

Study Guide

on topic area:

Climate change;

The impact on the environment and necessary measures

for the **Our Planet Summit** committee

for its simulation during

Rhodes Model Regional Co-operation 2022

High School Edition

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1. Welcoming Message

Dear Delegates,

We are more than thrilled to welcome you all to the Our Planet Summit Committee of Rhodes MRC 2022 the High School Edition. First and foremost, we hope that your decision to participate in this year's simulation will be a great opportunity to interact with other young people and get a brighter view of a policy-making process.

From our part, we will be alert at any time to facilitate your effort and help you have a fruitful debate and a great experience overall!

Our committee will examine the **concept of climate change, from the scope of effects and solutions**, as well as, the role of young people, a matter which seems to be one of the most important aspects of the issue. Therefore, it is undoubtedly a challenging task, which requires your innovative thoughts and ideas.

The present Study Guide¹ has been conducted as a roadmap for understanding and tackling the topic and we hope it will be a great hand concerning your preparation. We expect your next step to be the conduction of an examination of your country's policy, to get well informed concerning the problems that climate change has caused in your region.

Apart from our expectations for a productive debate, we encourage you to get actively involved in the committee, as it is your chance to broaden your knowledge on worldwide problems.

Do not be afraid to stand up and support your arguments and get prepared for the real debate! We thank you in advance for your cooperation and we anticipate meeting you all in Rhodes and create some memories! May any inquiry of yours arise, do not hesitate to contact us.

Best regards,

The Board of "Our Planet Summit"

Marios Zamagias, President

Nikolaos Rafail Kavouras, UN Secretary General

¹ The present Study Guide was originally drafted by the Board Members of the RhodesMRC 2018 High School Edition, Mr. Dimitris Christoloukas and Ms. Louiza Papadopoulou, and was updated for the purposes of RhodesMRC 2022 High School Edition by the Members of the Secretariat.

2. Introduction to the Committee

Our Planet Summit is a mobilization and action forum that brings together states and non-state stakeholders from all continents to work together to tackle climate change. The Summit was created with the signing of the Paris Agreement² and it established 12 commitments, which consist of the coalition's common initiatives, that are strictly made to be respected³. For this reason, the commitments are of high importance and have great potential to massively impact on climate change once they are fully developed from the members. One Planet Summit was launched in 2017 with the innovative vision to unite public and private stakeholders for the achievement of the twelve commitments. The second One Planet Summit was launched in 2018 aiming to accelerate the implementation of the Paris Agreement whilst putting finance in service of climate action. In 2019, the third One Planet Summit took place in Nairobi on a regional level and addressed the unique role of Africa as a global partner in the field of adaptation and resilience⁴.

3. Introduction to the Topic

Over the past decades, parties have worked on an international scale to address severe issues that pose threat to the prosperity of humanity. At the time being, one of the major problems that concern governments, organizations and civilians is what is described as climate change. Climate change is the current rapid warming of the earth's climate caused by human activity. Climate researchers have shown that gases such as carbon dioxide, methane and others can trap heat in the earth's atmosphere – a phenomenon known as the greenhouse effect⁵. Human activities such as industry, transport, energy generation and deforestation all produce these greenhouse gases. As the atmosphere heats up the effects seem to be grave on both societal and environmental structures. Since the international community became aware of this phenomenon, steps have been made to solve the matter and reach solutions. Among them, we find the ratification of certain agreements based on mutual trust, innovative thinking and close collaboration between states and stakeholders. The most known are the Kyoto Protocol and the Paris Agreement which will be further analyzed.

4. Legal & Action Framework

4.1 The United Nations Framework Convention on Climate Change (UNFCCC)

The Convention, being adopted on the 5th of June 1992, recognized that there was a serious problem in the earth's climate, which was remarkable for its time, as there was far less scientific evidence in

² 'One Planet Summit: Acting Together for the Planet'. n.d. Accessed 25 October 2022. <https://www.oneplanetsummit.fr/en/one-planet-summit-acting-together-planet-169>.

³ One Planet Summit. 2018. 'Review of the Commitments'. 2018. https://www.oneplanetsummit.fr/sites/default/files/2018-09/OneplanetSummit_ReviewOfTheCommitments_VGB_1.pdf.

⁴ '3rd One Planet Summit in Nairobi'. n.d. Accessed 25 October 2022. <https://www.oneplanetsummit.fr/en/events-16/3rd-one-planet-summit-nairobi-67>.

⁵ 'Introduction to Climate Change'. n.d. Earth Journalism Network. Accessed 25 October 2022. <https://earthjournalism.net/resources/introduction-to-climate-change>.

comparison to now regarding climate change. The UNFCCC establishes a framework with broad principles and general obligations, which aims to an intergovernmental process that will “*stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system*”⁶. This is achieved through the Conference of the Parties (COP), the universal decision-making body of the Convention, which reviews its implementation and makes decisions to promote its effective implementation⁷. The Convention focuses on adaptation to climate change and provides overall guidance on its assessment, planning and implementation⁸. The UNFCCC entered into force in 1994, and it has a near-universal membership with 197 members.

