Climate Diplomacy

International and National Responses

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Forewords

This release comes from the need to appraise, both politically and institutionally, an issue that touches us all: Climate Change. A topic too long miscalculated, irrelevant to many countries. Instead, now the perspective has been reversed. Citizens and lawmakers realized our planet's resources are not eternal, but rather are being drained very quickly.

In spite of this, humans, with their constant and intensive depletion of natural resources, have become increasingly aware of bearing a heavy responsibility with regard to the global heating happening in recent times. Changes challenging political and state institutions themselves; it's not a crisis that involves just one side of the Earth, but refers globally. We are all affected, both victims and advocates of actions that can secure the survival of our planet and humankind.

This work is mainly addressed to all those who would like to gain knowledge on climate change and it aims to raise awareness on the threat that humanity is facing. In fact, we believe that raising awareness between people is crucial to fight climate change. The book initiates with a historical

excursus that charts the very origins of the concept of ecology. Then it goes on to highlight the ecological issue and its importance to the entire planetary system.

Then, the outline of the human causes of climate change and introduce an analysis of the composite system of upshots with particular reference to Europe and developing countries, which are also found to be the most fragile.

The second chapter traces the steps of the crucial world climate conferences and agreements, from Rio de Janeiro to COP27. It analyses and introduces the main goals and achieved results of the two milestones in international agreements: the 1997 Kyoto Protocol and the 2015 Paris Agreement.

The authors introduce in chapter three, the climate strategies and objectives and highlight on the actions taken at regional level – the European Union – and national level, such as Germany. In this sense, the book examines the actions set by the EU in achieving its greenhouse emissions reduction target, precisely the European Green Deal.

Finally, the volume spots the light on the relation between climate change, conflicts and migration. It shows how climate change is considered a risk factor for armed

conflicts and migration[1].

Indeed, the authors desired to state that the current relation between climate, conflict and migration reinforce the need for immediate humanitarian action and resilience building of communities to come. Major global efforts must be made to limit climate change and to help people adapt to a changing environment.

(1) Mach, K.J., Kraan, C.M., Adger, W.N. et al. *Climate as a risk factor for armed conflict*. Nature 571, 193–197 (2019). https://doi.org/10.1038/s41586-019-1300-6 (page accessed on November 9, 2022).

Chapter I

Definition of climate change What is Climate Diplomacy?

The topic we intend to address is very dense; therefore, it's essential to provide a priori what Climate Change means[1] and what is Climate Diplomacy.

The utterance - going also by "climate shifts" - refers to all variations in the Earth's climate: shifts at different scales, geographical[2] and temporal[3] of one or more environmental and climatic parameters in their average values: temperatures, rainfall, cloudiness, ocean temperatures, and the spread and evolution of plants and animals. Climate change is an undeniable reality, a real existential challenge for our generation and for those to come. It is necessary to approach this challenge by adopting a general perspective with urgency and concreteness, setting goals as ambitious as possible in both the short and long term.

Such a priority amid global emergencies, indeed,

(1) For insights on the topic see: Thomas E. Lovejoy, Lee Hannah (eds.), *Biodiversity and Climate Change: Transforming the Biosphere*, Yale University, 2019; Ayana Elizabeth Johnson, Katharine K. Wilkinson (eds.), *All We Can Save: Truth, Courage, and Solutions for the Climate Crisis*, One World, New York, 2020; David Wallace-Wells, The Uninhabitable Earth, NY: Tim Duggan Books, New York, 2019; Pasotti Jacopo, *Cambiamento climatico: perché avviene, come avviene, cosa fare*, Scienza Express, Trieste, 2020.

(2) Regional, continental, hemispheric and global.

(3) Decadal, secular, millennial and ultramillennial.

gradually gaining prominence in the political agendas of various countries and the public opinion, in seeks to pursue shared policies to achieve a joint solution.

The starting point is to get a grip of what man's role is in this and what are the patterns leading to the current situation.

Certainly, man is exerting an increasing influence on the Earth's climate and temperature with activities such as burning fossil fuels, deforestation, and livestock farming, certified by Climate Change 2013: the Physical Science Basin, which confirms this very fact, global warming is caused by human activities(1).

At the same time, human's role remains crucial in fighting the climate change's effects. To this end, the most important available tools is Diplomacy. Therefore, there is a global understanding that confirms the serious role of diplomacy and multilateral process in international climate efforts.

History has also demonstrated that diplomatic efforts can shape and influence international and national agendas as well as reaching global agreements to crisis and conflicts that ranked top on the international challenges list. A

(1) Eugenio Campo, *L'accordo di Parigi sul clima (Dec. 12, 2015)*, in Rivista di studi politici internazionali, vol. 83, n. 3, 2016, p. 356.

similar effort is demanded to tackle climate change. In this sense, UN Climate Change Executive Secretary, Patricia Espinosa, stated that multilateralism remains the world's vehicle for addressing climate change [(1)].

Having this in mind, climate diplomacy refers to the use of diplomatic means to address the challenges of climate change at both the international and domestic levels. This includes engaging in negotiations, forging alliances and partnerships, and promoting cooperation between countries to reach a shared understanding on climate action. Climate diplomacy is a continuous negotiation process that leads to the creation of international climate regime and ensuring its effectiveness.

Indeed, climate change is a global issue that requires collective action and political will from all countries, and that diplomatic efforts are key to achieving meaningful progress in addressing the issue. It is an interdisciplinary approach that involves not only diplomats, but also experts from various fields, including environmental policy, energy, economics, and international relations. Through climate diplomacy, countries can work together to reduce

(1) Patricia Espinosa, *Multilateralism Key to Achieving Climate Goals (Feb, 17.2022),* In United Nations Climate Change, https://unfccc.int/news/multilateralism-key-to-achieving-climate-goals, (page accessed on Febraury 01, 2023).

greenhouse gas emissions, promote renewable energy, and protect vulnerable populations from the impacts of climate change, all while building trust and strengthening relationships between nations.

There are numerous examples of climate diplomacy initiatives such as the Paris Agreement, which was negotiated in 2015 and aimed at keeping global temperature rise below 2 degrees Celsius above pre-industrial levels. The agreement was ratified by 189 countries and is seen as a landmark achievement in global climate diplomacy. Another example is the Global Commission on Adaptation, which was established in 2018 to accelerate adaptation action and support the most vulnerable countries and communities in responding to the impacts of climate change.

Additionally, countries engage in climate diplomacy through regional partnerships and initiatives, such as the European Union's efforts to transition to a low-carbon economy through its Green Deal, and the African Union's climate action plans aimed at reducing vulnerability to climate change and building resilience in the continent. Germany for example, has funded in 2015 the Berlin Energy Transition Dialogue (BETD). It has become the leading international forum for high-level policymakers, industry, science and civil society to exchange ideas for a

safe, affordable and environmentally responsible global energy transition. The conference complements the climate discourse by emphasizing the energy component.

Moreover, the UAE is increasing its commitments to the international effort to address climate change. In fact, the UAE will host the 28th United Nations Climate Change Conference, or COP28, in 2023. After being the first Middle Eastern nation to sign the Paris Agreement, the UAE was also the first country in the region to submit its Nationally Determined Contribution (NDC) in 2015. The UAE recently updated its NDC, setting a more ambitious target for curbing carbon emissions 31 percent by 2030, up from its previous 23.5 percent target. In addition, the UAE is committed to expanding the role of low-carbon technologies in the economy and investing in renewable energy and nuclear power.

Further underlining the UAE's Climate diplomacy commitment to global cooperation on climate, the UAE is home to the International Renewable Energy Agency (IRENA), an intergovernmental organization that promotes sustainability. It is the first international organization with global membership to be headquartered in the Middle East.

Overall, climate diplomacy is becoming a critical tool

for addressing the global challenge of climate change and achieving a sustainable future for all, but at the same time is facing different challenges such as the mistrust the distrust between rich and poor countries at the UN climate change

Origins of environmentalism

The word "ecology"(1) became established in its present-day meaning of environmental issues only during 1970, a watershed year worldwide. Some events that distinguished it have become justly famous: the first Earth Day(2) in the United States, the "conversion" of President Richard Nixon (1933-1994) on ecology and the establishment of

(1) Ecology is the part of biology that investigates the connections between organisms and their natural environment, understood as both the set of chemical and physical factors that surround them (climate, soil type, light, nutrition) and the set of biological factors that can affect the life of these bodies (parasitism, symbiosis, and so on). Ecology has developed in recent times, and has spread widely both as a science and as a practice; it is divided into several branches (e. g. vegetal, agrarian, animal, marine, human) that touch on problems of great importance for all countries and particularly for densely populated countries, industrialized countries, and countries undergoing massive industrialization: the exploitation of natural resources, nature protection, landscape protection, combating water pollution, controlling human settlements, and so on. https://www.treccani.it/vocabolario/ecologia/ (page accessed on September 02, 2021).

(2) Each year on April 22, Earth Day marks the anniversary of the birth of the modern environmental movement in 1970. https://www.earthday.org/history/ (page accessed on September 01, 2021).

the Environmental Protection Agency[1], the European year of ecology heralded by the Council of Europe. Again, during 1970 the first Ministry of the Environment was founded. Even in Great Britain the first Ministry of the Environmental Affair was introduced in 1970 and the conditions ripened for its establishment, in the following two years, also in Denmark, France, Norway and Austria.

This gave rise to the perception that environmentalism and nature protection policies are essentially young phenomena, dating back only some 40 years. It was not until the years 1964-1965 that a wave of interest in the environment and its protection occurred for the first time in the developed world deeply affecting public opinion, mass media and the political world. And this flowering underwent a sudden and extraordinary acceleration truly during 1970.

This is why until a few years ago most scholars themselves tended to set the issue of environmentalism in Western societies in the early to recent 1970s, and a few realized this

(1) This agency was established in 1970 and is still in operation today. The United States Environmental Protection Agency is charged with the protection of the environment and that of human health, pursued through the timely enforcement of laws passed by the Congress of the United States of America. https://www.epa.gov/aboutepa (page accessed on September 02, 2021).

percept was at least partly misguided, or partial. Instead, in the last few years we have come to understand that the history of environmentalism goes back much further, and that the turning point of the recent 1960s and 1970s is only a chapter – albeit fundamental – in a long and involved history.

However, if we want to talk about environmentalism and nature protection in the modern sense, our journey back in time must halt at "just" one hundred and fifty years ago, that is, the mid-1860s. Modern environmentalism basically means the simultaneous presence of four elements:

- An attitude of positive appraisal of nature as such and an inclination to preserve it or some specific aspects of it;
- A system of rational thesis to legitimize this attitude;
- A set of concrete goals for action, which may also be arranged into advanced and far-reaching programs;
- The willingness and ability to organize together to pursue these goals[1].

It is precisely in the 1860s that we first witness the

(1) Luigi Piccioni, *Ambientalismo, questo sconosciuto: un salto alle origini*, in https://greenreport.it/rubriche/ambientalismo-questo-sconosciuto-un-salto-alle-origini/ (page accessed on August 01, 2021).

combination of these elements, at first coyly and sparsely and later with increasing firmness. But why do we point specifically to the 1860s? We are dealing with a series of very significant episodes and phenomena, which produced a respectable impact in the field of ecology, in general.

First there was the establishment of California's Yosemite Park, traced back to the beginning of the history of protected areas, and eight years later the first national park in the world is instituted also in the United States(1).

In turn, however, 1865 was an essential year for England. Here – at the tip of the birth of many wild life supporters' societies and various local groups – the founding of the Commons Preservation Society(2) opened an associative unrest that would lead in a few years to the establishment of the Kyrle Society, the first nucleus of the National Trust,

(1) https://www.nationalparkreservations.com/park/yosemite-national-park/activities/ (page accessed on September 01, 2021).

(2) The society was founded as the Commons Preservation Society and merged with the National Footpaths Society in 1899, becoming the Commons and Footpaths Preservation Society. It later renamed itself the Commons, Open Spaces and Footpaths Preservation Society, before adopting its current name, Open Spaces Society. The stated goals of the Society are: to campaign for greater protection and opportunity for all to enjoy commons, greens and trails; to defend open spaces from loss and development pressures; to assist local communities so that they can safeguard their green spaces for future generations.

the English Lake District Association, the National Smoke Abatement Society, the National Footpaths Preservation Society and the Selborn League for the Preservation of Birds, Plants and Pleasant Places, and then the very popular Society for the Protection of Birds.

The same year also saw a surge of laws against pollution, for public green space, for free access to country estates, for the defence of monuments and wildlife. The Sea Birds Preservation Act of 1869 definitely stands out in significance and environmentalist spirit[1].

For a historian, all these overlaps cannot be accidental. Rather, they suggest that, at least in the most developed countries, something was changing in the perception towards nature. It's definitively here that environmentalism – as we intend it nowadays – actually shows off for the very first time. On the back of the polluting effects of industrial development, in the 1960s, then the first policy debates were born.

(1) The Sea Birds Preservation Act of 1869 was one of the first items of parliamentary legislation anywhere in the world to safeguard wildlife and the first to offer protection to birds in the United Kingdom. The bill grew out of a local campaign by local clergy and naturalists to save the birds of Flamborough Head that are annually wiped out by hunters and the eggs collected. http://iberianature.com/britainnature/the-1869-sea-birds-preservation-act/(page accessed on September 18, 2021).

In 1962 Rachel Carson published a book entitled Silent Spring, which remarked the abusive usage of pesticides and aroused noteworthy debate and interest among ordinary people. The most relevant result was the rise of laws – hitherto non-existent – geared toward environmental protection.

In such a scenario, it was "natural" both the first ecologist movements and the first parties began to be organized in the 1970s. The first Green Party in history was founded in Australia in 1972 while in Europe arose in Great Britain in 1973 (first called People, then Ecology Party and finally Green Party)[1].

By this time, many authorities in the Western world admitted the importance of green issues, the usefulness of sustainable and environmentally friendly economic strategies.

The 1970s thus represented a phase of innovation – and in many ways a caesura – from the ecological tradition carried on up to that time. Indeed, new thought developed in those days that significantly altered the goals and forms

(1) Manuela Villani (ed.), *Ambientalismo e movimenti ambientalisti*, https://www.studocu.com/it/document/universita-degli-studi-di-messina/educazione-ambientale/ambientalismo-profssa-villani/4713529 , p. 2. http://www.isavemyplanet.org/capitoli/ambientalismo.pdf (page accessed on August 21, 2021).

of ecologists' actions, and even the very definition of the environment.

The oil crisis of 1973 boosted the setting up of large-scale projects for the use of nuclear energy; the perception of the scarcity of the natural resources on the planet – also thanks to scientific contributions of great resonance such as the Meadows Report(1) on the limits of development, promoted by the Club of Rome; degenerative phenomena such as acid rain, or problems such as toxic waste disposal, gain consistency. The issue of the quality of life in urban areas is raised again after the great post-war euphoria.

(1) The Limits to Development Report (from the book *The Limits to Growth. The Limits to Development*), commissioned from MIT by the Club of Rome, was published in 1972 by Donella Meadows, Dennis Meadows, Jørgen Randers and William W. Behrens III. The report, based on the World3 computer simulation, predicts the consequences of continued population growth on the Earth's ecosystem and the very survival of the human species. In a nutshell, the report's conclusions are: if the current rate of population growth, industrialization, pollution, food production and resource exploitation continues unabated, the limits of development on this planet will be reached at some unspecified time within the next hundred years. The most likely result will be a sudden and uncontrollable decline in population and industrial capacity.

It is possible to change the rates of development and arrive at a condition of ecological and economic stability, sustainable even in the distant future. The state of global equilibrium should be designed so that the needs of every person on earth are met, and everyone has an equal opportunity to realize his or her human potential. https://www.ecoage.it/petrolio-club-roma.htm (page accessed on September 20, 2021).

It's a trend reversal from the 1950s and early 1960s, when the overriding concerns of Western states were the support of economic growth fostered by reconstruction(1), after the blow from World War II, while those of the public had been largely mastered by consumerist attitudes: ecology was not a priority for anyone.

(1) The Marshall Plan is the project of extensive reconstruction of European countries torn apart by World War II, enacted by the United States. On June 5, 1947, at Harvard University, U.S. Secretary of State G. Marshall gave a famous speech to announce the country's decision to undertake the plan he named after it. Plan M. represented a turning point in U.S. reconstruction policy, with a move away from the disorganized approach that had featured the food support programs - implemented through Government Aid and Relief in Occupied Areas - and the establishment of an effective strategy to promote economic recovery on the European continent. Initially aimed at the USSR and Eastern European countries, the aid plan was limited, upon Soviet rejection, to Western European countries and West Germany. In April 1948, U.S. President H. Truman established the Economic Cooperation Administration (ECA), a body charged with setting aid policies, and the European Recovery Program (ERP), which had the specific task of managing allocations within each country. The plan was launched in the spring of 1948 and formally ended in June 1952, although, in fact, it ran out of steam in the spring of 1951. There were positive results in reviving business initiative, consolidating competitive logic and trade openness, and promoting comradeship. In response to pressure from the U.S. for greater integration, the European governments benefiting from the program established the Organization for European Economic Cooperation (OECE) in 1948. Quantitatively, the plan involved an allocation of $17 billion, which was disbursed over a four-year period. https://www.treccani.it/enciclopedia/piano-marshall_ per cent28Dizionario-di-Economia-e-Finanza per cent29/ (page accessed on November 20, 2021).

