dream of a perfect future

# Group 27



Pollution of air,  
water resources,  
growth of waste  
and water level



Development of the city is a...  
The city is a...  
The city is a...  
The city is a...



Loss of biodiversity  
(for example,  
reforestation and  
reduction of green  
areas in cities)



Development of the city is a...  
The city is a...  
The city is a...  
The city is a...



Soil  
degradation  
and reduction  
of arable land



Development of the city is a...  
The city is a...  
The city is a...  
The city is a...



## How to solve all these problems

To improve the situation in the  
conditions of climate changes in Odessa,  
it is necessary to focus on  
comprehensive adaptation to new  
challenges. One of the key areas is the  
protection of coastal areas, in particular  
the creation of natural barriers and  
fortification of the coastline to prevent  
flooding and erosion. It is also important  
to upgrade urban infrastructure,  
especially drainage systems and energy  
networks, to reduce vulnerability to  
heavy rains, floods and extreme  
temperatures.



The picture shows a bright and green  
city, where sustainable development and  
a clean environment create comfortable  
conditions for life. Green roofs, parks,  
solar panels and wind turbines are  
integrated into the urban space,  
reflecting a future with renewable  
energy. People enjoy nature, walk and  
socialize, symbolizing the harmony  
between urbanization and nature.



# Group 28

Increasing role of Government

Regional sustainable project

Pros

- Sustainable living
- Better use of resources (land and energy)
- Better infrastructure
- Better governance and management
- Better health and safety
- Better financial stability

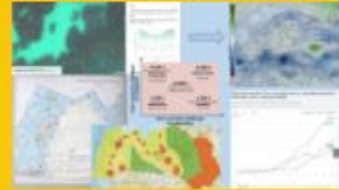
One of the main challenges in the world is how to manage the increasing demand for resources. This is a global issue that affects all countries. The main challenge is how to manage the increasing demand for resources. This is a global issue that affects all countries. The main challenge is how to manage the increasing demand for resources. This is a global issue that affects all countries.



Positive influence on inhabitants



Country level sustainable project



One of the main challenges in the world is how to manage the increasing demand for resources. This is a global issue that affects all countries. The main challenge is how to manage the increasing demand for resources. This is a global issue that affects all countries. The main challenge is how to manage the increasing demand for resources. This is a global issue that affects all countries.



Positive influence on society





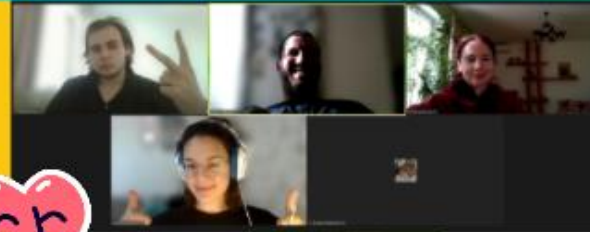
# Lekker Group (29)



Reflections from the personal Climate Horizons:



Vlad  
Filatov  
Ukraine



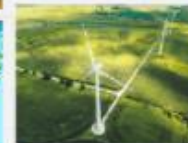
Inputs for the collaborative Climate Horizon from every group member:



WE ARE THE FIRST GENERATION  
TO FEEL THE IMPACT OF CLIMATE  
CHANGE AND THE LAST  
GENERATION THAT CAN DO  
SOMETHING ABOUT IT.

**GO GREEN**  
There is no Planet B

"Anything else you're  
interested in is not going  
to happen if you can't  
breathe the air and drink  
the water. Don't sit this one  
out. Do something"  
Carl Sagan, an American  
scientist