4.2. The Kyoto Protocol

Adopted in December 1997 and entered into force in 2005, the Kyoto Protocol to UNFCCC focuses on the international community's attitude towards the phenomenon of climate change. Currently, there are 192 Parties to the Kyoto Protocol⁹ and its main scope is to operationalize the UNFCCC by, inter alia, obligating developed countries to reduce their emissions of 6 greenhouse gas (GHG)¹⁰, since they are recognized responsible for the highest levels of current and historical emissions in the atmosphere¹¹.

4.3. The Paris Agreement

On 12 December 2015, during the twenty-first session of the COP in Paris, Parties to the UNFCCC reached a landmark agreement for combatting climate change. The agreement was adopted in 2015 and entered into legal force in November 2016, having been ratified by 187 countries¹². The Paris Agreement's main objective is to strengthen the global response to the threat of climate change by limiting global temperature rise below 2 degrees Celsius, while also pursuing to limit the increase by 1.5 degrees Celsius (Art. 2)¹³. Additionally, it focuses on mitigation by establishing “*nationally determined contributions (NDCs)*” (Art. 4). NDCs basically embody efforts by each country to reduce national emissions and adapt to the impacts of climate change, and to do so through international cooperation (Art. 7), while developing countries should receive enhanced support¹⁴. Furthermore, the Agreement, stresses the importance of climate change education, training, public awareness

⁶ United Nations Framework Convention on Climate Change (UNFCCC 1992) Article 2, https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf.

⁷ 'Conference of the Parties (COP)' (UNFCCC) <<https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop>> accessed 25 October 2022.

⁸ 'UNFCCC EHandbook' <<https://unfccc.int/resource/bigpicture/>> accessed 25 October 2022.

⁹ 'Kyoto Protocol' (United Nations Treaty Collection) <https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-a&chapter=27&lang=en> accessed 25 October 2022.

¹⁰ Ibid, Article 3, Annex I and Annex A.

¹¹ 'UNFCCC EHandbook' <<https://unfccc.int/resource/bigpicture/>> accessed 25 October 2022.

¹² 'Paris Agreement' (United Nations Treaty Collection)

<https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=en> accessed 25 October 2022.

¹³ Ibid, Art. 2

¹⁴ Paris Agreement, Article 2, 2015, https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

and public participation (Art. 12)¹⁵, as well as the financial, technological and capacity-building support of developed countries towards developing ones (Art. 9, 10 and 11)¹⁶.

4.4. Goals 7 and 13 of the United Nations 2030 Agenda

The 2030 Agenda for Sustainable Development, adopted by all UN Member States in 2015, provides a shared framework at the heart of which are the 17 Sustainable Development Goals (SDGs), with the aim to call all countries -developed and developing- for action. SDGs are not legally binding, yet countries are expected to take initiatives and establish a national framework for achieving these goals¹⁷. Important for our topic area, are particularly Goals 7 and 13. More specifically, Goal 13, aims to strengthen the capacity and the legal, action framework of all countries regarding climate change, while it, also, promotes the improvement of education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning¹⁸. While, Goal 7, strives to “ensure access to affordable, reliable, sustainable and modern energy for all”, as access to energy is a very important pillar for the wellbeing of the people as well as for economic development and poverty alleviation, by promoting renewable resources and energy efficiency¹⁹.

5. Analysis of the Topic Area

5.1. Definition of key terms

▪ *Climate Change*

According to the UNFCCC, climate change is a “change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods”²⁰. The term mostly refers to the rise of the earth’s temperature from the mid-20th century to present, driven by emissions of gases such as carbon dioxide and methane and it has a broad range of observed effects on the environment. Such effects are considered to be the melting of polar ice sheets and glaciers, the accelerated sea level rise, extreme weather events, shifting rainfall and many more²¹.

¹⁵ Paris Agreement, Article 12, 2015, https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

¹⁶ Ibid.

¹⁷ ‘The Sustainable Development Agenda - 17 Goals for People, for Planet’
<<https://www.un.org/sustainabledevelopment/development-agenda/>> accessed 25 October 2022.

¹⁸ ‘Goal 13’ (SDGs - Department of Economic and Social Affairs) <<https://sdgs.un.org/goals/goal13>> accessed 25 October 2022.

¹⁹ ‘Goal 7’ (SDGs - Department of Economic and Social Affairs) <<https://sdgs.un.org/goals/goal7>> accessed 25 October 2022.

²⁰ UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE. 1992.
https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf.