Though, a new cultural mood rises and ecological actions will also be influenced, at least in part. The new scene is highly contributing to the revival of even large-scale environmental initiatives. Between the end of the 1960s and the beginning of the 1970s, both the support for existing ecological groups operating for some time and the number of new agencies increased sharply.

Friends of Earth(1), just to mention, was founded in San Francisco in 1969. After a year, it can already count on sections in France and Great Britain; by the end of the 1970s national sections will number more than twenty.

The events outlined so far foster the growth of some innovative conceptions of environmental action. First, the notion of the "nature" is modified. It is no longer defined solely in earthy terms, but also as a human, man-made environment. The damage done by industry to heavily humanized areas is also taken into account; the notion of ecosystem is applied to them and issues related to the quality of life in urban areas are also brought to the fore, thus touching on such crucial topics as air and noise pollution, the development of green areas and waste treatment.

(1) For more details, see https://foe.org/about-us/ (page accessed on September 20, 2021).

On a more strictly theoretical level, a strong link between man's exploitation of man and man's use of habitat resources is emphasized. The environmental crisis cannot be properly conceived and solved outside of a shift in the social model that constantly reproduces and nurtures it. Political ecology then strongly stresses the substance of a shared and devolved approach. The Apparatus must be slowly dismantled in favour of a society based on federated local communities as self-reliant and self-governing as possible.

The above is a historical framework; nonetheless, the climate emergency – and the way the world diplomacy is currently interfacing with – it will follow.

Environmental diplomacy as a token of economic diplomacy

According to some trends of thought, environmental diplomacy should be closely related to economic diplomacy, the two as complementary. This is the reason behind a broad strategy to enhance sustainability by turning it into a competitive factor(1).

For that matter, Climate Change is pretty firm on this issue: the costs to fight against climate change can be carried

(1) https://formiche.net/2021/04/la-transizione-ecologica-fra-diplomazia-e-sicurezza-parla-alberti-enel/ (page accessed on September 10, 2021).

forward without affecting global economic growth[1]. The transition to a green economy will not be but long-term, since it's influenced by diverse features, especially economic ones: first and foremost, the need – for many countries – to maintain high rates of economic growth during the process of de-carbonization.

In general, we are still largely dependent on traditional fossil fuel sources, although it is undeniable that renewable energy has captured an important share of the market. This is a promising start, though it's not enough.

In the NATO 2030[2] report, climate emergency is listed as one of the key challenges of our time because of the possible threats to the security and economic interests of all thirty countries of the Alliance. NATO therefore has an essential role to play in those areas where climate change may have a provable impact on the member countries and transatlantic security status.

As early as 2010, the NATO Strategic Concept, the action plan for the past decade, considered climate crisis as

(1) Eugenio Campo, *L'accordo di Parigi sul clima (Dec. 12 2015)*, in Rivista di studi politici internazionali, vol. 83, n. 3, 2016, p. 371.

(2) https://www.nato.int/nato_static_fl2014/assets/pdf/2020/12/pdf/201201-Reflection-Group-Final-Report-Uni.pdf (page accessed on September 10, 2021).

a driver in the Alliance's security context[1]. A sick planet is also a financial risk; investors have long acknowledged this and are reorienting toward more sustainable models, a guarantee of stability and value creation, even in crisis situations.

According to WHO, 7 million people worldwide dies each year due to the same emissions responsible for climate change. Almost double the number of deaths caused so far by Covid-19, which also disrupted the life of a planet.

Global heating is having two effects. The first – supported by many – to speed up the changeover to an idea of environmental sustainability no longer as a corrective mechanism for national policies or corporate business, but as a strategic lever to ensure differential advantage, regulative certainty and stability. The second is to transform the climate into a "competitive arena", where states, cities, and companies measure and compare themselves, creating new chances, industrial supply chains, jobs, innovation, and inclusive development from a fully sustainable perspective.

The European Union has been a global vanguard in the battle against climate change for decades and is holding firm to its drives even in the midst of the Covid-19 crisis. Among

(1) https://sicurezzainternazionale.luiss.it/2020/12/10/rapporto-nato-2030-cambiamento-climatico-sicurezza/ (page accessed on September 11, 2021).

other things, the EU has launched what Commission vice President Frans Timmermans called "the world's greenest economic stimulus plan." With the Green Deal, the EU raised its emissions reduction target to 55 per cent by 2030 and pledged to achieve zero impact by 2050.

To support this effort, member states agreed to transform the European Investment Bank (EIB)[1] into the EU Climate Bank. As outlined in the Climate Bank Roadmap 2021-2025 the European Investment Bank will make €1 trillion available through the Climate Bank to be spent by 2030 on projects focused on climate, biodiversity and sustainability, aligning post-2020 financing activities with the Paris Climate Agreement and the EU's goal of climate neutrality by 2050.

Moreover, the European Parliament took on 18/04/2023 a big step forward in the fight against climate change after the approval of three pieces of legislation from its landmark Fit for 55 packages, which aims to reduce greenhouse gas emissions by 55% by 2030 [2]. Among them was the

(1) The European Investment Bank, or EIB, is the financial institution of the European Union established in 1957, and officially founded in the following year by the Treaty of Rome, to finance investments to support the Union's policy objectives.

(2) https://www.euronews.com/my-europe/2023/04/18/european-parliament-approves-mega- package-of-eu-climate-measures

Carbon Border Adjustment Mechanism (CBAM), which is designed to create a more level playing field between EU and non-EU producers by attributing a carbon price to certain imported products.

According to experts, this will allow the EU will to start asking producers to pay for the imported CO2 emissions and it's for the first time that the EU or any other region in the world applies a carbon tariff or a carbon price on producers outside of the EU, which that's in itself historic [(1)].

The Climate Bank will support the actions of the European Green Deal and the European Climate Act to make the EU climate neutral by 2050. More than 50 per cent of annual funding by 2025 will be devoted to green investments. After 2022, projects involving fossil fuels will no longer be funded. Instead, innovative low-carbon technologies, climate change adaptation actions, and just transition projects will be robustly financed.

The EIB's current Climate Strategy was announced at the Paris Climate Conference in 2015, and updated to align it with the goal of keeping global temperature rise to the end of the century within 1.5° C[(2)].

(1) Ibidem

(2) https://www.regionieambiente.it/banca-clima-ue/ (page accessed on November 10, 2021).

The table on future programs of the Climate Bank focuses on 4 main areas, as shown in the following chart:

Figure 1 – Main workstreams of the Climate Bank Roadmap

- Accelerating the changeover: the Climate Bank's roadmap includes support in the areas of interest outlined in the European Green Deal, from building resilience to climate change to guarding nature, including strengthening dialogue with EU member states, as well as developing and emerging countries, and to shape business development and ware innovation.
- Ensuring a just transition for all: cohesion support was one of the founding principles of the EIB when it was established in 1958 and still remains a key priority.

The Just Transition Facility is the cornerstone of the EU's response to this challenge. The EIB will present a detailed plan for a fair changeover in 2021.

- Support Paris-aligned operations: the Climate Bank's programs will match the goals and principles of the Paris Agreement. Specific investments that expand agricultural activity in high carbon storage areas, airport capacity, and new energy-intensive conventional plants will no longer be supported. In addition, in the process of assessing the economic case for investments, the Bank will use a revised and increased shadow cost of carbon. This is an integral part of an enhanced economic test toward new road infrastructure projects;
- Building strategic coherence and accountability: the EIB Group's approach will be based on three cross-cutting aspects: (1) policy, to determine how climate-related activities fit into the broader framework of sustainable finance and overall environmental and social sustainability – including alignment with the EU taxonomy; (2) transparency, accountability, and quality assurance; finally (3), institutional support for EIB Group activities[1].

(1) https://www.regionieambiente.it/banca-clima-ue/ (page accessed on November 10, 2021).

With the EU producing less than 8 per cent of global emissions, climate action cannot be limited to the European continent. Of course, supporting evidence, other international players are called upon to make their own proactive contributions. If growing energy demand in Africa and Asia will be met by new coal or gas-fired power plants financed by China or other countries, hopes of limiting global warming will be dashed.

The Union must succeed in persuading different nations to share Europe's ambitions and taking the required step.

To this end, EU has to put both its economic and diplomatic value at the service of the environmental cause as a global power in "climate diplomacy". We must combine our climate efforts with realpolitik, accepting the undeniable link between innovation and development[1].

EU has tools to make a global difference. It is one of the largest internal markets and trading blocs worldwide and has the authority to set standards on imported goods, whether commodities or services. Beyond that, several trade agreements and strategic partnerships with countries and regional bodies around the world occur. It is also the world's leading body in contributions to development and

(1) https://www.ilsole24ore.com/art/il-peso-economico-e-diplomatico-ue-servizio-dell-ambiente-ADhlymHB (page accessed on September 20, 2021).

humanitarian assistance.

An effective global impact implies broader actions: dealing with the economic and social consequences of the Covid-19 pandemic is critical. Even in this, the measures must consider the broader climate agenda. Other development banks should follow the EIB's lead and align their tasks with the Paris goals, sticking to a path of low emissions and environmentally resilient development.

As UN Secretary General António Guterres has said, this is «the decisive challenge of our time». Therefore, it is imperative to accelerate climate action, and managing the energy transition must be at the heart of EU foreign policy and effort with all partners around the world. In this regard, President Biden's decision to return to the Paris Agreement is a powerful political factor that strengthens environmentalist demands and policies[1].

Anthropomorphic causes of climate change

Historically, climate breakdown has always been an issue, distinguishing different eras. Thought, the warming we have been witnessing for about 150 years is abnormal since humans and their activities trigger it. It's called the "anthropogenic greenhouse effect" and it piles on natural

(1) https://www.corrierepl.it/2021/02/02/biden-torneremo-nellaccordo-di-parigi/ (page accessed on February 5, 2021).

greenhouse effect. With the Industrial Revolution, humans suddenly released millions of tons of carbon dioxide and other gases into the atmosphere, bringing the amount of CO^2 to double the lows of the past 700,000 years (410-415 parts per million compared to 200-180 parts per million)[1].

This can also be observed on a daily basis through the monitoring units, as the one at Mauna Loa in the Hawaiian archipelago. For about 15 years, data produced by thousands of scientists worldwide, analysed and arranged by the Intergovernmental Panel on Climate Change (IPCC)[2], have agreed that 97 per cent of global warming comes from the anthropogenic greenhouse effect. The statements made and reports compiled all point in the same direction: the human impact on climate systems is sharp and gas releases are the highest in history. Recent climate change has had widespread impacts on human and plant systems[3].

(1) https://www.ortodipietro.it/2021/08/05/il-cambiamento-climatico-frantuma-i-record-delle-ondate-di-calore/ (page accessed on November 17, 2021).

(2) The scientific forum formed in 1988 by two United Nations bodies, the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP) for the purpose of studying global warming. In 2007, the IPCC was awarded the Nobel Peace Prize, shared with Al Gore, for bringing the system of correlations between human activities and global warming to the world's attention. https://www.ipcc.ch/ (page accessed on November 10, 2021).

(3) https://www.ipcc.ch/report/ar5/syr/ (page accessed on November 10, 2021).

How human activities add amounts of GHG[1] to those naturally in the atmosphere, fuelling global heating? Some gases in the Earth's atmosphere act somewhat like the glass in a hothouse: they capture the sun's heat, blocking it from returning to space. Many are already present in nature, but human activity increases the density of some in the atmosphere:

- Carbon dioxide (CO^2)[2];
- Methane[3];

(1) Greenhouse gas.

(2) It's a colorless, odorless gas, CO^2 (also called carbon dioxide or carbon dioxide). It is the main product of the combustion of coal, hydrocarbons and organic substances in general. It was first prepared by J. Black in 1754 by decomposition of magnesium carbonate and was called fixed air by him. It is found free in nature dissolved in water and combined (calcium carbonates, magnesium carbonates, etc.). It develops in fermentation processes of organic substances. It is prepared by burning a carbon-containing substance with excess air or by treating a carbonate or bicarbonate with an acid.

C. anhydride has particular importance in biochemical and physiological processes. It is fixed by plants through chlorophyll photosynthesis and used for the synthesis of glycides, and by animal organisms to form various organic compounds (e.g., purine and pyrimidine bases). In animals, c. anhydride is continuously formed from catabolic processes taking place in tissues; some of it is eliminated by respiration and some of it remains dissolved or combined in blood and body fluids and helps to maintain a constant acid-base balance. https://www.treccani.it/enciclopedia/anidride-carbonica/ (page accessed on November 10, 2021).

(3) Methane is the simplest compound of carbon and hydrogen. Known since ancient times, only since the early twentieth century has technological progress enabled its use as a fuel and feedstock. It is produced by fermentation of organic

- Nitrous oxide[1];
- Fluorinated gases[2].

material and is present as a fossil in numerous deposits, alone or in association with oil and coal. It is the main constituent of natural gas formed by oxygen-free (anaerobic) fermentation of organic matter and is often found along with coal and oil deposits. Natural gas burns with a regular flame and develops heat, water vapor and carbon dioxide (CO^2), while sulfur, nitrogen and particulate compounds that often accompany hydrocarbon liquids are almost entirely absent. Low environmental impact, low cost, distribution of deposits, and technological development have led to a rapid increase in methane consumption in recent decades. https://www.treccani.it/enciclopedia/metano_per cent28Enciclopedia-dei-ragazzi per cent29/ (page accessed on November 10, 2021).

(1) Nitrogen, combining with oxygen, gives rise to several compounds called NOx. Of these, the most important for air pollution are nitrogen oxide NO and nitrogen dioxide NO^2. Nitrogen oxide is a colorless and odorless gas. It is formed in any combustion process in which air is used as an oxidizer, by reaction between oxygen and nitrogen at high temperatures. About 10 per cent of NO, once released into the atmosphere, is converted to nitrogen dioxide by the action of solar radiation. Under strong radiation, nitrogen oxides also participate in photochemical reactions that give rise to secondary pollutants (ozone, photochemical smog). Nitrogen oxides also contribute to origin acid rain and promote the accumulation of nitrates on the soil, which can, in turn, significantly alter environmental ecological balances. https://www.arpa.vda.it/en/aria/l-inquinamento-atmosferico/2531-l-ozono (page accessed on November 11, 2021).

(2) Fluorinated gases are a family of man-made gases used in a wide range of industrial activities: as coolants in refrigeration, air conditioning and heat pumps (e.g., hydro fluorocarbons, HFCs), as insulators in power grid connections (e.g., sulfur hexafluoride, SF6), and in the electronics and pharmaceutical sectors (e.g., per fluorocarbons, PFCs). Fluorinated gases cause a powerful greenhouse effect, up to 23,000 times stronger than CO^2. These are released in smaller quantities, and EU legislation provides for their gradual elimination. https://www.legambiente.it/wp-content/uploads/2020/10/Domande-e-Risposte-sugli-Fgas.pdf (page accessed on

The first, carbon dioxide, is a GHG produced mainly due to human activity and is responsible for 63 per cent of man-made global warming. Its concentration in the atmosphere currently exceeds the level recorded at the beginning of the industrial era by 40 per cent(1).

The other mentioned gases are emitted in smaller quantities, thought they have the feature of capturing heat much more than CO^2, in some cases an index of a thousand times more. Methane is responsible for 19 per cent of anthropogenic global warming, nitrous oxide for 6 per cent.

There are many well-documented causes of increased emissions into the earth's atmosphere; the most relevant are:

- Burning of coal, oil and gas, producing carbon dioxide and nitrogen oxide in combustion;
- Felling of forests (deforestation). Deforestation is the permanent destruction of forests to use land or trees. According to data provided by Global Forest Watch between 2000 and 2012, 2.3 million square kilometres of forests (basically the land of Greece) were cleared.

November 11, 2021).

(1) https://www.nelmezzodelcammin.eu/relazione-le-cause-dei-cambiamenti-climatici/ (page accessed on November 10, 2021).

Harvesting, forest fires and insect infestations do not count as deforestation since the affected areas will eventually regrow, whilst causes of deforestation are as follows:

- Extraction. Increased mining in tropical forests is driving up damage due to growing demand and high mineral prices.
- Paper. About 640 million trees account for the paper amount thrown away each year, according to Environment Paper Network.
- Overpopulation. Because of overcrowding, more land is needed to establish housing and settlements.
- Agricultural expansion and livestock farming. A growing demand for products such as palm oil and soybeans are pushing producers to clear forests at an unnerving pace. Farmers often clear land for livestock using slash-and-burn (tree felling and burning) techniques.
- Climate change. Tropical rainforests are extremely humid because of water vapour released along with oxygen. But when a forest is cut down, moisture levels drop and cause the remaining plants to dry out[(1)]. Trees also help regulate the climate by absorbing CO^2 from

(1) https://www.isfe.it/sostenibilita/deforestazione-cause-conseguenze-e-rimedi.php (page accessed on September 20, 2021).

the atmosphere. By felling them, this action is lost and the CO^2 contained in the wood is released into the atmosphere, thus fuelling the greenhouse effects.