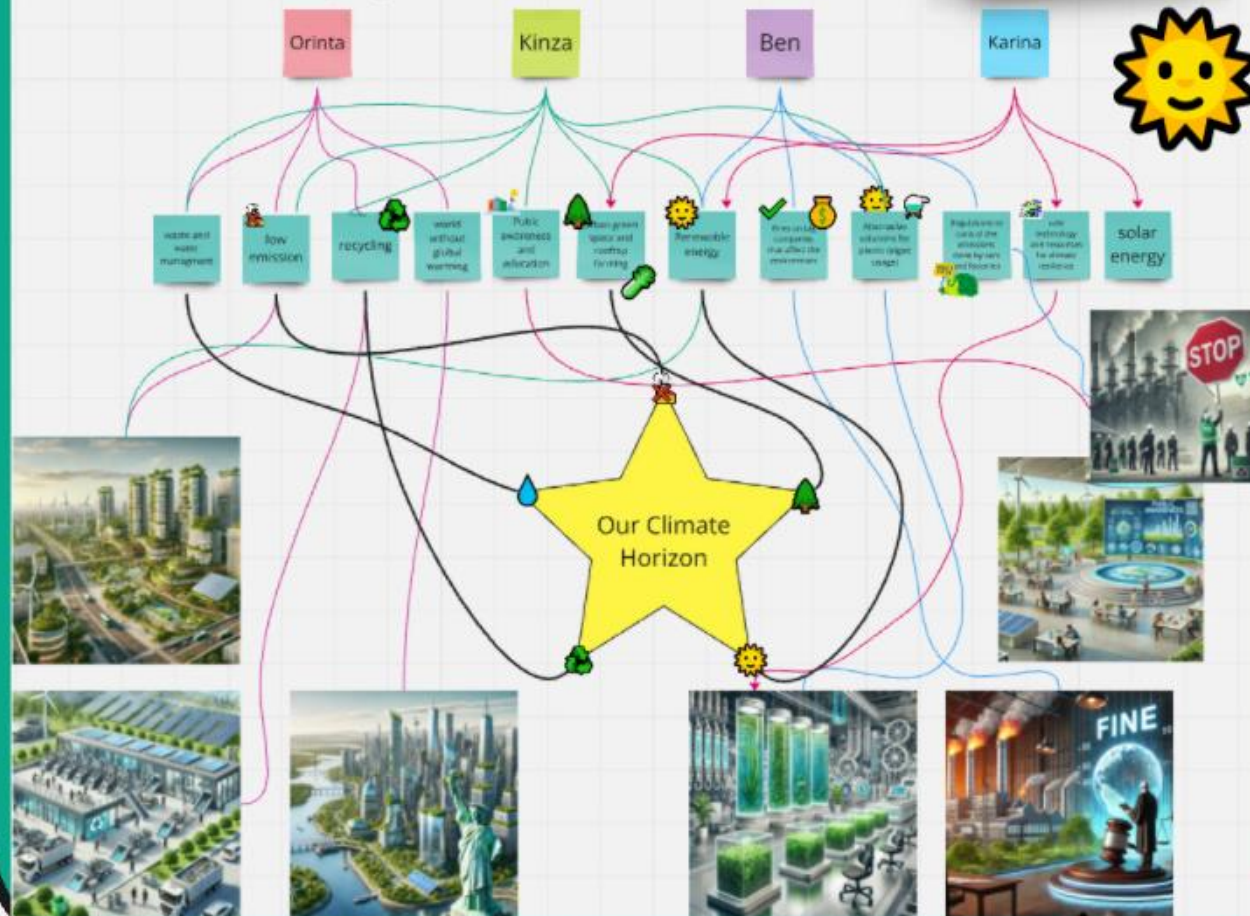
**THERE IS NO PLANET B**

**THERE IS STILL TIME**



# EcoRangers

Our climate horizon is a place with zero (low) emissions and a high level of recycling, a place where renewable energy takes the main position, where people care about forests and nature in general and conduct intelligent water and waste management, where there are "green" cities. We really hope that such a world will come in our future.