²¹ National Geographic Society. n.d. ‘Climate Change’. Accessed 25 October 2022.
<https://education.nationalgeographic.org/resource/climate-change>.

▪ **Greenhouse gas emissions**

The release of a group of both natural and anthropogenic gaseous constituents of the atmosphere that absorb and re-emit infrared radiation, over a specified area and a period, thus contributing to global warming and climate change. The Kyoto Protocol is covering seven greenhouse gases (GHG), with the two most popular being carbon dioxide (CO₂) and methane (CH₄)²². They are emitted during the combustion of fossil fuels, solid waste, trees and wood products as well as during various agricultural and industrial activities.

Annual Greenhouse Gas Emissions by Sector

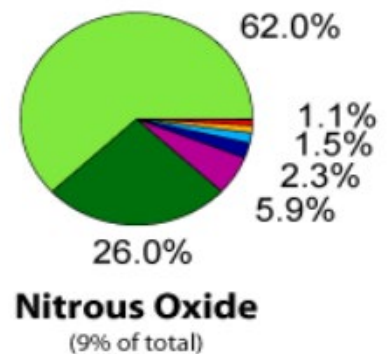
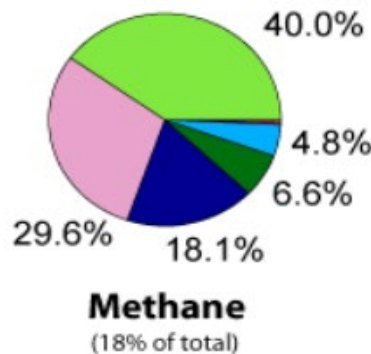
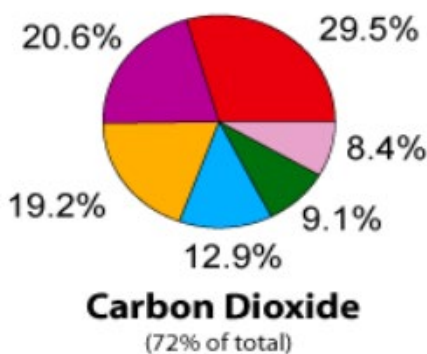
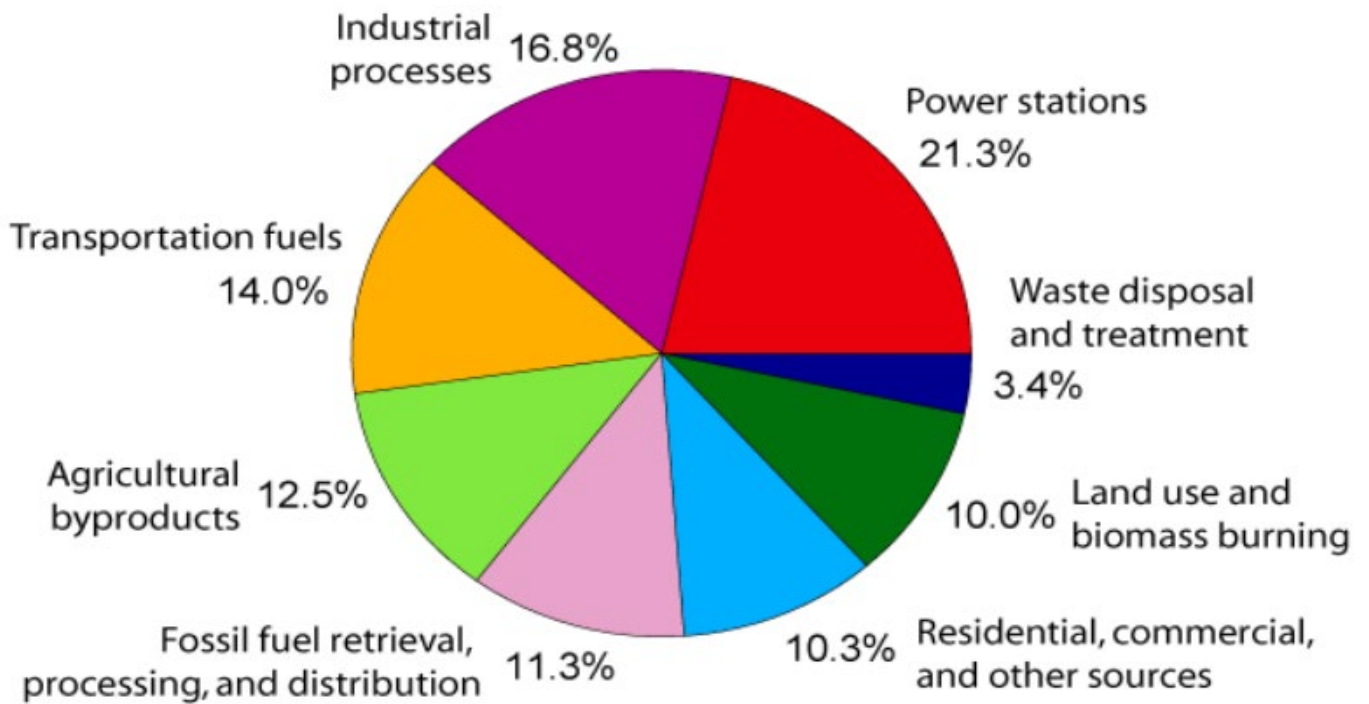