The impacts from deforestation are devastating:

- Increased GHG emissions. Trees become carbon sources once cut, burned or otherwise removed.
- Acidic oceans. Oceans are becoming more acidic with increased carbon dioxide input from deforestation and fossil fuel burning.
- Loss of species. Trees block the sun's rays during daytime and keep warm at night. This disruption leads to harmful temperature changes to plants and animals that lose their habitat and may even become extinct.
- Flooding and erosion. Without trees to protect fertile soil, erosion often occurs and sweeps land into nearby rivers. Erosion causes soil contaminants to seep into the water supply, reducing the quality of our drinking water.

The consequences of climate change

Compared to pre-industrial levels, the planet's average temperature has increased by 0.98° C and the trend observed since 2000 suggests that, in lack of effective

action, it could reach 1.5° C between 2030 and 2050[1]. The impact of global heating is already clear: Arctic Sea ice has decreased by an average of 12.85 per cent per decade, while coastal tide records show an average sea level rise of 3.3 millimetres per year since 1870.

The last decade (2009-2019) was the hottest on record and 2020 was the second warmest year ever, just below the maximum set in 2016. "Fire seasons" have become longer and more intense, as in Australia in 2019; extreme weather events, such as cyclones and floods, have increased every year since 1990, also striking at atypical times of the year and ever more devastating.

Phenomena such as El Niño have grown more erratic and caused dangerous droughts in areas already threatened by chronic aridity, such as East Africa, while the Gulf Stream is slowing and may be changing course. Plant and animal species are randomly shifting in ecosystems, wreaking incalculable damage to biodiversity around the world[2].

Defining all of this with the term "climate change" is correct but does not make the point enough. We need

(1) https://www.disa.unisa.it/unisa-rescue-page/dettaglio/id/1399/module/475/row/15049/cambiamenti-climatici (page accessed on October 10, 2021).

(2) https://www.disa.unisa.it/unisa-rescue-page/dettaglio/id/1399/module/475/row/15049/cambiamenti-climatici (page accessed on November 11, 2021).

to start talking about "climate crisis" because climate has always changed, but not so fast and not with such rigid and involved frames as the cities and the production system to which the most industrialized countries are accustomed(1).

Climate change affects all regions of the world. Polar ice caps are melting and sea levels rising. Extreme weather patterns and precipitation are becoming more prevalent in some regions, while others are suffering from unprecedented droughts and heat waves. These phenomena are expected to escalate in the coming decades.

Global warming

The phenomenon of raising the surface temperature of the planet, with particular reference to the Earth's atmosphere and the waters of the oceans, is global. A quote rises due to natural causes – such as solar radiation together with the natural greenhouse effect of the atmosphere – but an ample part of the warming can be traced to human activities: the use of fossil fuels, deforestation, and intensive livestock and farming are all causes of human-induced warming.

The United Nations Intergovernmental Panel on Climate Change (IPCC) pointed out in 2005 that the temperature

(1) https://giornalesm.com/san-marino-cambiamenti-climatici-e-tutela-della-nostra-terra-e-il-momento-di-agire-ora-di-alberto-forcellini/?cn-reloaded=1 (page accessed on November 19, 2021).

of planet Earth has increased by 0.74 ± 0.18° C during the past 100 years, noting that «most of the observed increase in global mean temperatures since the mid-20th century is most likely to be ascribed to the recorded increase in anthropogenic greenhouse gas emissions»[(1)].

This thesis supported by more than thirty international scientific boards. In the meantime, the IPCC has published on March 2023 the Climate Change 2023 report and the experts have found out that there is a more than 50% chance that global temperature rise will reach or surpass 1.5 degrees C (2.7 degrees F) between 2021 and 2040 across studied scenarios, and under a high-emissions pathway, specifically, the world may hit this threshold even sooner — between 2018 and 2037.

Global temperature rise in such a carbon-intensive scenario could also increase to 3.3 degrees C to 5.7 degrees C (5.9 degrees F to 10.3 degrees F) by 2100. To put this projected amount of warming into perspective, the last time global temperatures exceeded 2.5 degrees C (4.5 degrees F) above pre-industrial levels was more than 3 million years ago [(2)].

(1) https://timeforchange.org/climate-change-4th-report-of-ipcc/ (page accessed on May 08, 2022).

(2) IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_

Having this in mind, the conclusion of the Intergovernmental Panel on Climate Change (IPCC) in its latest report confirms that there's no time to lose to keep to the target of limiting the global average temperature to below 1.5°C. The IPCC Report found out that, despite progress in policies and legislation around climate mitigation since the previous such report in2014, it's likely that warming will exceed 1.5°C during the 21st century [1].

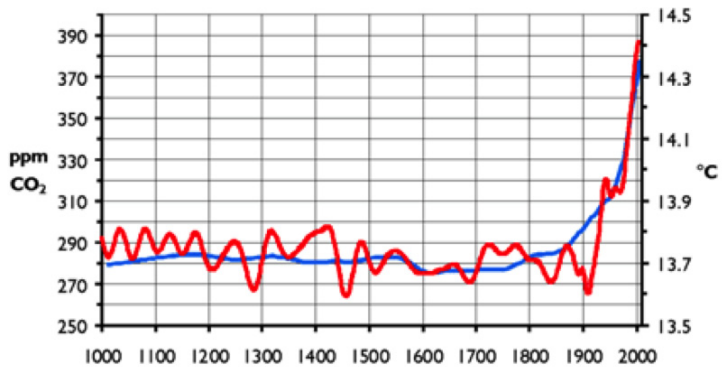

Figure 2 - Graph of temperatures (red) and carbon dioxide.

The following graph shows the values of CO^2 and the average temperature of the globe, measured over the last millennium;

SPM.pdf - page accessed on April 19, 2023

(1) Ibidem.

A pattern is fair: CO^2 levels rise sharply from the time of the Industrial Revolution (during the 1800s), and temperatures go *pari passu* with the increase in carbon dioxide(1). Power plants and other industrial facilities are major sources of CO^2.

The current global average temperature is 0.85º C higher than levels in the late 19th century. Each of the last three decades has been warmer than the previous decades since the first surveys began in 1850. The world's leading climate experts believe that human activities are almost certainly the main driver of the rise in temperatures observed since the mid-20th century.

Scientists, as threshold of a greater risk of dangerous and potentially catastrophic global environmental changes, report an increase of 2º C over the temperature of the pre-industrial era. For this reason, the international community has recognized the need to keep warming below 2º C(2).

Melting glaciers and rising seas

The melting of ice in the Arctic and Antarctic and the rising of the seas is now directly affecting the Earth's

(1) https://www.riscaldamentoglobale.it/migliorare-futuro/surriscaldamento_35.html (page accessed on November 11, 2021).

(2) https://www.nelmezzodelcammin.eu/relazione-le-cause-dei-cambiamenti-climatici/ (page accessed on November 12, 2021).

ecosystem and those who live on it. The melting of Arctic and Antarctic ice is one of the most dangerous effects of global warming.

As heat rises, by the greenhouse effect, not even the North or South Poles can keep a temperature to prevent the breakaway of huge chunks of ice from the polar caps and, as they melt, raising sea levels. Afar from affecting solely the Earth's extreme poles, it impacts even miles away. And here we hear about flooding and devastation on the coasts.

In detail, a study has been driven on changes in the mass of ice currently covering the Antarctic continent[1]. It was assessed with better accuracy that during the span 1992-2017, the gradual melting of Antarctic glaciers resulted in a rise of 8 millimetres in sea level, as well as the increase in melt rate in some parts of Antarctica[2].

In 2015, NASA models suggested that sea levels would rise by 90 cm within this century: now, based on new studies and simulation, NASA is more hopeful, suggesting

(1) Chunxue Yang, et alt., The Rapid Warming of the North Atlantic Ocean in the Mid-1990s in an Eddy-Permitting Ocean Reanalysis (1982–2013), in Journal of Climate, Vol. 29, No. 15 (Aug. 1 2016), pp. 5417-5430.

(2) https://www.studiarapido.it/scioglimento-dei-ghiacci/ (page accessed on August 8, 2021).

an adjustment of about 30 per cent (about sixty centimetres higher than current levels).

The rise in global average temperatures we have been experiencing since the beginning of the industrial age is directly causing both rising sea levels – warming water – and melting glaciers. The two phenomena affect each other: the glacier, as it melts, increases the sea level, and in turn, the higher level causes the large coastal glaciers to dissolve faster.

With higher sea levels, the seeping of water beneath the "tongues" of large glaciers also grows, and they liquefy even faster, in theory: by studying the phenomenon in Antarctica (which "contributes" 20-25 per cent of the rise), NASA considers an unexpected interaction with the ground beneath the glaciers themselves, which would slow their melting.

When water leaks underneath a large ice sheet, the underlying soil – free of its weight – rises. In doing so, it returns to adhere to the base of the glacier and stops the infiltration of water. «It's like couch cushions, which bulge when you stand up – states Erik Ivins, co-author of the study – this process of infiltration and uplift slows the split-up of the glacier and ultimately its melting»[(1)].

(1) https://www.focus.it/ambiente/ecologia/riscaldamento-globale-di-quanto-salira-il-livello-dei-mari (page accessed on August 18, 2021).

The NASA study is the first to take this fact into account and use it to map the large and "fragile" Thwaites Glacier (in Antarctica), chosen because of its prominence: it's estimated its calving could trigger a series of ripple effects leading to a 3-meter rise in sea level. Even if these assessments were to be scaled back, the issue remains.

Current trends will take us to 1.5° C in 2030 compared to the pre-industrial era. However, to quote one of the authors of the IPCC report, this doesn't mean we have time until then to act.

New York, San Francisco, New Orleans, and London are just some of the cities that could disappear, as well as the entire land of Florida: a real doomsday scenario, that could cause mass migrations across continents and the worsening of situations such as disease, poverty, and violence caused by the constant decrease in available resources.

Entire areas of Northern Europe would be wiped out along with much of the east coast of the United Kingdom. Huge tracts of land in northern China would be submerged, along with countless islands in countries such as Indonesia and the Philippines[1].

(1) https://www.ambientebio.it/ambiente/global-warming-ecco-le-citta-che-saranno-sommerse-dallinnalzamento-dei-mari/ (page accessed on August 10, 2021).

The ice does not have to melt entirely to begin to notice the devastating effects of sea-level rise, of course. *TreeHugger*, for example, explains how Alaskan villages are already concerned about how to prevent melting ice from causing the land to disappear from under their feet. In August, in fact, the BBC reported on a small village, Kivalina, which could be completely submerged within a decade.

Extreme weather conditions and increased precipitation

The influence of anthropogenic GHG emissions on the climate is no longer a revelation; the effects are gradually noticeable and, pretty relevant, more and more recognized by both the scientific community and civil society. Even the water cycle has been threatened by the global heating[(1)].

The relevance of water – especially freshwater – for human life on Earth is fair: how hardened would our existence be in a shortage, if not unfeasible? Far from immediate, however, may be the insight into the mechanisms underlying the water cycle and the changes it can undergo when affected by exogenous factors (such as human action).

Heavy rainfall and other extreme weather events are

(1) Enrico Scoccimarro (et alt.), *Heavy Precipitation Events in a Warmer Climate*, in Journal of Climate, Vol. 26, No. 20 Oct. 15 2013), pp.7902-7911.

becoming ever more common, causing flooding and a worsening of water quality, and – in some regions – even the progressive scarcity of such resources.

Due to rising global average temperatures, the amount of water vapour in atmosphere is increasing. This trend is mainly due to two factors: the higher amount of water vapour due to high temperatures, leading to more vapours entering the atmosphere. This is mainly happening over the oceans, covering most of the Earth's surface.

The increased ability of the atmosphere to retain water vapour before it turns into rainfall: to allow vapour to turn liquid, specific chemical and physical conditions must be reached, known as "dew point"[1].

Once this critical point is reached, the vapour has essentially saturated the air, therefore no longer able to hold it within itself and gets rid of it as raindrops. However, the dew point is reached the more difficult the more the temperature increases. As the air warms up its potential to hold vapour in suspension rises, becoming generally "wetter".

These closely related features have several outcomes on the Earth system. On the one hand, the increasing

(1) https://www.duegradi.eu/news/precipitazioni-estreme/ (page accessed on September 7, 2021).

vapour in the atmosphere means raising the global average temperature even more. Indeed, it is the main GHG, capable of soaking up a large amount of infrared radiation by the Earth's surface[1].

Though, the raise of global average temperature means increasing the water vapour content of the atmosphere. Higher temperature, more vapour, more greenhouse effect, even higher temperature, even more vapour, even more greenhouse effect, and so on. On the other hand, the higher content of vapour in the atmosphere and the retained volume – before reaching suitable conditions for rainfall – change when and where these latter phenomena occur, affecting, even harshly, the lives of many people.

Indeed, data for the second half of the 20th century show, with "a good degree of reliability", an increase in average rain on a global scale of about 1 to 2 per cent for each additional degree in the atmosphere. At the same time, the days of extreme precipitation – "rare", at least until nowadays – as millimetres fallen within a day, is also rising[2].

The data on what has happened so far are confirmed, rather magnified, by forecasts of future climate. According to a recent IPCC report, by 2100 we'll globally see an

(1) Ibidem.

(2) Ibidem.

increase in the amount of extreme rainfall by as much as 8-20 per cent compared to 1981-2000. Moreover, rains defined "extreme" until recently will represent almost the norm: rainfall that used to be needed once every 20 years could occur once every 5-15 years. At the same time, trends in global-scale average precipitation are confirmed, which could gain a range of 2-6 per cent[1].

Such changes can be included amid the most impactful effects of human-induced climate change. Phenomena such as floods and long periods of drought are closely linked to many socio-economic issues: health, farming, industry, etc.

All this highlights the need in enforcing effective mitigation policies, in reducing the effect of our actions on climate, and – even more – of precise adaptation policies, to pre-empt us in the face of alterations, more confirmed and ever closer.

Consequences for Europe

The Mediterranean is one of the most endangered regions for the effects of climate change with impacts not to be underestimated: here, increased atmospheric concentrations of GHG have caused a substantial reduction

(1) Ibidem.

in annual rainfall[1].

The IPCC (The Intergovernmental Panel on Climate Change), the UN Science Panel, in its new report on the impact of climate change on the oceans and cryosphere (sea and land ice, at the poles and on mountains), joins the NRC's reports.

The latest dossier by WWF Italy, "The climate crisis in the Mediterranean: some data" also reports on climate emergency and critical issues in the Mediterranean regions. Due to rising water temperatures, tropical species have appeared and developed. Out of about 17 thousand species one thousand are alien – from other parts of the world – brought by boats or other human activities and then developed thanks to the favourable climate, in competition with native species already suffering from rising temperatures.

Rising temperatures in the Mediterranean may mean the disappearance of animal species and even marine flora due to oxygen deficiency. The issue of acidification, as a direct effect of increased carbon dioxide, implies the secure

(1) Leone Cavicchia (et alt.), *Mediterranean Tropical-Like Cyclones in Present and Future Climate*, in Journal of Climate Vol. 27, No. 19 (Oct. 1 2014), pp. 7493-7501.

extinction of all local coral species[1].

The crisis of the marine eco system also has a direct effect on mankind: destroyed the marine fauna, fishing will no longer be possible. Fishing in the Mediterranean is worth about 500 billion euros a year. A decrease means fewer jobs and less fish on our tables, affecting eating habits. Climate crisis compromises crops and food production, notably drought, which often causes fires with waste of harvests.

From the climate models observed so far, rainfall changes are already taking place in North Africa and the Eastern Mediterranean, and if carbon dioxide emissions continue at current levels, the risk could extend to southern Italy as well. The scientific team from the various institutes involved in the research has remarked that the growth of greenhouse gases could produce an increase in the variation of atmospheric flow on such a large scale as to further reduce low-pressure events and thus rainfall[2].

Although disagreements between different climate prediction models, almost all concur on one fact: the Mediterranean region will undergo a process of heavy desertification, with a 40 per cent decrease of rain during

(1) https://www.eni.com/it-IT/low-carbon/cambiamento-climatico-mediterraneo.html (page accessed on September 8, 2021).

(2) Ibidem.

the winter season. Global warming – unlike other areas, where complemented by an increase in rainfalls – here displays an exception to the rule.

The drought would be due to the meeting of two different features alongside warming climate: a change in the dynamics of upper atmosphere circulation and a reduction in the temperature gap between land and sea.

Although a single factor wouldn't be enough by itself to account for the abnormal reduction in rainfall, the combo of the two can fully account for the unique phenomenon of desertification in the Mediterranean area predicted by climate models.

The first of the two occurrences are due to the presence of high-altitude winds called "mid-range flows", which cause a strong and steady west-to-east weather pattern in Europe. In the northern hemisphere, those winds find obstacles (such as the Alps) up to a shift of high and low-pressure areas. But as the air warms, this variance undergoes changes, resulting in a high-pressure area over the Mediterranean, with little rainfall.

The second phenomenon – the diminished gap of warmth between land and sea – will be equally altered by climate change, since the earth is warming much faster than the seas. This, in turn, widens the pressure differential, increasing the high-pressure area. While models show that the land mass will warm by 3-4° C over the next century,

sea temperatures will "only" increase by about 2° C.

The effects of climate change in the Mediterranean are already clear in recent trends in the Middle East and North West Africa, experiencing already significant decline in rain. As the mechanisms are assumed, it could help ensure more effective actions, especially with regard to water management. Central and southern Europe is experiencing increasingly frequent heat waves, forest fires and droughts.