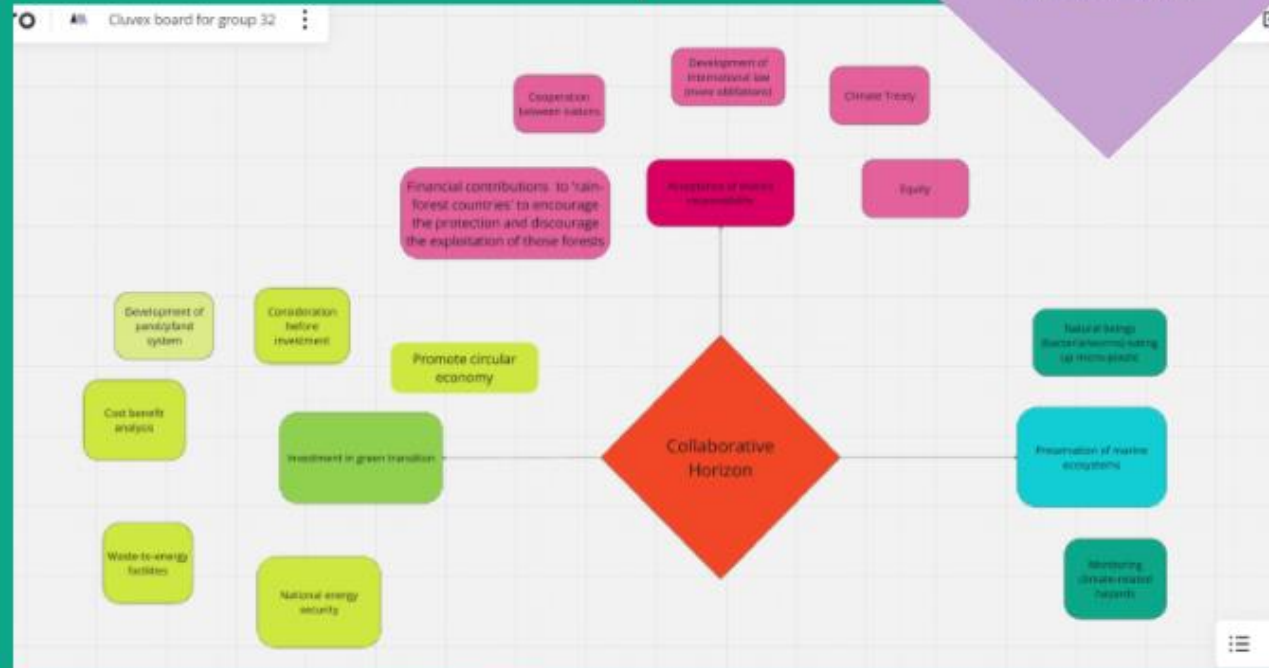


Group members: Orinta Vaitkute, Kinza Arif, Beniamin Sargsyan, Karina Marchenko



# Group 32

## A Solution-Based Horizon



To summarize, our group shared opinions about 3 important aspects related to climate change and put some actions we believe will lead to positive changes



# Group 33



Similar: We all have this sustainable future vision  
Different: Our boundaries.  
We can think of something personal like which type of car should we drive or about something broader of how our country's economic should go.

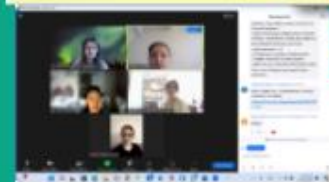


Climate change has an impact on most aspects of individual's life and society's future. It caused rise in global temperature and a sea level, ruins agriculture, make us suffer in economic, social, health aspects. Therefore the collective solution for such problem has to be applied immediately

Six planetary boundaries have been crossed, it means that the Earth system would leave the period of stability for society development. Investments in climate adaptation are crucial. Climate change worsens health risks by causing more diseases and mental health problems, hitting vulnerable people and regions the hardest

We see a utopia in sustainable climate for our live areas. Differences are that we find dissimilar SSP-scenarios more possible to achieve.

How it shouldn't be



Offshore Wind Farm

Different regions have their own climate situation to understand the needs of each region we need to work together for achieving a common sustainable future



temperature increasing / urban heat island  
unbalanced people population  
unbalanced regional development  
exhaustion of resources  
waste issues  
green production control

collaborative climate action

- decreasing the greenhouse gases, especially CO2 level
- lean low food
- keep the forests
- climate policy / law
- use bicycle instead of the car or electrical car
- international cooperation, instead of war
- use renewable energy
- discovery the new living area on our planet
- education
- developing the infrastructure for equal development of regions
- decrease food waste
- sustainable agriculture
- regulations for emissions
- international group collaboration
- cut the overconsumption of fast fashion production
- decrease meat and fish industry





# Eco Ambulance Team

Summarizing the result of the conversation, we can say:

!!! as well hope we can cut down on CO<sub>2</sub> emissions in the coming century

**Group members:** Dary Verbitsky, Vasiuk Anna, Apostolova Yelyzaveta, Kursa Viktoriya, Nikolenko Iryna, Diana Rilinovykh, Mariia Farnahel, Mykyta Rozvod (moderator)

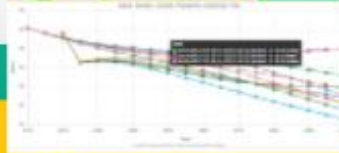
Group 34

Q: To reduce the atmospheric methane, the world should switch to renewable energy in the production of electricity and in other sectors.

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**Conclusion is as follows:**

Take small steps to hopefully achieve lower speed of climate change even under least destructive scenarios

During the discussion, we came to a conclusion about the importance of using the proposed tools and the possibility to use them to predict the future of the region over such long time scales.

Climate adaptation measures are becoming and will become more and more complex, and this will not only complicate their forecasting, but also control.

For regional adaptation of infrastructure, urban planning and other measures, it is necessary to take into account the complexity of the problem and the need for a long-term approach.



**No time to Waste**