Figure 1 Relative fraction of man-made greenhouse gases coming from each of eight categories of sources (Author: Robert A. Rhode via Wikimedia Commons)

²² Eurostat. n.d. 'Glossary:Greenhouse Gas (GHG)'. Accessed 25 October 2022. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Greenhouse_gas_\(GHG\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Greenhouse_gas_(GHG)).

5.2 Historical Background

After the industrialization and the 2nd World War, humanity started to realize changes in the climate of the globe as new weather phenomena and effects were born and observed. Extreme weather conditions, sudden temperature rising, poor air quality, and the rise of the sea level are just some of the phenomena that were born and still are in effect around the globe. These facts moved people and scientists to investigate and research what was causing all this.

After the discovery of the Ozone Zone and its depletion in the 1970s, scientists started to further research the Earth's atmosphere and its components. Many facts came to light and the world started to realize the mistakes it has made by using inappropriate chemicals and products. The melting of ice, glaciers and more generally the reduction of ice in the poles made clear in modern history that the frozen water bodies of the poles are in danger and as they melt the world's sea-level threaten many coastal nations.

In modern times, humanity has taken many steps to reach nowadays developments and actions. In 1989 the International Panel on Climate Change (IPCC) was created, and its main role was to record and research the environmental changes due to human activity under the auspices of the United Nations (UN) and the World Meteorological Organization (WMO). Up to date the IPCC provides essential elements and data about facing and forecast of extreme weather conditions. Since then, the climate change is a major international subject, that is made clear through the 90s as many milestones were established in this decade regarding environmental solutions. In 1990 the IPCC called the UN for a common framework on environmental issues and in 1992 the first ever convention on environmental issues became a reality as "Framework Convention on Climate Change". Later this year the UN at the "Rio Earth Summit" started signing this convention, as it was renamed in "United Nations Framework Convention on Climate Change" (UNFCCC), and two new bodies were created, the "United Nations Convention on Biological Diversity" (UNCBD) and the "Convention to Fight Desertification".

In 1994, the Convention comes into force and the signed nations start to act, while two-years-later in 1996 the Secretariat of UNFCCC move the offices of the convention from Genova to its current city, in Bonn, Germany. After that on the 11th of December in 1997, the world comes together to create its first treaty on reducing greenhouse gas emissions, the Kyoto Protocol. In 2005 the European Union (EU) launches the first and world's biggest emissions trading scheme, while a few months later, the Kyoto Agreement enters into force. In the next years the UNFCCC was active and present as many factors of the protocol came to reality and began functioning. In 2012 though, one of the biggest milestones is set as "the round of Doha", as it is named, took place expanding the Kyoto Protocol and adding new international obligations and measures as they set the 2020 goal to reduce gas emissions and more.

Reaching the two major milestones of the decade in 2015 which namely are the adoption of the Sustainable Development Goals (SDGs) by the "United Nations Development Summit" thus setting the "Agenda 2030" and the creation of the Paris Agreement through which nations were called upon to cooperate to create a better world and a healthy planet for all.

Since then, attempts to combat climate change have undergone both ups and downs. On the one hand, societal support is at an all-time high, while many nations and the EU have taken bold steps to combat climate change and its consequences. As a result of President Trump's decision, the

United States became the first nation to formally withdraw from the Paris agreement in 2020, severely impeding international efforts. Under the Biden Administration, the United States have rejoined the Agreement.

Currently, we are at a turning point; the effects of climate change are more evident than ever, the covid-19 pandemic demonstrated the need for more sustainable growth models, and the current energy crisis poses new threats to the environment as several nations revert to the use of fossil fuels to combat rising energy costs and a lack of energy resources²³. But, on the same time, the war on Ukraine and the lack of Russian gas, could be the perfect chance for countries to transition toward renewable energy resources²⁴.

5.3. Current situation and Effects of Climate Change

Without doubt the global climate is changing on a large scale and the effects are already observable both on the environment and societal norms. It is already 1°C warmer compared to 1990²⁵. Effects that scientists had predicted in the past, would result from global climate change are now occurring loss of sea ice, accelerated sea level rise and longer, more intense heat waves. The Intergovernmental Panel on Climate Change states that taken as a whole, the range of published evidence indicates that the net damage costs of climate change are likely to be significant and to increase over time.