Northern Europe is becoming much wetter, and winter floods may become a recurring phenomenon. The report on the state of Europe's climate in 2019 released by the European agency Copernicus Climate Change Service (C3S) confirms the warming trend on the old Continent.

According to it, Europe is warming at a rate above the global average. «The temperature increase in Europe is about 0.9° C higher than the global one, and in recent decades the continent has also warmed faster than any other», the paper states. But it's not unexpected, since climate change affects the northern hemisphere of the planet the most. Although «other factors may be influencing».

The paper by the C3S also states that the global trend of increasing GHG emissions endures in some areas, despite efforts to reduce them. Scientists say we have to go back millions of years to find comparable levels. One of the most eye-popping changes is the record percentage of sunshine

hours in Western Europe, reflecting low cloud cover throughout the year. The lack of rain and heat caused serious problems for German crops and led many areas of France to enact watering constraint.

2019 was also marked by a November with four times the average rainfall in Western Europe and drought and heat in Central and Eastern Europe.

Although Copernicus explains that it is difficult to establish a direct cause-and-effect link between global warming and extreme events, the truth is that last year was featured by a series of record-breaking episodes. Besides the Arctic and heat waves, 2019 was marked by a series of major extreme weather events across the continent: from the highest tides in history in Venice, to flooding in the United Kingdom or the destructive series of storms in Spain.

In climate policy, governments across Europe have declared a state of climate emergency. Spain did so while recovering from the scourge of storm Gloria; Italy, France, Portugal, and several states and cities have also taken parallel measures.

Urban areas – in some areas in which 4 out of 5 Europeans now live – are exposed to heat waves and floods and rising sea levels, but are often ill prepared to adapt to climate change.

Consequences for developing countries

Poor developing countries are often the most affected. Their populations generally depend heavily on their natural habitats and have very few resources to cope with climate change. The survival of tens of millions of people around the world – especially in developing countries, and particularly in Africa – already depends, and will depend, increasingly in the near future, on their ability to adapt to and withstand the impacts of climate change and increasingly extreme happenings, such as prolonged and extremely harsh droughts, floods, cyclones, and hurricanes.

The planet's 48 poorest countries receive $2.4 to $3.4 billion a year in aid and funding directed at reducing the impact of the climate crisis. This is a derisory amount that equates to less than 1 cent a day.

The European Parliament presented a report on the impact of climate change on vulnerable populations in developing countries, considering that developing countries –minimally responsible for global warming – are most exposed and that the poorest and vulnerable populations in these lands, including women – who marks the 70 per cent of the world's poorest population – are the most affected since their homes are generally located in areas prone to floods, landslides, droughts and lack in methods to increase their resilience; more, they tend to live of farming, fisheries and other natural resource-based

activities, the presence of which may diminish or even disappear altogether. The effects of climate change will lead to an increase in the already huge number of people worldwide in need of humanitarian aid[1].

According to the OECD, the socioeconomic progress of LDCs is highly dependent on climate-sensitive sectors; ecosystem-based adaptation increases toughness and reduces the exposure of people and the environment to climate change. More, territories inhabited by 370 million people belonging to indigenous peoples cover 24 per cent of the world's land and contain 80 per cent of the planet's biodiversity.

A recent study has shown that increases in temperature and changes in rainfall regimes will result in more than a 20 per cent reduction in vegetation periods in areas of sub-Saharan Africa, the most at risk being those in East and Central Africa, such as Rwanda, Burundi, Ethiopia, and Niger, which, moreover, are the poorest on the continent.

Another report predicts that due to the drier climate, the extent of Indian land suitable for wheat cultivation will be halved by 2050. The decline in yield will expose at least 200 million people at risk of starvation.

«Poor countries, given their high dependence on natural

(1) https://www.europarl.europa.eu/doceo/document/A-9-2021-0115_IT.html#title1 (page accessed on October 5, 2021).

resources coupled with limited financial or institutional capacity to adapt to radical changes, are at serious risk», Dr. Zeigler said. «Helping poor farmers adapt to climate change will require a concerted international effort to improve crops, cultivation techniques, and soil and water management»[1].

In other parts of the world, increased rainfall will harm rice farmers. Researchers are developing rice varieties that can survive long periods of submergence, as well as varieties that are more efficient at converting sunlight and carbon into grain.

The costs to society and economy

Poorness and disparity are both a cause and an effect of weakness and related displacement; reducing shortage and inequality is per se linked to climate action and must clearly guide EU development policy, joined with other strategies driven to developing countries, as enshrined in Article 208 TFEU.

Exposure to climate change is an outcome of conflicts, as people with raising perilous access to vital resources – such as water land and food, in some cases due to water and/or land grabs, pollution and ecosystem decay – find themselves trapped in harsh conflicts, both to the disputed

(1) https://cordis.europa.eu/article/id/26762-helping-developing-country-farmers-adapt-to-climate-change/it (page accessed November 4, 2021).

resources and to ability to cope; addressing vulnerability is a key for conflict prevention and vice versa.

Damage to homes, facilities, and human health imposes diffused high costs; between 1980 and 2011, floods affected more than 5.5 million people and caused direct economic losses of more than 90 billion euros.

Activities depending heavily on issues, such temperatures and rain levels – such as agriculture, forestry, energy, and tourism – are severely touched.

Risks to indigenous peoples, nature and wildlife species

Forests are essential for carbon storage; protecting the rights and livelihoods of indigenous and local communities living in forests converge on woodland preservation; thus local communities play an essential role in the sustainable management of natural resources and the guarding of biodiversity.

A report by the United Nations Special Rapporteur on the Rights of Indigenous Peoples states that the cultivation of biofuel feed stocks such, as palm oil, and the making of large hydroelectric dams go against the protection of their rights and livelihoods and alter the carbon-cycle of biodiversity-rich woods; the IPCC expects global warming to reduce the catch potential of fisheries by more than 20 per cent by the end of this century: a serious threat to local fishing communities and the supply of protein to

undernourished populations.

In lack of agency, climate change in some tropical regions – heavily dependent on fisheries and un-resilient – is predictable to reduce edible biomass by between 30 per cent and 40 per cent by 2100. Yet, a growing body of research suggests that native peoples have a proven track record of adapting to climate variability by drawing on their traditional knowledge.

Climate change is occurring at such a rapid pace that many animal and plant species are struggling to adapt. Many terrestrial, marine and freshwater families have already moved to other areas. Some species will face a greater risk of extinction if the world's average temperature rises unimpeded.

Chapter II

International responses to the climate crisis

Climate policy has taken its place in the diplomatic world since the 1970s primarily determined by scientific awareness and socio-economic factors. In this sense, the response given by the international community to the climate and environmental issues begins in 1972 with the UN Declaration on the environment and reaches an important level with the Rio Declaration of 1992, which affirms, among others, the principle of sustainable development.

Numerous conventions have regulated the individual areas, including the protection of biological diversity, the ozone layer, and wetlands, against desertification[1].

The international answer to climate change is supported by the endless efforts of the Intergovernmental Panel on Climate Change (IPCC)[2], the United Nations body for

(1) Convention on biological diversity (CBD), Rio de Janeiro, 5 June 1992; Vienna Convention for the Protection of the Ozone Layer, Vienna, 22 March 1985; Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, Iran, 2 February 1971; United Nations Convention to Combat Desertification, (UNCCD), Paris, 17 June 1994.

(2) Created in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP), the objective of the IPCC is to provide governments at all levels with scientific information that they can use to develop climate policies. IPCC reports are also a key input into international climate change negotiations. The IPCC is an organization

assessing the science related to climate change. It provides regular appraisals of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

In this sense, in its last report, the Sixth Assessment Report (AR6) on climate change 2023, the experts described the shocking consequences of rising greenhouse gas (GHG) emissions around the world — the destruction of homes, the loss of livelihoods and the fragmentation of communities, for example — as well as the increasingly dangerous and irreversible risks should we fail to change course [1].

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of governments that are members of the United Nations or WMO. The IPCC currently has 195 members. Thousands of people from all over the world contribute to the work of the IPCC. For the assessment reports, experts volunteer their time as IPCC authors to assess the thousands of scientific papers published each year to provide a comprehensive summary of what is known about the drivers of climate change, its impacts and future risks, and how adaptation and mitigation can reduce those risks. An open and transparent review by experts and governments around the world is an essential part of the IPCC process, to ensure an objective and complete assessment and to reflect a diverse range of views and expertise. Through its assessments, the IPCC identifies the strength of scientific agreement in different areas and indicates where further research is needed. The IPCC does not conduct its own research.

(1) IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf (page accessed on April 19, 2023).

Infact, they stressed that there is a more than 50% chance that global temperature rise will reach or surpass 1.5 degrees C (2.7 degrees F) between 2021 and 2040 across studied scenarios, and under a high-emissions pathway, specifically, the world may hit this threshold even sooner — between 2018 and 2037[1].

The IPCC report offers hope, highlighting pathways to avoid these intensifying risks. It identifies readily available, and in some cases, highly cost-effective actions that can be undertaken now to reduce GHG emissions, scale up carbon removal and build resilience. While the window to address the climate crisis is rapidly closing, the IPCC affirms that we can still secure a safe, liveable future.

The first international's response to the climate crisis is the 1992 Framework Convention on Climate Change (UNFCCC), it was the acknowledgment of the problem and the structuring of the response: it's the first international reference document for the fight against climate change, defining the principles from which States must be guided in their action, including the precautionary principle, that of sustainable development.

The UNFCCC entered into force on March 21, 1994. Today, it has near-universal membership. The 198 countries

(1) Ibidem.

that have ratified the Convention are called. Preventing "dangerous" human interference with the climate system is the ultimate aim of the UNFCCC[1].

The Framework Convention effected as first by the Kyoto Protocol of 1997[2]. Mandatory measures committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets[3], based on the principle of historical responsibility in the generation of global warming.

Another milestone is the Paris Agreement, which was signed in December 2015 during the COP21 in Paris, after a process lasting several years, during which the objective – defined in such a way as to leaving wide margins of choice to diplomacy – was to reach an agreement or binding results. The main goal was to limit the global warning

(1) https://unfccc.int/process-and-meetings/what-is-the-united-nations-framework-convention-on-climatechange#:~:text=The per cent20UNFCCC per cent20is per cent20a per cent20 per centE2 per cent80 per cent9CRio,Rio per cent20Earth per cent20Summit per centE2 per cent80 per cent9D per cent20in per cent201992 (page accessed on October 22, 2022).

(2) The Kyoto Protocol was adopted on 11 December 1997. Owing to a complex ratification process, it entered into force on 16 February 2005. Currently, there are 192 Parties to the Kyoto Protocol.

(3) https://unfccc.int/sites/default/files/08_unfccc_kp_ref_manual.pdf (page accessed on October 21, 2022).

to well below 2° C, preferably to 1.5° C. Paris approach informed by resilience and centrality of the role of States has raised the global consensus on climate to a new level – in such powerful way that Daniel Yergin affirmed that we can define two eras: before and after Paris[1].

International Climate Conferences and Agreements

Over the last years, several meetings and conferences were organized to deal with the climate issue. Governments have jointly promised to reduce emissions and to slow global warming. After all, recent studies confirm that despite intensified diplomacy and governmental commitments, the climate change is getting worse.

The present chapter will extensively trace the different stages in history, convening on world conferences on climate and its life-threatening issues as main focus. Moreover, we will introduce a general timeline drafted by the Council on Foreign Relations in light of the continuous research on Climate issue [2].

(1) Daniel Yergin, The New Map. Energy, Climate and the Clash of Nations, New York, Penguin, 2020.

(2) Council on Foreign Relations UN Climate Talks, 2020, [online] Available at https://www.cfr.org/backgrounder/paris-global-climate-change-agreements?utm_medium=social_share&utm_source=emailfwd#timeline-38959?modal=true (page accessed on October 21, 2022).

The first world conference on the environment, 1972

The 1972 United Nations[1] Conference on the Environment in Stockholm was the first global summit to make the issue of the environment of imminent priority for the entire world. As outcome, the players adopted a set of criteria tending toward virtuous management. The relevant acts were the Stockholm Declaration and the Action Plan for the Human Environment, amid others.

The Stockholm Declaration – consisting of 26 principles – stressed that environmental issues should fully enter into the agendas of different nations and marked the beginning of a dialogue among advanced and developing countries, focused precisely on the link between economic growth, air, water and ocean pollution.

The action plan drove at three main goals:

- Comprehensive environmental appraisal program;
- Management activities;

(1) United Nations Organization (UN) was called the international body formed by states after the end of World War II. With this institution and by a system of consultation among the delegates of the member countries, it was sealed not to resort independently to the use of force without consent by the highest decision-making body, the Security Council, delegated in the most serious cases to intervene directly. https://www.treccani.it/enciclopedia/nazioni-unite_ per cent28Enciclopedia-dei-ragazzi per cent29/(page accessed on November 2021).

- International measures to support assessment and supervisory activities carried out at the national and international levels.

One of the major achievements of the Stockholm conference was the launch of the United Nations Environment Program (UNEP)[1], which has over time played a contributory role in the progress of following world climate conferences. UNEP concurred actively to the World Meteorological Organization (WMO) and in 1988 they formed the Intergovernmental Panel on Climate Change (IPCC).

This body's main task is to oversee and study global warming. In 1990 its first report highlighted the risk of global warming due to the increase in anthropogenic greenhouse gas emissions, mainly caused by fossil fuel use.

At the end of 1990, the European Union adopted the goal of stabilizing carbon dioxide emissions by the year 2000 at the level recorded in 1990, requiring member states to plan environmental protection and energy efficiency agencies. The aims set by the EU were the core for the deal of the United Nations Framework Convention on Climate Change (UNFCCC).

(1) UNEP, https://www.un.org/en/conferences/environment/stockholm1972 (page accessed on November 21, 2021).

Rio Earth Summit, 1992

This summit held in Rio on 1992 and called the Rio Earth Summit[1] was one of the first international agreements on climate change and is considered as the pillar of the future accords. As a result of the Rio Earth Summit – 1992 the UN Framework Convention on Climate Change (UNFCCC) was born. Its main aim was to prevent dangerous human interference in the climate system.

The UNFCCC, which went into force in 1994, recognized that human activities was one of the main causes of the climate crisis and defined the climate change as an issue of global concern. The weakness of UN Framework is that does not legally bind signatories to reduce greenhouse gas emissions and gives no targets or timetables for doing so. It encourages the ratifying countries to gather frequently under the form of Conference of the Parties, or COP[2].

(1) The Earth Summit, held in Rio de Janeiro from June 3 to 14, 1992, was the first world conference of leaders on the environment. It was also an unprecedented event on media impact and resulting policy and development choices. It was attended by 172 governments and 108 national decision-makers, 2,400 representatives of nongovernmental agencies, and more than 17,000 people joined the NGO Forum. The conference was also called Eco 92 (in Portuguese), The Earth Summit – though its official name is United Nations Conference on Environment and Development (UNCED).

(2) The last form of COP was held in Egypt, in Sharm El Sheikh, Glaskow

The Rio Earth Summit established that the concept of sustainable development was an attainable goal for all peoples of the world, regardless of whether they were at the local, national, regional or international level. It also acknowledged that combining and balancing economic, social and environmental concerns in meeting our needs is vital to sustaining humankind and that such an integrated approach is doable and right. It all requires a new sensitivity on how we produce and consume, how we live and work and settle on. This ground breaking concept – for its time – has sparked a lively debate both within governments and amid authorities and their citizens on how to ensure sustainability for development.

Another key outcome of the UNCED Conference was Agenda 21, a bold program of action calling for new strategies to achieve comprehensive sustainable growth in the 21st century. Its advices ranged from new approaches to education, new ways to preserve natural resources, and new ways to partake in a sustainable economy(1).

The «Earth Summit» achieved many great results: the

on November 2022 and known as COP27. We will discuss the results of this meeting in the coming paragraphs.

(1) https://undocs.org/en/A/CONF.151/26/Rev.1(vol.I) (page accessed on November 20, 2021).

Rio Declaration and its 27 universal principles; the United Nations Framework Convention on Climate Change (UNFCCC); the Convention on Biological Diversity; last but not least, the Declaration on Principles of Forest Management. It also laid the groundwork to found of the Commission on Sustainable Development; the holding of the first World Conference on Sustainable Development of Small Island Developing States in 1994; the negotiations for the establishment of the Fish Stocks Agreement(1).

After five years it became essential to monitor and review progress on Agenda 21. In 1992, the United Nations General Assembly was asked to hold a five-year review of progress since the Earth Summit. And so, in June 1997, the 19th Special Session of the General Assembly (also known as «Rio+5») convened to review the evolution made by countries, international firms and civil society in meeting the goals of Agenda 21 since the Rio Earth Summit(2).

FCCC Signatories 1995

The signatory countries on the UNFCCC gathered for the first in Berlin during the first Conference of the Parties

(1) https://www.un.org/en/conferences/environment/rio1992 (page accessed on November 21, 2021).

(2) United Nations, https://www.un.org/en/conferences/environment/newyork1997 (accessed on November 21, 2021).

known also as COP1. The United States pushed back against legally binding targets and timetables, but joined other parties in agreement to strengthen commitments on limiting greenhouse gases. The outcome document, known as the Berlin Mandate(1), lays the groundwork for the Kyoto Protocol to come, though admonished by environmental activists as a political solution that does not prompt immediate action.

Kyoto Protocol

The third session of the Conference of the Parties (COP3) took place on December 1-10, 1997. The Protocol, drafted and signed on December 11, 1997 by more than 180 countries, entered into force on February 16, 2005, after ratification by Russia. Currently, there are 192 Parties to the Kyoto Protocol.

Based on the principles and provisions of the Convention, with an annex-based structure, the treaty binds developed countries, and places a heavier burden on them under the principle of "common but differentiated responsibility and respective capabilities", because it recognizes that

(1) Council on Foreign Relations. *UN Climate Talks, 2020,* [online] Available at https://www.cfr.org/backgrounder/paris-global-climate-change-agreements?utm_medium=social_share&utm_source=emailfwd#timeline-38959?modal=true (page accessed on October 21, 2022).

they are largely responsible for the current high levels of GHG emissions in the atmosphere.

In its Annex B, sets mandatory emission reduction targets for 37 industrialized countries and economies in transition and the European Union. Overall, these targets add up to an average 5 per cent emission reduction compared to 1990 levels over the five-year period 2008–2012 (the first commitment period).

The targets for the first commitment period of the Kyoto Protocol cover emissions of the six main greenhouse gases, namely:

- Carbon dioxide (CO^2);
- Methane (CH^4);
- Nitrous oxide (N^2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs);
- Sulphur hexafluoride (SF^6).

The maximum number of emissions (measured as the equivalent in carbon dioxide) that a Party may emit over a commitment period in order to comply with its emissions target is known as a Party's assigned amount.

The 15 States who were EU members in 1997 when

the Kyoto Protocol was adopted, took on that 8 per cent target that will be redistributed among themselves, taking advantage of a scheme under the Protocol known as a "bubble", whereby countries have different individual targets, but which combined make an overall target for that group of countries. The EU has already reached agreement on how its targets will be redistributed.

Some EITs have a baseline other than 1990. The US has indicated its intention not to ratify the Kyoto Protocol. On December 15, 2011, the Depositary received written notification of Canada's withdrawal from the Kyoto Protocol. This action became effective for Canada on December 15, 2012.

An Adaptation Fund was established to finance concrete adaptation projects and programs in developing countries that are Parties to the Kyoto Protocol. The Fund is financed with the share of proceeds from clean development mechanism (CDM) project activities and other sources.

The Kyoto Protocol's first commitment period expired at the end of 2012. At the Conference of the Parties in Durban in 2011 and Qatar in 2012 a second commitment period, to expire in 2020, was agreed. Further European countries and Australia are participating alongside the

(then) 27 EU member states. They have pledged to reduce their emissions by an average of 18 per cent (as against 1990 levels) over the period 2013-2020. Within this framework the European Union pledged to a reduction of an average of 20 per cent.

The agreement is thus considered a milestone in global efforts to combat climate change. With the Kyoto Protocol, the international community agreed for the first time on binding targets and measures for combating climate change. The industrialized countries recognize their historical responsibility for global warming: accordingly, they (rather than the developing countries) are taking the first step by undertaking to cut emissions in the first commitment period.

The World Summit in Johannesburg

The natural follow-up to the Rio summit and the related initiatives, was the meeting held in Johannesburg, South Africa, in 2002. It had the virtue of adopting a political statement and a roadmap involving provisions for a broad range of issues. This summit, attended by more than one hundred heads of state and tens of thousands of delegates of authorities and nongovernmental bodies, led, after several days of debate, to decisions on water, energy,

health, agriculture, biological diversity amid various areas of concern.

On water, the Implementation Plan encouraged partnerships between the public and private sectors on guiding frameworks. With regard to energy, it was highlighted the need to vary supplies, as well as to add renewable sources. On health, commitments made in the fight against HIV/AIDS were emphasized, as well as the right of states to take the Agreement on Trade-Related Aspects of Intellectual Property Rights to uphold universal access to drugs.

On agriculture, global treaty on the WTO Agreement was planned, including market access and reduction of export subsidies.

On biodiversity, the Implementation Plan provided for the establishment of an international system to ensure fair and equitable benefit sharing from the use of genetic resources. The text contained provisions on the Kyoto Protocol on greenhouse gas reduction for nations that had approved it. Those originally declining the protocol were urged to ratify it without delay. Provisions also involved the creation of a global solidarity fund to eradicate poverty and the launching of 10-years programs to support local and national initiatives to hasten the transition to sustainable production and consumption patterns[1].

(1) https://www.un.org/en/conferences/environment/johannesburg2002 (page accessed on November 27, 2021).

Another world summit took place on September 14-16, 2005 at the United Nations headquarters in New York. More than 170 world leaders attended the date. Secretary-General Kofi Annan based the summit agenda on issues of his report *In Larger Freedom*.

World leaders agreed to take action broadly to try to solve or improve major global concerns. Governments made strong commitments to meet the development goals set out in the Millennium Declaration by 2015, pledging an additional $50 billion a year to fight poorness and finding innovative finance sources to ensure long-term debt sustainability. They also engaged themselves in trade liberalization and pledged to work attentively to better the growth aspects of the Doha Work Program.

Millennium Development Goals: 2008 Progress Chart

In 2000, all 189 Member States of the United Nations adopted the Millennium Declaration. The Declaration set out a collective vision for the future: a world with less poverty, hunger and disease, greater survival prospects for mothers and their infants, education for all, equal opportunities for women, an improved physical environment and a partnership between developed and developing countries to achieve these objectives. The eight Millennium Development Goals provide a framework of time-bound targets by which progress towards the fulfillment of the commitments in the Millennium Declaration is being measured.

The Declaration established 2015 as the target date for achievement of most of its quantifiable commitments. Half the period to this target date has now passed. This chart provides an assessment of progress towards a number of the key targets relating to each Goal. Trends are assessed on the basis of data between 1990 and the most recent year for which information was available as of June 2008, when this chart was prepared.

END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS *Make it happen*

Goals and Targets	Africa		Asia				Oceania	Latin America & Caribbean	Commonwealth of Independent States	
	Northern	Sub-Saharan	Eastern	South-Eastern	Southern	Western			Europe	Asia
GOAL 1 | Eradicate extreme poverty and hunger										
Reduce extreme poverty by half	low poverty	very high poverty	moderate poverty	moderate poverty	very high poverty	low poverty	---	moderate poverty	low poverty	low poverty
Productive and decent employment	large deficit in decent work (youth and women), moderate productivity	very large deficit in decent work (women), very low productivity	large deficit in decent work (youth), moderate productivity	large deficit in decent work (women), low productivity	very large deficit in decent work (women), low productivity	very large deficit in decent work (youth and women), moderate productivity	very large deficit in decent work (youth), very low productivity	small deficit in decent work (women), moderate productivity	small deficit in decent work, moderate productivity	small deficit in decent work (youth), moderate productivity
Reduce hunger by half	very low hunger	very high hunger	moderate hunger	moderate hunger	high hunger	moderate hunger	moderate hunger	moderate hunger	very low hunger	high hunger
GOAL 2 | Achieve universal primary education										
Universal primary schooling	high enrolment	low enrolment	high enrolment	high enrolment	high enrolment	moderate enrolment	---	high enrolment	high enrolment	high enrolment
GOAL 3 | Promote gender equality and empower women										
Equal girls' enrolment in primary school	close to parity	almost close to parity	parity	parity	parity	close to parity	almost close to parity	parity	parity	parity
Women's share of paid employment	low share	medium share	high share	medium share	low share	low share	medium share	high share	high share	high share
Women's equal representation in national parliaments	very low representation	low representation	moderate representation	low representation	low representation	very low representation	very low representation	moderate representation	low representation	low representation
GOAL 4 | Reduce child mortality										
Reduce mortality of under-five-year-olds by two thirds	low mortality	very high mortality	low mortality	low mortality	high mortality	moderate mortality	moderate mortality	low mortality	low mortality	moderate mortality
Measles immunization	high coverage	moderate coverage	high coverage	moderate coverage	low coverage	moderate coverage	moderate coverage	high coverage	high coverage	high coverage
GOAL 5 | Improve maternal health										
Reduce maternal mortality by three quarters*	moderate mortality	very high mortality	low mortality	high mortality	high mortality	moderate mortality	high mortality	moderate mortality	low mortality	low mortality
Access to reproductive health	moderate access	low access	high access	moderate access	moderate access	moderate access	low access	high access	high access	moderate access
GOAL 6 | Combat HIV/AIDS, malaria and other diseases										
Halt and reverse spread of HIV/AIDS	low prevalence	high prevalence	low prevalence	low prevalence	low prevalence	low prevalence	moderate prevalence	moderate prevalence	moderate prevalence	low prevalence
Halt and reverse spread of tuberculosis	low mortality	high mortality	low mortality	moderate mortality	moderate mortality	low mortality	moderate mortality	low mortality	moderate mortality	moderate mortality
GOAL 7 | Ensure environmental sustainability										
Reverse loss of forests	low forest cover	medium forest cover	medium forest cover	high forest cover	medium forest cover	low forest cover	high forest cover	high forest cover	high forest cover	low forest cover
Halve proportion without improved drinking water	high coverage	low coverage	moderate coverage	moderate coverage	moderate coverage	high coverage	low coverage	high coverage	high coverage	moderate coverage
Halve proportion without sanitation	moderate coverage	very low coverage	low coverage	low coverage	very low coverage	moderate coverage	low coverage	moderate coverage	moderate coverage	high coverage
Improve the lives of slum-dwellers	moderate proportion of slum-dwellers	very high proportion of slum-dwellers	high proportion of slum-dwellers	moderate proportion of slum-dwellers	high proportion of slum-dwellers	moderate proportion of slum-dwellers	moderate proportion of slum-dwellers	moderate proportion of slum-dwellers	low proportion of slum-dwellers	moderate proportion of slum-dwellers
GOAL 8 | Develop a global partnership for development										
Internet users	moderate usage	very low usage	moderate usage	low usage	low usage	moderate usage	low usage	high usage	high usage	low usage

The progress chart operates on two levels. The words in each box indicate the present degree of compliance with the target. The colours show progress towards the target according to the legend below:

- Already met the target or very close to meeting the target.
- Progress sufficient to reach the target if prevailing trends persist.
- Progress insufficient to reach the target if prevailing trends persist.
- No progress or deterioration.
- Missing or insufficient data.

* The available data for maternal mortality do not allow a trend analysis. Progress in the chart has been assessed by the responsible agencies on the basis of proxy indicators.

Negotiations Begin for Kyoto 2.0

Before COP13 – taking place from 3rd to 14th December 2007 in Bali, Indonesia – the UN Intergovernmental Panel on Climate Change (IPCC) released a scheme yet confirming that global warming is most likely caused by human activity.

During the conference, discussions begun on a stronger instrument than the Kyoto Protocol, but they came to a standstill after the United States objection to a widely backed proposal that calls for all industrialized nations to cut greenhouse gas emissions by specific targets. U.S. officials argued that developing countries had also to make commitments. A delegate from Papua New Guinea told the US to «get out of the way» if not willing to lead the international response to climate change. Washington eventually agreed to adopt the Bali Action Plan, which established the goal of drafting a new climate agreement by 2009.

Three months ahead of the target date for a new deal, several world leaders pledged actions during a UN summit on climate change hosted by Secretary-General Ban Ki-moon. Chinese President Hu Jintao announces a plan to cut emissions by a "notable margin" by 2020, as the first time Beijing commits in reducing its rate of greenhouse

gas emissions. Japanese Prime Minister Yukio Hatoyama secured to reduce emissions by 25 per cent. U.S. President Barack Obama, in his first UN address, guaranteed the United States as determined to act and lead, thought didn't present any new contribution.

Top leaders, including German Chancellor Angela Merkel, French President Nicolas Sarkozy, and U.S. President Barack Obama, weren't able to reach a deal in Copenhagen.

Copenhagen -COP15

The heir to the Kyoto Protocol was supposed to be finalized at COP15 in Copenhagen, but the parties only come up with a nonbinding document that is "taken note of", not adopted. The Copenhagen Accord acknowledges that global temperatures should not increase by 2° C above preindustrial levels, though representatives from developing countries sought a target of 1.5° C[1]. After leading the negotiations, U.S. President Barack Obama told the conference that the deal was "not enough." Some countries later vowed to line up with the accord – though nonbinding – and make their own pledges.

(1) A 2009 report from the American Meteorological Society predicts a 3.5°C to 7.4°C increase in less than one hundred years.

Results achieved in Cancun

There was increased pressure to reach a consensus in Mexico during COP16 after the failure in Copenhagen and NASA's announcement that 2000–2009 was the warmest decade ever recorded. Countries committed for the first time to keep global temperature increases below 2° C in the Cancun Agreements. Approximately eighty countries, including China, India, and the United States, as well as the European Union, submitted emissions reduction targets and actions, convening on stronger monitoring mechanisms. But analysts stated as inadequate the threshold of 2° C. The Green Climate Fund, a $100 billion budget to assist developing countries in mitigating and adapting to climate change, is also established. As of 2019, only around $3 billion has been effectively contributed.

Durban conference 2011 – COP 17

The United Nations Climate Change Conference in Durban, South Africa, was held from 28 November - 11 December 2011. The conference involved a series of events, including the seventeenth session of the Conference of the Parties (COP 17) to the UN Framework Convention on Climate Change (UNFCCC) and the seventh meeting of the Conference of the Parties serving as the Meeting of Parties to the Kyoto Protocol (CMP 7).

The Conference in Durban was a significant stage in the climate change negotiations. In Durban, governments recognized the importance of reaching a new universal agreement to deal with climate change beyond 2020, where all will play their part to the best of their ability and all will be able to reap the benefits of success together. In short, all governments committed in Durban to a comprehensive plan that would come closer over time to delivering the ultimate objective of the Climate Change Convention: to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent our dangerous interference with the climate system and at the same time will preserve the right to sustainable development [(1)].

The conference collapsed after the world's three biggest polluters – China, India, and the United States – rejected an accord by the EU But they eventually agreed to work toward drafting a new, compulsory, agreement in 2015 at the latest. It would differ from the Kyoto Protocol in order to cover to both developed and developing countries. With the Kyoto Protocol set to expire in a few months, the parties agreed to extend it until 2017.

(1) https://unfccc.int/process/conferences/the-big-picture/milestones/outcomes-of-the-durban-conference

The Doha Amendment

Negotiators for COP18 granted to amend the document. The revision is known as the Doha Amendment, signed on December 2012 and adopted for a second committed period, starting in 2013 till 2020. The paper includes:

- New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 1 January 2013 to 31 December 2020;
- A revised list of GHG to be reported on by Parties in the second commitment period;
- Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

On December 21, 2012, the amendment was circulated by the Secretary-General of the United Nations, acting in his capacity as Depositary, to all Parties to the Kyoto Protocol in accordance with Articles 20 and 21 of the Protocol.

During the first commitment period, 37 industrialized countries and economies in transition and the European Community committed to reduce GHG emissions to an average of five per cent against 1990 levels. During the

second commitment period, Parties committed to reduce GHG emissions by at least 18 per cent below 1990 levels in the eight-year period from 2013 to 2020[1]; however, the composition of Parties in the second commitment period is different from the first[2].

Warsaw COP19

During the first week of COP19 in Poland organized in 2013, a group of developing countries, known as the Group of Seventy-Seven (G77) together with China proposed a new funding mechanism to help vulnerable countries deal with "loss and damage" caused by climate change. Developed countries opposed the process, so the G77's lead negotiators walk out of the conference. Talks eventually resume, up to produce an arrangement actually lacking in what developing countries asked. Countries also agree on how to implement an initiative to end deforestation known as REDD+, but analysts describe the conference as the "least consequential COP in several years".

(1) https://www.ohga.it/protocollo-di-kyoto-cose-e-cosa-prevede-il-primo-accordo-internazionale-sul-clima/ (page accessed on December 2, 2021).

(2) United Nations Climate change, The Doha Amendment, https://unfccc.int/process/the-kyoto-protocol/the-doha-amendment (page accessed on October 22, 2021).

Paris Agreement COP21

At the Paris Climate Conference[1] (COP21) in December 2015, 195 countries have adopted the first universal and legally binding agreement on the global climate. The Agreement was reached on 12 December 2015 and entered into force on 4 November 2016, following ratification by the EU.

The French President, Hollande, in his keynote during the conference, has addressed saying that «it is mandatory to define a reliable pathway that will allow us to fence in the increase in global warming. More, there must be a regular reporting of the progress achieved, every five years, with a mechanism for feasible correction. In addition, it is essential to reach a universal agreement, although diverse, based to different levels of national development; this agreement must be effectual. Lastly, it is necessary to maintain commitments and help developing countries in projects involving energy transition. To achieve these

(1) Nor should it be forgotten that at this very conference Pope Francis drafted the encyclical letter *Laudato sì. On Care for the Common Home*. For the first time the environmental issue becomes part of the Church's social doctrine. An Encyclical on integral ecology in which concern for nature, fairness to the poor, commitment to society, but also joy and inner peace are inseparable. https://www.vaticannews.va/it/papa/news/2018-05/papa-francesco-enciclica-laudato-si-ecologia-creato.html (page accessed on December 7, 2021).

goals, we must all commit ourselves, from public to private companies»[1].