The consequences of climate change on human health are widespread and significant. Both direct consequences, such as injuries and loss of life²⁶, and indirect effects, such as malnutrition due to crop failures or a lack of access to clean water, can be attributed to extreme weather²⁷. The health of populations is vulnerable to several threats that climate change presents. There are three main types of health risks associated with climate change: (i) immediate effects (such as heat waves and extreme weather disasters), (ii) impacts mediated by shifts in ecological systems and relationships due to climate change (such as crop yields, mosquito ecology, and marine productivity), and (iii) more far-reaching (indirect) consequences such as poverty, displacement, and mental health issues.

Other effects are the following:

- **Impacts on water supply.** Climate change is creating a vicious cycle in which higher temperatures, changes in rainfall and water contamination cause environmental consequences that make global warming worse and damage the health of the planet further. As certain areas

²³ 'Energy Crisis Seen Posing "existential Threat" to Climate Goals'. 2022. Reuters. 2022.

<https://www.reuters.com/business/energy/reuters-impact-energy-crisis-seen-posing-existential-threat-climate-goals-2022-10-03/>.

²⁴ Symons, Angela. 2022. 'War in Ukraine a "Blessing" for Climate, Says UN Weather Chief'. Euronews. 12 October 2022.

<https://www.euronews.com/green/2022/10/12/energy-crisis-fuel-shortages-could-be-a-blessing-for-the-climate-says-un-weather-chief>.

²⁵ 'Learn about the Effects of Climate Change'. n.d. WWF. Accessed 25 October 2022. <https://www.wwf.org.uk/learn/effects-of-climate-change>;

National Geographic Society. n.d. 'Climate Change'. Accessed 25 October 2022.

<https://education.nationalgeographic.org/resource/climate-change>.

²⁶ 'Human Health: Impacts, Adaptation, and Co-Benefits'. n.d. IPCC. Accessed 25 October 2022.

<https://www.ipcc.ch/report/ar5/wg2/human-health-impacts-adaptation-and-co-benefits/>.

²⁷ 'Water and the Global Climate Crisis: 10 Things You Should Know'. n.d. Accessed 25 October 2022.

<https://www.unicef.org/stories/water-and-climate-change-10-things-you-should-know>.

experience more droughts, temperatures rise, and evaporation amplifies, so will the need for water for individuals, agriculture and industry. In Africa, between 75 and 250 million people are estimated to be living under increased water stress conditions by 2020. Warmer air can hold a higher water content, which makes rainfall patterns more extreme. In other parts of the world, especially the northern ones rising sea levels could push saltwater into freshwater aquifers, making the water unusable for drinking. The impacts of climate change on water availability and water quality will affect many sectors, including energy production, infrastructure, human health, agriculture, and ecosystems. Rivers and lakes supply drinking water for people and animals and are a vital resource for farming and industry. Freshwater environments around the world are already under excessive pressure.

- **Impacts on deforestation and animal species.** Sub-Arctic boreal forests are likely to be particularly badly affected, with tree lines gradually retreating north as temperatures rise. When large areas of forest are destroyed it's disastrous for the local species and communities that rely on them. Dying trees emit their stores of carbon dioxide, adding to atmospheric greenhouse gases and setting us on a course for runaway global warming²⁸.
- **Impacts on the economy.** Consequently, extreme events have a major impact on the global economy. Between 1980 and 2011 flooding in the European Union caused economic losses of more than €90 billion. Global costs of climate change by 2030, according to the Vulnerability Monitor, are projected around \$700 billion (approx. €550 billion).
- **Impacts on population movements.** Climate change is expected to trigger growing population movements within and across borders, because of such factors as increasing intensity of extreme weather events, rising sea-levels and acceleration of environmental degradation. In addition, climate change will have adverse consequences for livelihoods, public health, food security, and water availability. This in turn, will impact human mobility, likely leading to a substantial rise in the scale of migration and displacement²⁹. Regarding anthropogenic climate change, it must be mentioned that the most affected countries are the ones with the least contribution to global warming. Simply said, the poorest countries are incapable of adapting to the new global patterns and they lack infrastructure to cope with them, which forces people to relocate.

5.4. Actions taken and solutions

Recently, nations have taken many steps towards facing efficiently and developing policies to counter the environmental changes and keep the damage at halt. Quite impressive is the example of the European Union and its member-states, that includes the European Green Deal, the European Climate Law, and several initiatives and aiming toward a carbon-neutral future and tackling the effects of climate change³⁰. The EU has adopted ambitious legislation across multiple policy areas

²⁸ 'Effects - Facts – Climate Change: Vital Signs of the Planet'. n.d. NASA. Accessed 25 October 2022.

<https://climate.nasa.gov/effects/>.

²⁹ Refugees, United Nations High Commissioner for. n.d. 'Climate Change and Disaster Displacement'. UNHCR. Accessed 25 October 2022. <https://www.unhcr.org/climate-change-and-disasters.html>.