The Paris agreement operates on two levels:

- Mitigation to reduce Greenhouse gas emissions. The agreement commits signatories to containing global temperature rise to within 2°C. To achieve this goal, emissions must be reduced. All actions to achieve the natural balance between emissions and the planet's absorption capacity.
- Adaptation, i.e., the ways of helping developing countries to establish their proper compensation due to damage caused by climate change and – at the same time –accelerate the transition to the use of mono-polluting and impactful energies on territories[2].

The Paris Agreement also provides a framework for financial, technical and capacity-building support to states in need. With the sole purpose of achieving the goal, very substantial financial funds are also brought into play that can be used particularly by countries in need of additional support. It reaffirms that developed countries should

(1) https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level (page accessed on December 4, 2021).

(2) Eugenio Campo, *L'accordo di Parigi sul clima (12 dic. 2015)*, in Rivista di studi politici internazionali, vol. 83, n. 3, 2016, p. 353.

take the lead in providing financial assistance to the most vulnerable nations, while also encouraging voluntary contributions from other parties for the first time.

Having this in mind, we can say that the agreement could be defined as a global action plan, intended to put the world back on track, with the aim of avoiding dangerous climate change and trying to limit the global warming below 2° C. In this sense, the Paris Agreement invited countries to formulate and submit by 2020 a long-term low greenhouse gas emission development strategy. In particular, in Paris agreement, the governments have agreed to [1]:

- Keep the average in world temperature below 2° C compared to at pre-industrial levels as a long-term goal;
- Limit the increase to 1.5° C, since this would significantly reduce the risks and impacts of climate change;
- Get global emissions to peak sooner possible, while recognizing that developing countries will need more time;
- Make rapid reductions thereafter in accordance with scientific solutions more advanced available.

Furthermore, the Paris agreement's document highlighted

(1) https://unfccc.int/sites/default/files/english_paris_agreement.pdf

the main elements of the Agreement that could be summarized as follows:

- Long-term goal: governments have agreed to keep increasing the global mean temperature well below 2 ° C higher than pre-industrial levels and to continue efforts to limit it to 1.5 ° C;
- Contributions: before and during the Paris Conference, countries presented plans global national climate action aimed at reducing their emissions;
- Ambition: Governments have decided to communicate their contributions for every 5 years set more ambitious goals;
- Transparency: they also agreed to communicate - to each other and to the public – I results achieved in the implementation of their respective objectives in order to ensure transparency and control;
- Solidarity: the EU and other developed countries will continue to provide funding for the climate to developing countries to help them both reduce emissions and become more resilient to the effects of climate change[1].

The importance of Paris agreement was clearly

(1) Ibidem.

transmitted in the speech of Mr. Ban Ki-moon, former Secretary General of the United Nations when he said «The Paris Agreement provides a viable blueprint to mitigate the serious threats to our planet. It sets clear targets to restrict rising temperatures, limit greenhouse gas emissions, and facilitate climate-resilient development and green growth»[(1)].

In fact, the Paris agreement has raised the international awareness to the climate issue and Daniel Yergin affirmed that regarding the climate issue we have to define two eras, the first is before and the second is after Paris[(2)].

Implementing the Paris Agreement

Just ahead of COP24 in Katowice, Poland, a new IPCC report warns of devastating consequences – including stronger storms and dangerous heat waves – if the average global temperature rises 1.5° C above preindustrial levels, projecting it could happen by 2030. Despite that, countries didn't agree to stronger targets. They did, however, largely settled on the rules for implementing the Paris accord,

(1) Ban Ki-moon, Remarkable Stories of People Who Created the Paris Agreement, https://bankimooncentre.org/remarkable-stories-people-created-paris-agreement

(2) Daniel Yergin, *The New Map. Energy, Climate and the Clash of Nations, New York*, Penguin, 2020.

covering issues as how countries should report their emissions.

The discussion was pushed to 2019, when UN Secretary General António Guterres organized the UN Climate Action Summit for world leaders in New York. Countries were charged by the Paris Agreement to submit revised nationally determined contributions plans by the following year, so the meeting was a chance to share ideas. Heads of the world's top carbon-emitting countries – including the United States and China – however did not attend. At the summit, Guterres asked plans to cut greenhouse gas emissions by 45 per cent by 2030 and reach carbon neutrality by 2050.

A focus: United States withdraws from the Paris Agreement

Following through on a campaign promise, Donald Trump, former President of the United Stated of America, announced in June 2017 his intent to withdraw the United States from the Paris Agreement and officially pulled the nation out on November 4, 2020, the earliest possible date under the agreement and a day after the presidential election.

Despite Trump's announcement in 2017, US envoys continued to participate as mandated in UN climate

negotiations to solidify details of the agreement. Meanwhile, thousands of leaders nationwide stepped in to fill the void created by the lack of federal climate leadership, reflecting the will of the vast majority of Americans who support the Paris Agreement. Among city and state officials, business leaders, universities, and private citizens, there has been a groundswell of participation in initiatives such as *America's Pledge*, the *United States Climate Alliance*, *We Are Still In* and the *American Cities Climate Challenge*.

The complementary and sometimes overlapping movements aim to deepen and accelerate efforts to tackle climate change at the local, regional, and national levels.

The Paris Agreement and Biden

On his first day in office, on January 2021, President Biden sent a letter to the United Nations, formally signalling that the United States would re-join the Paris Agreement. Thirty days later (as required), on February 19, 2021, the nation was re-entered. Aside from joining the Paris agreement, Biden has pledged climate neutrality by 2050.

The executive branch wanted to deliver a clear message to the world that climate change and science diplomacy can never again be "add-ons" in USA foreign policy discussions and that addressing the real threats from climate change

and listening to the scientists is at the centre of its domestic and foreign policy priorities.

President Biden thus hosted on April 22, 2021 the Leaders' Climate Summit to galvanize efforts by the major economies to tackle the climate crisis(1).

The summit catalysed all efforts that keep the 1.5° C goal within reach and highlighted on how enhanced climate ambition will create good paying jobs, advance innovative technologies and help vulnerable countries to adapt to climate impacts.

During the meeting, the United States announced an ambitious 2030 emissions target as its new Nationally Determined Contribution under the Paris Agreement. The Summit reconvened the US-led Major Economies forum on energy and climate, which brings together 17 countries responsible for approximately 80 per cent of global emissions and global GDP.

The key themes of the Summit could be summarized as following:

- Galvanizing efforts by the world's major economies to reduce emissions during this critical decade to keep a

(1) The White House, Leaders' Climate Summit https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/26/president-biden-invites-40-world-leaders-to-leaders-summit-on-climate/ March 26, 2021

limit to warming of 1.5° C within reach;

- Mobilizing public and private sector finance to drive the net-zero transition and to help vulnerable countries cope with climate impacts.

The economic benefits of climate action, with a strong emphasis on job creation, and the importance of ensuring all communities and workers benefit from the transition to a new clean energy economy.

Spurring transformational technologies that can help reduce emissions and adapt to climate change, while also creating enormous new economic opportunities and building the industries of the future.

Showcasing subnational and non-state actors that are committed to green recovery and an equitable vision for limiting warming to 1.5° C, and are working closely with national governments to advance ambition and resilience.

Discussing opportunities to strengthen capacity to protect lives and livelihoods from the impacts of climate change, address the global security challenges posed by climate change and the impact on readiness, and address the role of nature-based solutions in achieving net zero by 2050 goals.

The USA administration believes its leadership represents

the best chance to course-correct in the global race to tackle climate change. They also believe that, the Biden's climate plan is the most comprehensive ever undertaken by a US President – and he intends to rally international leaders to cut emissions even more aggressively than under the goals of the Paris Agreement(1).

Appointment of John Kerry as Climate envoy

President Joe Biden's transition team announced on November 23rd that former Secretary of State John Kerry has been appointed to the special cabinet-level position of presidential envoy for climate. He will be the first climate official to have a seat on the National Security Council.

Once hired, Kerry stated on Twitter that «America will soon have a government that treats the climate crisis as the urgent national security threat it is [...] I'm proud to partner with the President-elect, our allies and the young leaders of the climate movement to take on this crisis at the President's climate envoy».

Few questions rose about the goal from nominating John Kerry in this position. The Council on foreign

(1) Nathan Hultman and Samantha Gross, https://www.brookings.edu/research/us-action-is-the-lynchpin-for-successful-international-climate-policy-in-2021/ (page accessed on March 1, 2021).

relations[1] answered by saying that, as former Secretary of state and Senator, John Kerry brings an extraordinary depth of experience to his new position. In 2009, when he assumed the gavel of the U.S. Senate Committee on foreign relations, he chose climate change as the focus of the first hearing he convened. As Secretary of state, he was lead negotiator in 2015 for the historic Paris Agreement. He also discussed the Kigali Amendment to the Montreal Protocol aimed at phasing out the production and use of hydro fluorocarbons, a potent global-warming agent with one thousand times the heat-trapping capacity of carbon dioxide.

As chair of the Arctic Council, Kerry steered the focus of the eight-nation consortium toward climate change mitigation and adaptation in addition to Arctic Ocean security and stewardship. The Council on foreign relations considers that Kerry's previous successes provide a platform upon which he can build to galvanize international action. His stature, name recognition, and track record give him instant credibility among world leaders[2].

(1) Alice C. Hill, Madeline Babin, *Biden's Climate Change Policy: Why His Special Envoy Role Matters*, https://www.cfr.org/in-brief/biden-climate-change-policy-why-climate-envoy-matters (page accessed on December 22, 2020).

(2) Ibidem.

As researches in the CFR Hill and Rabin affirmed in their exposé[1], the climate envoy will have a voice in the President's most important decisions about foreign affairs and national security.

Kerry will:

- Guide the nation's re-entry into the Paris Agreement;
- Aim to reopen dialogues – on a bilateral and multilateral basis – about climate change, seeking ways to reinforce international cooperation and bolster commitments for both mitigation and adaptation;
- Press the new administration to honour the United States' pledge to the UN Green Climate Fund designed to help the poorest nations deal with climate change;
- Strength alliances to address the accelerating crisis, as well as finding ways to push China to promote cleaner energy, especially in countries that are participating in its Belt and Road Initiative, will undoubtedly also be high on the agenda.

Madrid COP 25

COP25 organized in Madrid on 2019, is marked by a lack of progress on major climate issues despite a year of dire warnings

(1) Ibidem.

from scientists, record heat waves, and worldwide protests demanding action. Negotiators were unable to finalize rules for a global carbon market, and they disagreed over whether to compensate developing countries by the effects of climate change, including rising sea levels and extreme weather. The conference's final statement did not openly call on authorities to increase their climate commitments made under the Paris Agreement, and Secretary-General Guterres describes the talks as a lost opportunity.

Talks Postponed Amid Coronavirus Pandemic

The United Nations postponed COP26 – originally scheduled for November 2020, because of the pandemic of a new coronavirus disease, known as COVID-19 – to 2021 in Glasgow. Countries were expected to strengthen their emissions reduction goals set under the Paris Agreement. Amid the pandemic, emissions felt worldwide anyway, as many countries adopted nationwide shutdowns that drastically slowed productivity. Experts predicted these cuts wouldn't have lasted due to the pressure on governments to boost output and, disregarding the environment, to save their struggling economies.

Cop 26

When it comes to climate change, it is a must to say

that if the governments had respected the agreements, we would have already saved the world. Surely it would have been better to act earlier, ten or fifteen years ago, but at least the seriousness of the situation is recognized.

The United Kingdom hosted the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow on 31 October – 13 November 2021. The slogan devised by the British was, **Let's unite the world to tackle climate change**. It was a slogan that matched the work carried out with governments and firms to ensure everyone delivers on what was agreed in the Glasgow Climate Pact, turning momentum into action.

The UK presidency of COP26 committed to progress in a transparent and inclusive way with all countries. There has been extensive involvement with countries such as Chile (the COP25 chair) and Italy (the partner for COP26 and the pre-COP host), as well as with the UNFCCC secretariat.

The COP26 summit brought parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. In fact, experts considered that the COP26 was the first official occasion since the 2015 Paris Agreement for countries to revise their nationally determined contributions (NDCs)

for the 2030 targets and to offer long-term greenhouse-gas reduction strategies to 2050 [1]. Concretely, four are the goals were to be achieved by all countries that took part of the conference.

1. Reduce emissions by mid-century and maintain commitments on 1.5° C decrease.

Nations are asked to submit emission reduction projects for 2030. To meet these stretch goals, it will require countries to:

- Accelerate the phase-out of coal by boosting the use of other renewable energy sources;
- Reduce and indeed reverse deforestation;
- Accelerate the transition to electric vehicles;
- Encourage investment in renewable energy.

2. Help protect communities and natural habitats.

The climate is already changing and will continue with deadly impacts though we reduce emissions. Therefore, efforts must be increased and joined to prompt countries affected by climate change to enact certain practices:

(1) Pam Boschee, Journal of Petroleum Technology, https://jpt.spe.org/cop26-pledges-and-missed-targets?gclid=EAIaIQobChMImqLlpuDE_gIVJUKRBR37hARDEAAYAyAAEgIcDvD_BwE (page accessed on April 22, 2023).

- Protecting and restoring ecosystems;
- Building resilient defences, warning systems and infrastructure, and agriculture to prevent the loss of homes, livelihoods and even lives.

3. Mobilizing finance.

To achieve the first two goals, developed countries must make good on their promise to bond at least $100 billion a year in climate finance. International investors must play their part to unlock the trillions in public and private sector finance needed to secure global sharp zero.

4. Seek maximum partnership to achieve results.

The challenges of the climate breakdown can only be addressed through broad international alliance. A number of key objectives need to be achieved during COP26, training to other steps to be carried out later:

- Finalizing the Paris Rules (to make the Paris Agreement effectual);
- Accelerating action to address the climate crisis through teamwork amid governments, firms and civil society.

At the heart of COP26 were negotiations involving 197 UNFCCC countries.

The U.K. gathered countries to achieve a comprehensive, ambitious and balanced outcome that will advance agreed climate action and resolve key issues related to the UNFCCC, the Kyoto Protocol and the Paris Agreement.

The Paris conference set the target for warming below 2°, aiming for 1.5°, the Glasgow meeting kept it alive, on the path set by Paris. During the conference's internal diplomacy, delegates aimed to finalize the rules to implement the 2015 Paris Agreement and wrap up outstanding issues from COP25 in Madrid. They also sought to deliver all essential dealings for 2020 and 2021:

- Enabling ambition through carbon markets;
- Rules for transparent reporting of actions and support;
- Common timelines for emission reduction commitments;
- Enabling enhanced adaptation action;
- Preventing, minimizing, and addressing loss and damage;
- Tools of implementation, including decisions on a new target for global climate finance after 2025;
- Responding to science on emission reduction goal;
- Promoting equitable and inclusive climate action.

Having this in mind, the UK, confirmed during the COP26 that It will work side by side with COP27 Egypt Chair, COP28 UAE Chair, international partners, business, youth and civil society to deliver on common priorities and keep climate at the top of the international priority list.

It was not easy to the UK to bring together so many different countries with different agenda, diverse expectation and dissimilar needs. This has appeared undoubtedly from the absence of world leaders such as those of China, Russia, Brazil, Australia. Obviously, this has affected the results of the conference, that were never the desired ones.

So, the question that raises here is: What are the main results of the conference? It is important before listing the results of the conference, to underline that the outcomes of the COP26 are now known as the Glasgow Climate Pact.

During the COP26 the parties signed the Glasgow Climate Pact and agreed the Paris Rulebook. In this sese, the Glasgow Climate Pact was agreed as a result of the last day negotiations. It represents several decisions and resolutions that build on the Paris accord, it specifies what needs to be done to tackle climate change. However, it doesn't stipulate what each country must do and is not legally binding.

The hosting country of COP26, wanted to confirm the commitment of the participated countries in the Glasgow Climate Pact to strengthen its climate change targets to align with the Paris temperature pledge in 2022 – if pressing – as well as to deliver on the 2030 emission reduction targets, mostly via policies to end coal-fired power, stop deforestation, and switch to non-polluting vehicles (i.e., electric).

The UK, through chairing the COP26, desired to ensure that nations, both public and non-state-run financial institutions deliver on their commitments to reach the $100 billion target and would to increase public-private partnerships to support climate action, building on the South African Partnership for a Just Energy Transition; more, it will help parties to make progress on the post-2025 climate finance agenda.

While the Paris Rulebook gives the guidelines on how the Paris Agreement is delivered. As we have previously stated, the focus of COP26 was to secure agreement between all the Paris signatories on how they would set out their nationally determined contributions (NDCs) to reduce emissions.

The finalised Rulebook, includes agreements on:

- An enhanced transparency framework for reporting emissions
- Common timeframes for emissions reductions targets
- Mechanisms and standards for international carbon markets.

Moreover, the COP26 has carried commitments in a range of other areas such as forests, methane, car emissions, and private finance were also made. This included a commitment from 137 countries to "halt and reverse forest loss and land degradation" by 2030 (1).

Phasing out the use of coal for energy production was a key objective for the UK presidency. 190 countries agreed to phase down coal power, resulting in a 76% decrease in planned new coal power plants. Over 40 countries, several states and organisations declared their support for the global coal to clean power transition statement.

The Clydebank Declaration, which aims to decarbonise shared shipping routes was signed by 22 countries. Agreements were also signed between private business, and cities as well as countries, such as a declaration on accelerating the transition to 100% zero emission cars and vans by "2040,

(1) https://commonslibrary.parliament.uk/what-were-the-outcomes-of-cop26/#:~:text=The%20two%20headline%20outcomes%20from,also%20made%20during%20the%20conference. (page accessed on April 22, 2023).

and by no later than 2035 in leading markets" [1].

This means that, many positive points in favour of an agreement and a common line have emerged from the COP 26. As said before, an agreement was found and it was shared by 196 countries. It was decided to update its national plan, NDC, every year and not every five years as previously. Since the Conferences of the Parties will take place every year, at least we will get there with more accurate and up-to-date data.

There has been talk of abandoning coal, at least as regards the stop to public funding that provides for the use of fossil fuels. One of the clear objectives achieved concerns the reduction of greenhouse gas emissions by 45% compared to 2010 by 2030. Furthermore, by 2024, each state will have to count its own greenhouse gas emissions.

Another point in favour of the conference: USA and China agreed to work together in order to reduce climate change. For the first time in these conferences of the parties there was a talk of a global model with warming below 2°C, a number that indicates a critical edge for the environment and living beings.

Some points that only partially satisfied the participants

(1) Ibidem.

concerned the coal market: polluting countries must balance their emissions by financing projects with negative emissions towards other countries. This deal has not been approved by all parties. Similarly, the somewhat vague proposal of doubling aid to developing countries from the richest nations. There is no mention of dates, terms, numbers but only of the promise made in Paris to supply at least one hundred billion a year.

Some proposals have been accepted by most countries, but not by all. For example, halting deforestation by 2030: a point that has only been approved by 100 countries, those that host 85% of the world's forests. These nations have pledged to reduce logging, increase regeneration and protect local people.

The theme of the pollution of the seas and oceans, the loss of biodiversity, the rising waters with serious damage to coastal populations has been treated too marginally. We have seen the alarming situation of some countries such as the representative of the islands of Tuvalu who sent a video of himself immersed in sea water.

Reducing methane by 30% by 2030 was the option approved by only a hundred states, but not by all. Limiting the use of methane, controlling its waste and losses are commitments made only by some participating countries.

Similarly, the issue of intensive farming, which deserved more attention, was not addressed.

Having this in mind, the COP26 climate summit in Glasgow resulted in the Glasgow Climate Pact, which recognized the urgency of action to limit global warming to below 2°C or 1.5°C, and called for stronger national action plans to reduce carbon dioxide emissions, the phasing down of coal power and phasing out of "inefficient" fossil fuel subsidies, and doubling finance for supporting developing countries in adapting to climate change impacts. Countries agreed to submit stronger 2030 emissions reduction targets next year to close the gap to a 1.5 degrees C rise in temperature. However, cuts in global greenhouse gas emissions are still inadequate, and support for the most vulnerable countries affected by climate change is deficient.

Moreover, the COP26 climate summit failed to deliver on its objectives, with wealthy nations failing to make commitments to keep global warming to 1.5°C. Wealthy nations also failed to address the needs of the most vulnerable countries by not providing adequate funding for adaptation or committing to financing for loss and damage. Additionally, agreements in crucial areas fell short, such as countries' failure to make significant progress on

climate finance, and pledges for future action pose a risk of failure. Despite the shortcomings, COP26 did lead to positive outcomes, including a shift away from fossil fuels, an emphasis on nature and ecosystems, and a side deal to end deforestation by 2030.

Cop 27

In November 2022 from the 6th to the 18th, Egypt hosted the 27th UNFCCC Conference (COP27) in Sharm-El-Sheikh. We offer here a summary of the results, vision, goals and structuring of the conference. Egypt assumed the chairmanship of COP 27 with a clear awareness of the gravity of the global climate challenge but also with an understanding of the value of multilateral action as the only way to address this global threat.

The vision of Egypt's COP27 presidency has been to move from diplomacy and planning to fulfilment, to approach the practical viability of a full, timely, inclusive and large-scale action. Global efforts must be arranged if commitments are to be met; words must be turned into action. Globally, the increasing frequency and intensity of extreme weather events impacts the livelihoods of millions of people. Rising global average temperatures and rapid global warming are causing alarming consequences for humans and all other life on earth.

At this rate, the climate crisis will worsen the already existing social, economic and environmental threats. Therefore, urgent measures are needed to address the climate crisis. Collective efforts are essential to ensure a sustainable future for all.

Egypt's chair of COP27 has identified a number of themes focusing on a wide range of climate breakdown issues by running several topical days for focused discussions, including through side events, panel sessions, and other interactive formats to involve a wider audience.

Objectives and vision of Egypt

The following objectives essentially cover 4 areas, already outlined in the previous conference held in the UK, which in detail are: mitigation, adaptation, finance and collaboration.

Mitigation: proactive efforts are needed to limit global warming well below 2° Celsius and work to keep the 1.5° C target alive. This requires bold and immediate action and greater ambition by all parties. COP27 is a chance toward achieving the goals of the Paris Agreement to improve the enactment of the Convention. This year should see the providing of the Glasgow Compact invitation.

Adaptation: extreme weather events caused by heat waves, floods, and forest fires have become a daily fact of

our lives. World leaders, governments and state parties to the convention renewed their commitment to greater global action on adaptation at COP26. COP27 is invested to enact the necessary fundamental progress and to urge all parties to prove the will to strengthen resilience and assist the most vulnerable communities. Beyond the global goal on adaptation, COP27 should witness a backed global agenda for action, confirming Paris remarks and further in the Glasgow Compact.

Finance: the relevance of adequacy and predictability of climate finance is critical to achieve the goals of the Paris Agreement, to which end greater transparency of financial flows and facilitated access is needed, particularly to developing countries as Africa, LDCs, and SIDS. Existing commitments and pledges – from Copenhagen and Cancun, Paris and up to Glasgow – require follow-up to clear the state of the art and what still has to be done.

Collaboration: Advancing partnership and cooperation help achieve these four goals and ensure a more resilient and sustainable economic model would be adopted, where humans are at the centre of climate talks.

The settlements of COP27

Expectations for COP27 were not too high, although the consequences of climate change as well as inflation

and the Ukraine war in 2022 meant that the stakes were particularly high. Despite many doubts, the conference achieved a breakthrough and agreed officially on the support for victims of climate change. The financial benefits, which are intended to repair climate damage, are known as "loss and damage"(1). The best example of the need for this tool is the devastating floods in Pakistan. This is where climate justice is called for. Those who are most responsible for the drastic consequences of climate breakdown have a duty to make compensatory payments to the often low-emitting and heavily affected countries(2).

COP27 has resulted in an overarching cover decision called the Sharm el-Sheikh Implementation Plan, which reuses language on 1.5°C and phasing down coal from last year's summit. The outcomes of COP27 take the global ocean community forward on collective action to tackle climate change. Additionally, COP27 recognized the need for a robust global climate observing system, for systematic and standardized climate data, and for a coordinated approach to climate research and modelling.

While many praised the creation of the fund, many also worried not enough was done at COP27. It is time

(1) https://www.unep.org/news-and-stories/story/cop27-ends-announcement-historic-loss-and-damage-fund

(2) https://toposmagazine.com/the-results-of-cop27/

to reform the Multilateral Development Banks (MDBs). World Bank, International Monetary Fund, regional banks such as Asian Development Bank, African Development Bank, today are not equipped with a clear mandate to provide soft credit for climate change-related projects.

The fund actually remains a mere palliative that does nothing to prevent future damage. All Europe got in exchange was a commitment not to backtrack on the Glasgow pact; as a matter of facts, COP 27 in Sharm-El-Sheik did not address the reduction of pollutant emissions. The final agreement did mention "the urgent need for deep, rapid and sustained reductions in global greenhouse gas emissions" to limit global warming to 1.5° C above pre-industrial levels, the most ambitious goal of the Paris Agreement. Yet there were concerns that no real progress was made on raising ambition or cutting fossil fuel emissions since COP26.

A silence that is a victory for the pro-fossil fuel camp so far, which – with more than 600 representatives – has won another year of undisputed profits. Oil and gas, among the major drivers of the climate crisis, are omitted from the final text and will be discussed (perhaps) in a year's time in the United Arab Emirates.

The next COP will take place in Dubai in the United Arab Emirates at the end of 2023. By then at the latest,

countries are to submit their adjusted Nationally Determined Contributions (NDCs). In addition, the EU has promised to develop details of the planned financial umbrella for climate damage by then and to publish an exact figure on the funds available. Under the leadership of a country whose economy is 30 per cent oil-based, no official move away from fossil fuels can be expected at the COP in 2023 either.

The next months will have to thrust again on ambitious targets to improve the new NDCs of member states. In Dubai, a resolution has to be made to limit emissions at 2025 or at least well before 2030, and finally to indicate phase-out (abandonment) of fossil fuel subsidies at 2040 and a new fossil target (peak at 2025 with gradual phase-out with an expiration date). COP27 recognizes that keeping the 1.5° C target requires a 43 per cent reduction in emissions to 2030, compared to 2019. With current de carbonization commitments, however, the emissions cut would only be 0.3 per cent in 2030. Therefore, states that have not yet updated their de carbonization targets (DRGs) are urged to do so by 2023[1].

(1) https://www.aics.gov.it/oltremare/articoli/pianeta/cop27-ecco-cose-successo-in-egitto/

Chapter III

Institutional national actions: climate strategies and objectives

European Climate Diplomacy

The fight against climate change is considered today one of the most challenged goals for the European Union and it is one of the most urgent topics on its internal and international agenda. The European Union was among the first international players to highlight on the climate issue as a foreign policy topic and improved the concept of climate diplomacy going beyond the United Nations Framework Convention on Climate Change (UNFCCC).

The EU climate diplomacy played a fundamental part into the outcomes of the Paris Agreement and, since then, the EU's approach to climate diplomacy has been extended. Indeed, the climate policy has been integrated into the European foreign and security policy, and the link between energy, security, migration and climate change adaptation has been strengthened.

The European high interest in promoting the climate issue can be remarkably noticed through the results of the parliamentarian elections in the European Union. In this sense goes the growing presence of green political parties (European Green Party) in the European Parliament and in the national parliaments. The Green parties currently occupy 73 seats[(1)] in the European Parliament and they are gaining more and more acclaim. On 2022, the Greens

(1) European Parliament, Facts and Figures https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/698880/EPRS_BRI(2022)698880_EN.pdf (page accessed on August 11, 2022).

have won 15 per cent of the vote in the federal election in Germany and have reached their best result ever in an election[1].

The EU climate diplomacy includes the traditional tools, such as promotion of low-emission on all policy areas, resilient transformation in third countries, supporting the UNFCCC negotiations and developed narratives to stress different sides of intervention such as climate change mitigation, climate finance and adaptation, green trade, multilateralism.

The EU assembly voted on June 2022 in Strasbourg, France, to require automakers to cut carbon-dioxide emissions by 100 per cent into the middle of the next decade.

The mandate would consist in a prohibition compact on the sale, in the 27-nation bloc, of new cars powered by gasoline or diesel. The EU lawmakers also endorsed a 55 per cent reduction in CO^2 from vehicles in 2030, compared to 2021. The move deepens an existing obligation on the car industry to lower CO^2 discharges by 37.5 per cent on average at the end of the decade, compared to last year[2].

(1) DW, German elections 2022, https://www.dw.com/en/germanys-green-party-a-victory-that-doesnt-feel-like-one/a-59328354 (page accessed on August 11, 2022).

(2) *EU Parliament approves ban on new fossil-fuel cars from 2035, France24,* https://www.france24.com/en/europe/20220609-eu-parliament-approves-ban-on-new-fossil-fueled-cars-by-2035. (page accessed on June 9, 2022).

It is obvious that the European Union needs also for its own strategic interest, to manage climate menace. Researchers state that the efforts to ensure security and prosperity inside and outside European borders could all be jeopardized by uncontrolled climate change(1).

Simon Schunz, Professor in the Department of EU International Relations and Diplomacy Studies at the College of Europe, considers that the EU's role in influencing and improving the global responses to the climate issue – from both legal, environmental and diplomatic aspects – appeared in the European Parliament resolution on climate diplomacy issued on 2018(2).

Moreover, The European Green Deal of 2019 – a package of measures divided into 116 points – is considered the main action took by the EU in this filed. Since her candidacy to the Head of the European Commission, Ursula Von Der Leyen, announced that she wanted «a Europe that aims at more ambitious goals and to be the

(1) Luca Bergamaschi, Nick Mabey, Jonathan Gaventa and Camilla Born (eds.) *EU Foreign Policy in a Changing Climate: A Climate and Energy Strategy for Europe's Long-Term Security,* 2016, https://www.e3g.org/wp-content/uploads/E3G_EU_foreign_policy_energy_climate.pdf.

(2) S. Schunz, 2021, *The European Union's Strategic Turn in Climate Diplomacy: 'Multiple Bilateralism' with Major Emitters*, http://aei.pitt.edu/103401/1/edp_4-2021_schunz.pdf , College of Europe. (page accessed on December 22, 2022).

first continent to impact zero climate»[1].

These words summarize the ambitious goal of creating a greener and more sustainable future for the whole European Union.

Actions of the European Union

The EU actively participates in international forums whose decisions or recommendations feed directly or indirectly into the UN process. These include:

- Intergovernmental Panel on Climate Change (IPCC);
- G8 and G20;
- Major Economies Forum on Energy and Climate (MEF);
- Organization for Economic Cooperation and Development (OECD);
- International Energy Agency (IEA);
- Bilateral relations with non-EU countries;
- Policies and initiatives at the international and EU level;
- Funding to support developing countries in their efforts to combat global warming.

More, to accomplish the target of reducing GHG emissions until 2050, it has devised actions that can be sum up as follows.

(1) https://ec.europa.eu/commission/presscorner/detail/en/speech_19_6749 (Retrieved March 08, 2022).

Emissions Trading Scheme (ETS)[1]

The EU Emissions Trading Scheme (ETS) is the key tool for lessening GHG emissions in productive large-scale facilities, as well as in the aviation. The ETS covered about 40 per cent of total EU emissions in 2019. In 2020, the target was to be 21 per cent lower than in 2005.

The remaining share, about 60 per cent, pertains to:

- Non-ETS sector;
- Housing;
- Farming;
- Waste;
- Transport (excluding aviation).

EU countries have taken on mandatory threshold until 2020 for emission cuts in these segments (compared to 2005) under the "Effort Sharing Decision". The targets vary according to national wealth: from a 20 per cent cut for the wealthiest countries to a maximum 20 per cent increase for the least prosperous by 2020.

The Commission yearly surveys the evolvements and each country is required to report. The EU has also adopted

(1) The Emission Trading System (EU ETS) – known as the Emissions Trading Scheme (ETS) – operating in all EU countries plus Iceland, Liechtenstein and Norway, involves all companies producing climate-changing gases, such as CO^2. https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets_en (page accessed on October 8, 2021).

targets to increase the share of renewable energy in their bulk consumption by 2020 under the Renewable Energy Directive. These targets differ to reflect countries' different starting points in production and their ability to increase it, from 10 per cent of Malta to 49 per cent of Sweden.

The overall effect enables the EU, as a whole, to reach:

- A 20 per cent for 2020 doubling the 2010 level of 9.8 per cent;
- A 10 per cent of renewable energy in the transport sector.

Pursuing its actions to protect the environment and biodiversity, the EU also supports the development of low-carbon technologies, through a number of major, hard-hitting funding programs. Amid all, NER300 funding program for renewable energy technologies and carbon capture and storage. It consists of about 2 billion euros for innovative low-carbon technologies, focusing on carbon capture and storage (CCS) and commercial-scale renewable energy tools within the EU[(1)]. This program was established to support the test up of a wide range of opportunities:

- CCS technologies, pre-combustion, post-combustion, oxyfuel, and industrial usage;
- Renewable energy technologies, bioenergy, concen-

(1) https://ec.europa.eu/clima/eu-action/funding-climate-action/ner-300-programme_it (page accessed on November 02, 2021).

trated solar power, photovoltaic, geothermal, wind, ocean, hydro, and smart grids[1].

More, Horizon 2020 funding for research and innovation. These tools, which ended in 2020, were replaced in 2021 by new Horizon Europe funding[2], the new framework program devoted to research and innovation (R&I) for the period 2021-2027.

The goal is to strengthen the EU's science and technology base, including by developing solutions to address strategic priorities, such as green and digital transitions. The program also contributes to the achievement of sustainable development goals and strengthens competitiveness and growth. It's the EU's flagship initiative to support R&I, from concept to market. With a budget of EUR 95.5 billion – including EUR 5.4 billion from Next Generation EU – the program rounds out national and regional funding in R&I.

Horizon Europe consists of three pillars:

- Scientific Excellence. By fostering the development of high-quality knowledge and skills, this pillar strengthens the EU's scientific leadership. It supports frontier research projects through the European Research Council and stimulates investment in research infrastructure. Marie Sokolowski-Curie Actions fund

(1) Ibidem.

(2) https://www.consilium.europa.eu/it/policies/horizon-europe/(page accessed on November 04, 2021).

mobility, training and career development activities for researchers.