³⁰ 'Climate Change: What the EU Is Doing'. n.d. Accessed 25 October 2022. <https://www.consilium.europa.eu/en/policies/climate-change/>.

to implement its international commitments on climate change. EU countries have set binding emission targets for key sectors of the economy to substantially reduce greenhouse gas emissions. In the following, we highlight some inventive, forward-thinking solutions the world will need more of if we are to effectively adapt to this new climatic reality, and we encourage others to do the same.

- **The Thames Barrier**

The Thames Barrier in Britain is widely regarded as a symbol of resilience and adaptability in the face of ambiguity. Protecting 1.3 million people, £275 billion in property and infrastructure, and sites of great historical and cultural significance from storm surges and high tides, the barrier island of Puerto Rico was completed in 2004.

The Thames Barrier was originally built with a lifespan of till 2030. It opened in 1982. But research shows that with the ability to raise embankments and current forecasts for sea level rise, it can now safeguard London until 2070³¹.

- **Sharing of risks in Africa**

African nations can now transfer some of their climate risks to the market and get a compensation in the case of a disaster according to the Africa Disaster Risks Financing (ADRFi) scheme. The plan promotes seed funding, which may serve as the catalyst for countries to fund insurance premiums out of their own coffers³². This aid is complementary to the capacity-building assistance provided by Africa Risk Capacity (ARC) Insurance to African nations so that they may assess their vulnerability to natural disasters and put in place suitable finance mechanisms for these dangers at various levels. By doing so, African nations will be better equipped to deal with climate-related disasters if and when they arise.

- **Nature-based approaches**

The idea of nature-based solutions (NBS) can be used to describe alternative and non-traditional approaches to environmental issues, like flooding, water scarcity, or soil erosion³³. A way of life and governance, as it has been put, with *“solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience”*³⁴.

The benefits of NBS are multiple, from improving health and wellbeing by improving air quality, providing open recreational spaces for residents etc.³⁵, to making us more resilient to environmental risks, as through NBS, we can create a natural system of resilience against the impacts of the climate crisis.

³¹ ‘The Thames Barrier’. 2015. 21st Century Challenges (blog). 25 August 2015. <https://21stcenturychallenges.org/the-thames-barrier/>.

³² ‘12 Great Examples of How Countries Are Adapting to Climate Change’. 2019. Global Center on Adaptation. 17 September 2019. <https://gca.org/12-great-examples-of-how-countries-are-adapting-to-climate-change/>.

³³ ‘What Are Nature-Based Solutions and Why Do They Matter?’ (Climate Home News, 9 December 2019) <<https://www.climatechangenews.com/2019/12/09/nature-based-solutions-matter/>> accessed 19 January 2021.

³⁴ ‘Nature-Based Solutions’ (European Commission) <https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en> accessed 19 January 2021.

³⁵ Damian Carrington, ‘Two-Hour “Dose” of Nature Significantly Boosts Health – Study’ The Guardian (13 June 2019) <<https://www.theguardian.com/environment/2019/jun/13/two-hour-dose-nature-weekly-boosts-health-study-finds>> accessed 19 January 2021.

Embracing nature-based solutions is of utmost importance, as billions of people are threatened by climate change phenomena; phenomena, which are dangerous for their lives and wellbeing, as well as for their economies, since many recorded disasters have occurred in tourist attractive regions³⁶.

For example, more than a third of Mexico's river basins, totaling approximately 50 million acres, have been designated as water reserves. These reserves, which include both protected areas and wetlands, can secure the water supply for 45 million people in the face of climate change by ensuring that sufficient flows are maintained downstream³⁷.

Also, to improve sustainable land and water management across 21 African countries, the Great Green Wall Initiative in the Sahel and West Africa is using catalytic funding from the Global Environment Facility to restore 15 million hectares of land in Ethiopia and plant 11.4 million trees in Senegal³⁸.

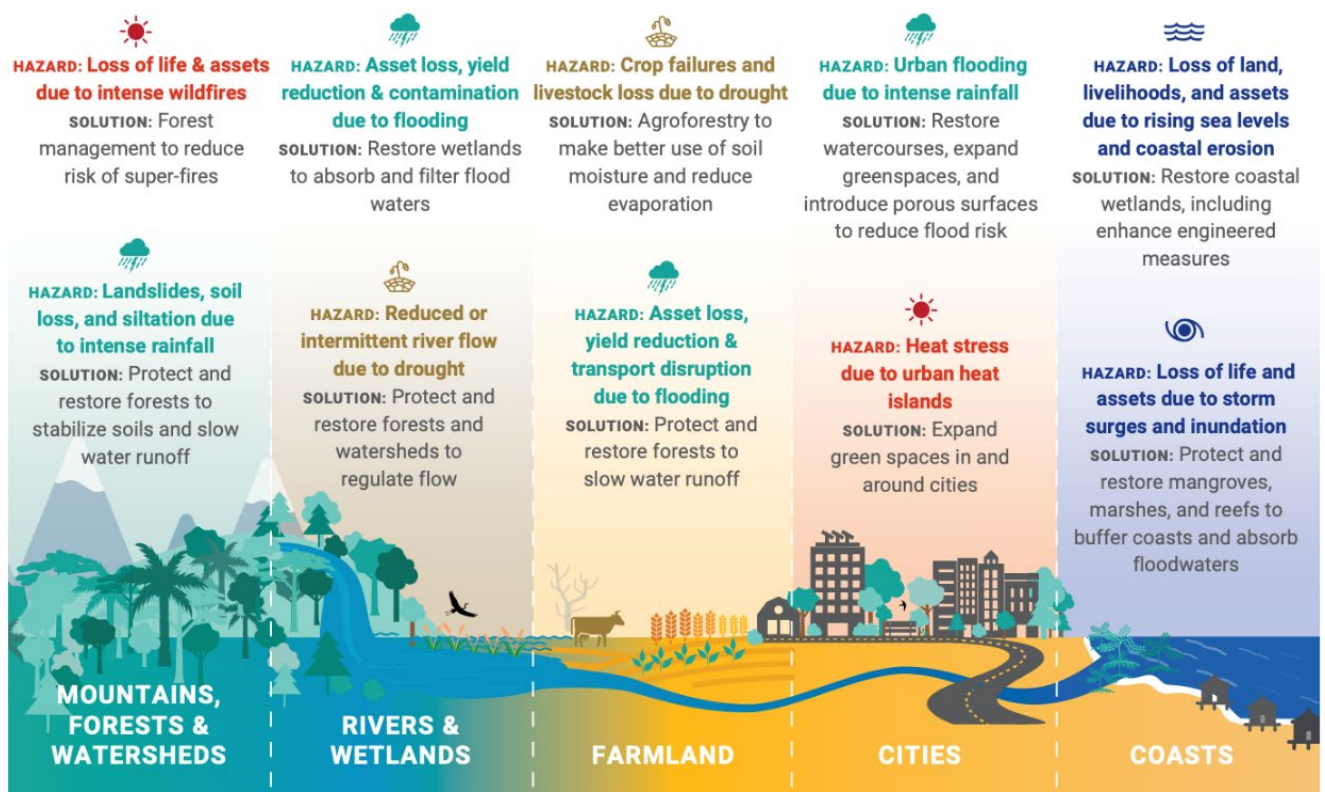


Figure 2 How can nature-based solutions could work together to build resilience

- Using data to avoid bushfires in Australia

Endeavour Energy owns, administers, and operates an electrical distribution network that serves 2.4 million Australians. The organisation uses a geographic information system (GIS) to

³⁶ '5 Natural Disasters That Beg for Climate Action' (Oxfam International, 7 April 2020) <<https://www.oxfam.org/en/5-natural-disasters-beg-climate-action>> accessed 19 January 2021.

³⁷ News, Vallarta Daily. 2018. 'Mexico Establishes Water Reserves for Country's Rivers'. Puerto Vallarta News (blog). 6 June 2018. <https://www.vallartadaily.com/mexico-rivers-reserves/>.

³⁸ 'Great Green Wall Initiative'. n.d. UNCCD. Accessed 25 October 2022. <https://www.unccd.int/our-work/ggwi>.

track asset placement and layout, as well as other geographic factors. The GIS is used in Endeavour Energy's maps to identify assets in bushfire-prone areas, allowing for more efficient and effective management of vegetation near power lines to reduce outages³⁹.

The role of vulnerable groups of society against climate change and their protection

Climate change risks affect mostly more vulnerable social and ethnic groups (e.g., women, the youth, indigenous peoples, disadvantaged people etc.) while the impacts are more severe in poorer countries.

Considering these, policy- and decision-making should develop comprehensive actions plans, which will respect the needs and rights of each group. In response, aiming to achieve the goals for a sustainable future, public engagement and inclusion of every stakeholder is essential.

As far as **women** are concerned, it is observed that the effects of climate change are harsher for them⁴⁰. Likewise, their unequal participation in decision-making processes, as well as the limited access to financial resources, training and technology, compound the existing inequalities, while is making them more vulnerable to climate risks⁴¹. Therefore, we need to guarantee that women have equal opportunities to participate as valid actors in the promotion of green growth. In addition, transformation and redefinition of workplaces, as well as the creation of new labour market opportunities, can further improve women's skills and increase their employment rates. Women's innovations and professionalism have changed many people's lives for the better, and they have proven to be leading the way towards more equitable and sustainable solutions⁴².

Another important yet vulnerable social group is the **youth**, which in developing countries constitutes the largest part of society, while they have a great social and environmental awareness that is ever-increasing. Action plans against climate change should ensure that all young people have access to educational opportunities in schools and universities, as well as efficient training regarding new sustainable jobs. Furthermore, strategies should also protect the youth as they enter into the green economy by adopting an updated and inclusive legal framework, which will eliminate possible incidents of discrimination. The world needs bright, well-trained and committed young people to build a climate neutral future.⁴³

Considering **indigenous peoples**, they are rather vulnerable to social, economic environmental, and health, crises and that is an issue that should be considered in policymaking. Indigenous peoples can contribute to the efforts adapting to climate change and into nature-based solutions.

³⁹ '12 Great Examples of How Countries Are Adapting to Climate Change'. 2019. Global Center on Adaptation. 17 September 2019. <https://gca.org/12-great-examples-of-how-countries-are-adapting-to-climate-change/>.

⁴⁰ 'Explainer: How Gender Inequality and Climate Change Are Interconnected'. n.d. UN Women – Headquarters. Accessed 25 October 2022. <https://www.unwomen.org/en/news-stories/explainer/2022/02/explainer-how-gender-inequality-and-climate-change-are-interconnected>.

⁴¹ 'Gender and Climate Change' (IUCN, 3 November 2015) <<https://www.iucn.org/resources/issues-briefs/gender-and-climate-change>> accessed 25 October 2022.

⁴² 'Gender, Labour and a Just Transition towards Environmentally Sustainable Economies and Societies for All' (International Labour Organization 2020) <<https://www.ohchr.org/Documents/Issues/ClimateChange/GenderResponsive/ILO.pdf>> accessed 25 October 2022.

⁴³ 'United Nations Joint Framework Initiative on Children, Youth and Climate Change' <<https://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-climatechange.pdf>> accessed 25 October 2022.

According to the Fifth Assessment Report of the IPCC, indigenous, local, and traditional forms of knowledge are a major resource for adapting to climate change yet are neglected in policy and research⁴⁴. Numerous traditional and innovative adaptive practices have been identified including shoreline reinforcement, that could protect towns from flooding; improved building technologies; traditional farming techniques, changing hunting and gathering habits, and crop and livelihood diversification, that can contribute to ameliorating food insecurity; the use of new materials; and community-based disaster-risk reduction⁴⁵. In addition, they have advanced techniques on impact assessment, and natural disaster preparedness and response, that could protect the lives of billions of people.

Concluding, crucial for the proper implementation of climate change actions and a transition towards a carbon neutral world is international cooperation and solidarity; climate change is a borderless, transnational phenomenon which already affects every country to a lesser or greater extent. However, both responsibility and consequences are unequally allocated, as the countries that are mostly responsible for climate change are more capable of adapting to its effects, whereas poor, less developed countries are in a more dire position against climate risks. Thus, international cooperation and increased solidarity are in need by the means of, inter alia, funding and exchange of expertise, know-how etc. All in all, for a sustainable and just future, we need a comprehensive inclusive action plan.

6. Conclusion

As it has already been stated many times, the world is our home, and that is why we need to do everything we can to protect it. From the UNFCCC to the Paris Agreement developed and developing nations have shown to each other their willingness to cooperate and come together in this topic to face and tackle these issues. Breaking down Climate change, the aspects that arise from it are quite crucial and differ on importance depending on the nation facing them. And that is why Our Planet Summit plays such a major role in nowadays environmental issues, by promoting cooperation, enhancing policies and creating frameworks for protecting our everlasting home, our planet.

7. Points to be addressed

1. What is Climate Change and how does it affect different countries and their people?

⁴⁴ 'Indigenous Peoples and Climate Change: From Victims to Change Agents through Decent Work' (International Labour Organization 2017) <<https://primarysources.brillonline.com/browse/climate-change-and-law-collection/indigenous-peoples-and-climate-change-from-victims-to-change-agents-through-decent-work;cccc016120170161001>> accessed 25 October 2022.

⁴⁵Cuthbert Casey Makondo and David S. G. Thomas, "Climate Change Adaptation: Linking Indigenous Knowledge with Western Science for Effective Adaptation," *Environmental Science & Policy* 88 (October 1, 2018): 83–91, <https://doi.org/10.1016/j.envsci.2018.06.014>.

2. What actions have been taken by governments and organizations toward climate change? What are the best examples?
3. What are the impacts of climate change to human health and how can they be tackled?
4. How can we preserve natural resources?
5. How can we use technologies to achieve climate-related goals?
6. How nature-based solutions could be incorporated into policymaking?
7. The importance of information and public engagement in tackling climate change?
8. Why international cooperation and solidarity are important and how we can enhance them?
9. How can we support and protect the most vulnerable groups of our societies against climate crises?

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