- Global Challenges and European Industrial Competitiveness. It addresses societal challenges and industrial agencies in health, digital technologies, climate, energy, mobility, civil security, food, and natural resources. There are plans to introduce innovation missions, like on smart and climate-neutral cities, as well as partnerships, e.g. on clean hydrogen. This pillar also includes activities carried out by the Joint Research Centre (JRC).
- Innovative Europe. Focuses on promoting all forms of innovation, in particular pioneering and disruptive innovation, through the European Innovation Council (EIC). It provides a sole desk for innovators with high potential to create future markets.

An additional part, supporting the entire program, furthers the expansion of excellence-based involvement by all member states. This will serve to optimize national research and innovation potential across Europe, thereby strengthening the European Research Area.

2030 climate and energy framework

As part of the European Green Deal, the Commission proposed, in September 2020 to improve the 2030 GHG emission reduction target – productions and removals as well – to, at least, 55 per cent below 1990 levels.

It reviewed actions in all areas, including efficiency and

renewable energy, and began developing detailed regulatory proposals by June 2021 to achieve the added target.

This will enable the EU to a climate-neutral economy and improve its commitments under the Paris Agreement by updating its nationally determined contribution.

Reducing GHG emissions by at least 40 per cent (from 1990 levels) has been implemented by the EU Emissions Trading Scheme, the Effort Sharing Regulation with Member State emission reduction targets, and the Land Use Change and Forestry Regulation. This way, all shares will contribute to achieve the 40 per cent target(1).

All three acts will now be updated to enact the proposed GHG emission reduction target of at least 55 per cent. The Commission submitted it in July 2021.

Governance system

Under the Energy and Climate Action Union Governance Regulation the process includes consultations with citizens and stakeholders. These goals are defined to put the EU on track to achieve the transition to a low-carbon economy as detailed in the Low Carbon Roadmap 2050.

The EU tracks its progress in reducing emissions through regular monitoring and reporting. Before proposing new policies, the Commission carefully assesses their potential impacts.

(1) https://ec.europa.eu/clima/eu-action/climate-strategies-targets/2030-climate-energy-framework_it (page accessed on November 06, 2021).

On October 29 2015, Commissioner for International Cooperation and Development Neven Mimica[1] announced a new phase of the Global Climate Change Alliance (GCCA) program, called GCCA+, with the aim of building a strong partnership amid the European Union and the most vulnerable developing countries in the fight against climate breakdown[2].

This project prolonged until 2020, involved the use of 350 million euros from EU funds with national and private investments. This financial support allows the EU to back the least developed countries and small island developing states, which will thus be able to have their own voice within international climate negotiations. Commissioner Mimica spoke on the issue, stating, «It is a key priority for the EU to support countries in need in their efforts to adapt to climate change while moving towards green and sustainable economies»[3].

The first phase of the Global Climate Change Alliance –

(1) Neven Mimica (Split, October 12, 1953) is a Croatian politician and diplomat, European Commissioner for International Cooperation and Development in the Juncker Commission since November 1, 2014. He was European commissioner for consumer protection in the Barroso II Commission from July 1, 2013 to October 31, 2014.

(2) https://www.assemblea.emr.it/europedirect/news/2015/global-climate-change-alliance-accordo-ue-paesi-in-via-di-sviluppo-nella-lotta-al-cambiamento-climatico (page accessed on November 04, 2021).

(3) https://ec.europa.eu/info/strategy/priorities-2019-2024_en (page accessed on November 06, 2021).

which began in 2007 – has already supported 51 programs in 38 countries and 8 regions, and plans to comprise about 120 partners including governments and institutions from EU member countries, Africa, Asia and Pacific countries, along with local authorities, civil organizations and private sectors engaged in implementing programs and policies(1), pre-dating the 2015 Paris Conference, COP21.

The Global Climate Change Alliance+ is also the largest European contribution to the Addis Ababa Action Agenda (AAAA)(2); the common goal of these multiple ventures is to steer international development and cooperation on a single path for the next fifteen years.

The new GCCA+ program will focus its technical support on three priority areas: mainstreaming climate change and poverty reduction; strengthening resilience

(1) https://progeu.regione.emilia-romagna.it/it/climatechanger/temi/notizie/2015/global-climate-change-alliance (page accessed on November 06, 2021).

(2) The Addis Ababa Program of Action was adopted at the Third International Conference on Financing for Development (Addis Ababa, Ethiopia, July 13-16, 2015) and later endorsed by the United Nations General Assembly in its resolution 69/313 of July 27, 2015. The program establishes a solid foundation to support the achievement of the 2030 Agenda for Sustainable Development. It provides a new global framework for financing sustainable development by aligning all funding streams and policies with economic, social and environmental priorities. Includes a comprehensive set of policy actions, with more than 100 concrete measures that draw on all sources of finance, technology, innovation, trade, debt and data to support the attainment of the Sustainable Development Goals.

to climate-related stresses and shocks; sectorial adaptation strategies with regard to climate change.

The main objective is to enhance the response efficiency of developing countries using ambitious and innovative approaches that refer to two milestones:

- GCCA as a platform for dialogue between the EU and vulnerable countries, also focusing on a renewed attention to issues on "climate finance";
- GCCA as a source of financial and technical support to the most fragile nations through the strengthening of ecosystem adaptation strategies(1).

Climate Action and Energy Commissioner Miguel Arias Cañete said, «This is an extraordinary initiative that shows how the European Union is strengthening climate finance to support the most exposed countries in taking action against climate change. And it also sends a clear signal in front of Paris that the EU stands by its commitments and is ready to continue in doing its part»(2).

The European Green Deal Investment Plan devises as follows:

- Increase funding for the transition, and mobilize at

(1) https://www.assemblea.emr.it/europedirect/news/2015/global-climate-change-alliance-accordo-ue-paesi-in-via-di-sviluppo-nella-lotta-al-cambiamento-climatico (page accessed on November 08, 2021).

(2) https://www.assemblea.emr.it/europedirect/news/2015/global-climate-change-alliance-accordo-ue-paesi-in-via-di-sviluppo-nella-lotta-al-cambiamento-climatico (page accessed on November 08, 2021).

least €1 trillion to support sustainable investments over the next decade through the EU budget and associated instruments, in particular Invest EU;

- Create an enabling framework for private investors and the public sector to facilitate sustainable investments;
- Provide support to public administrations and project promoters in identifying, structuring and executing sustainable projects.

Its timeline[1]:

- 11 December 2019: The EGD was presented;
- 14 January 2020: The EGD Investment Plan, as well as the Just Transition Mechanism, was presented;
- 4 March 2020: There was a proposal for a European climate law to ensure a climate neutral European Union by 2050. A public consultation was held on the European Climate Pact in regards to bringing together regions, local communities, civil society, business and schools;
- 10 March 2020: The European Industrial Strategy was adopted as a plan for a future prompt economy;
- 11 March 2020: There was a proposal for a Circular Economy Action Plan that focused on sustainable resource use;

(1) Henceforth EGD.

- 20 May 2020: The 'Farm to fork strategy' was presented to raise the sustainability of food systems. The EU Biodiversity Strategy for 2030 – which focuses on the protection of fragile natural resources – was presented;
- 8 July 2020: Adoption of the EU strategies for energy system integration and hydrogen to pave the way towards a fully decarbonized, more efficient and interconnected energy sector;
- 12 July 2020: The taxonomy for sustainable activities comes into force, to reduce green washing and help investors to choose green options;
- 17 September 2020: The 2030 Climate Target Plan was presented;
- 9 December 2020: The European Climate Pact was launched;
- 14 July 2021: The "Fit for 55" was presented by the European Commission, as a package containing a large number of law proposals to achieve the EGD;
- 5 April 2022: Adoption of several initiatives under the action plan :

  - as legislative proposal for substantiating green claims made by companies,

  - review of requirements on packaging and packaging waste in the EU,

- new policy framework on bio-based, biodegradable and compostable plastics,

- measures to reduce the impact of micro plastic pollution on the environment.

A socio-economic transition, at that scale, has never been witnessed and requires a comprehensive framework to guide sectorial transitions with an embedded just transition and financial flows, as well as ensuring high level of ownership in society.

The European Climate Law

On March 4, 2020 the European Commission adopted the legislative proposal for the climate law, then it was published in the Official Journal on 9th July 2021 and entered into force on July 29, 2021 under the title of The European Climate Law, a legal objective for the European Union to reach climate neutrality by 2050.

In this sense, the main aim behind was to make compulsory the objectives set by the Green Deal and to send a clear signal to partners and European companies on the irreversibility of the deal to achieve an ambitious 2030 climate target of at least 55 per cent reduction of net emissions of GHG as compared to 1990, with clarity on the contribution of emission reductions and removals.

This law concerns only the transition process but not the substance: does not comprehend specific articles on how to reduce emissions – which are dealt with elsewhere

– but establishes a five-year[1] cadence check for the whole EU if on the right path to achievement climate neutrality.

Each state will be required to report progress on an annual basis; if it should deviate from the main objective, then the Commission will be able to take corrective measures through new rule or specific recommendations.

The Climate Law includes assets by the text approved by the European Parliament and the Council[2]:

- A legal objective for the Union to reach climate neutrality by 2050;
- An ambitious 2030 climate target of at least 55 per cent reduction of net emissions of greenhouse gases as compared to 1990, with clarity on the contribution of emission reductions and removals;
- A process for setting a 2040 climate target, taking into account an indicative GHG budget for 2030-2050 to be published by the Commission;
- A commitment to negative emissions after 2050;
- The establishment of European Scientific Advisory

(1) Art. 5, par. 1, Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021.

(2) Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law').

Board on Climate Change, that will provide independent scientific advice;

- Stronger provisions on adaptation to global heating;
- Strong coherence across Union policies with the climate neutrality objective;
- A commitment to engage with sectors to prepare sector-specific roadmaps charting the path to climate neutrality in different areas of the economy.

Climate policy decisions are taken by majority among the member states and not any more by unanimously: EU countries no longer have the right of veto on matters of environmental type. Furthermore, the European Parliament is fully involved as a co-legislator; hence the decisions made are, in a certain sense, more equal.

Environmental Action Program (EAP)

The European adopted policies in climate issues are listed under the Environmental Action Program (EAP). The first EAP was adopted in 1973. Since that time, the European environmental policies have made quite significant progress.

The European environmental policy contributes to pursuing:

- Safeguarding, protecting and improving the quality of the environment;
- Protection of human health;

- Wise and rational use of natural resources;
- International promotion of measures to solve problems of the environment at a regional or global level.

In the phase of defining the first European environmental policies, many tools dealt with specific ecological problems. However, assuming that, no single policy can provide solutions to all harms, the policy spectrum itself has gradually extended to increasingly complex environmental and health problems.

Today, and after 48 years from the first European PAA, the European Union published on October 14, 2020 a plan for an 8th Environment Action Program (EAP). This is considered as a response to the unprecedented environmental, climate and sustainability challenges the European continent is facing.

It provides an opportunity for the EU, as a whole, to reiterate commitments to the 7th EAP's 2050 vision: to ensure wellbeing for all, while staying within the planetary boundaries(1).

The 8th EAP proposal calls for active engagement of stakeholders at all levels of governance, to ensure that EU climate and environment laws would be effectively implemented. It forms the EU's basis for achieving the United Nation's 2030 Agenda and its Sustainable

(1) https://ec.europa.eu/environment/strategy/environment-action-programme-2030_de (page accessed on September 22, 2022).

Development Goals[1].

It aims to accelerate the transition to a climate-neutral, resource-efficient and regenerative economy, which gives back to the planet more than it takes. It recognizes that human wellbeing and prosperity depend on the healthy ecosystems we operate in.

Building on the EGD, it has six priority points:

- Achieving the 2030 GHG emission reduction target and climate neutrality by 2050;
- Enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate breakdown;
- Advancing towards a regenerative growth model, decoupling economic growth from resource use and environmental degradation, and accelerating the transition to a circular economy;
- Pursuing a zero-pollution ambition, including air, water and soil and protecting the health and well-being of Europeans;
- Protecting, preserving and restoring biodiversity, and enhancing natural capital;
- Reducing environmental and climate pressures related to production and consumption – particularly in the areas of energy, industrial development, buildings and infrastructure, mobility and the food system.

(1) Ibidem.

EU, as pronounced in the previous sections, has been embracing several actions to lead the global climate ambitions; the war in Ukraine has changed the map of energy geopolitics and has affected several countries pledges to deliver their climate promises.

In this sense – and to familiarize with the new energy geopolitical state – German Chancellor Olaf Scholz has ordered the country's three enduring nuclear power stations to keep operating until mid-April, as the energy crisis sparked by Russia's invasion of Ukraine has been hurting world economy. Originally, Germany planned to phase out all those by the end of 2022.

The EU policies – as well as the European governments moves on climate adaptation – were co mpelled to take this scenario into consideration.

Chapter IV

National actions

The German approach

Germany traditionally owes its global influence to economic strength and a certain degree of soft power; today it is the European country with the most emissions due to coal and trying to become a climate pioneer in both domestic and international policies. The involvement in the fighting against global heating is increasing very fast and the current administration's plan is evidence on this.

The German approach is based on one clear principle: climate change is related to all aspects of the country's foreign relations. This principle is clear in German foreign domestic and foreign policies, and was strengthened during Mr. Heiko Mass mandate, and during the current foreign affair Minister Annalena Baerbock.

Germany classifies climate breakdown and its consequences as one of the biggest challenges for international politics and cooperation; there can be no peace without climate protection. This belief is reinforced by the latest assessment of the Report of the Intergovernmental Panel on Climate Change (IPCC)[1].

(1) Intergovernmental Panel on Climate Change, *Climate Change 2022. Impacts, Adaptation, and Vulnerability. Summary for Policymakers*. https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf, Retrieved December 05, 2022

Therefore, Chancellor Olaf Scholz government's professed in the coalition agreement[1] a German coherent climate foreign policy, including the climate change in the German National Security Strategy (NSS).

Climate politics is also geopolitics, in this sense, Baerbock emphasized that climate policy would be one of her central fields of action. Baerbock's plans for an ambitious Klimaaußenpolitik – climate foreign policy – are part of the new German management's broader efforts to turn emissions reduction into a cross-departmental affair[2].

To attain the goal, her bureau has appointed Greenpeace chief in Berlin Jennifer Morgan as Germany's climate envoy. This nomination marked a new high point for the climate movement's shift into the mainstream politics. Definitely, Minister Baerbock announced that there will

(1) German Federal Government, *Dare to make more progress. Alliance for freedom, justice, and sustainability. Coalition agreement of the SPD, Greens, and FDP*, December 2021, pp. 63, 123, 146. https://www.bundesregierung.de/resource/blob/974430/1990812/04221173eef9a6720059cc353d759a2b/2021-12-10-koav2021-data.pdf?download=1 (page accessed on December 5, 2022).

(2) Federal Foreign Office, *Security for the freedom of our lives. Speech by Federal Foreign Minister Annalena Baerbock at the event to launch the development of a National Security Strategy*, March 18, 2022: https://www.auswaertiges-amt.de/en/newsroom/news/baerbock-national-security-strategy/2517790 (page accessed on December 5, 2022).

not just be one climate ambassador but Germany will turn all 226 German foreign missions into climate embassies in all countries worldwide(1).

The Russian – Ukrainian conflict has been complicating the issue. In his first speech at the end of the year, German Chancellor stated that the decarbonisation of the country and the fight against emissions would represent the greatest transformation of the economy for over a hundred years, coming to influence many sectors and aspects of society.

In 2019, Germany was one of the first countries to adopt a climate law, which established an annual reduction in emissions for each sector, spreading it proportionally over the following years if the goal should not be achieved. Before that, climate goals were scattered in national laws, government programs or European and international sources.

However, already in 2021, also due to a series of criticisms from environmental movements close to the Greens, the Constitutional Court asked Parliament to update the text, whose post 2030 provisions were too vague. The

(1) Karl Mathiesen, Zia Weise, *Greenpeace chief: German government is place to 'make biggest difference'*: https://www.politico.eu/article/germany-government-greepeace-jennifer-morgan-climate-envoy/ (page accessed on December 5, 2022).

Bundestag – the German Parliament – has therefore set more stringent objectives, for example the achievement of climate neutrality in 2045 and a negative rate of emissions in 2050.

Furthermore, German energy policy has been at the centre of geopolitical tensions over Nord Stream 2, the project to build a second gas pipeline from Russia. In 2020, following the Navalny case, there was a serious argument on whether to stop the project, and the Greens, who are now in power, were the party most in favour of the premise. Germany thus, on February 2022, halted the Nord Stream 2 Baltic after Russia formally recognized two breakaway regions in eastern Ukraine.

Scholz government, to implement its climate agenda, is working on different levels such as multilateral framework of the Paris Climate Agreement, multilateral formats involving individual states, bilateral relations and domestic politics. In this sense, we introduce below two exemplary cases.

Internationally, the Federal Government actively supports environmental protection, cooperation on energy issues, and climate-friendly development. In line with the 2015 Paris Agreement, Germany is committed to limiting global warming to well below 2° C and ideally to 1.5° C.

The aim is to achieve broad GHG emissions neutrality worldwide, at the latest in the second half of the century.

Germany supports the EU Commission with regard to its "European Green Deal". This envisages the EU being a zero-carbon zone by 2050. To achieve it, CO2 emissions in all relevant economic sectors are to be considerably reduced.

Moreover, Germany decided on April 15, 2023 to shut down its last three nuclear reactors and stopped producing any electricity from nuclear power plants. This decision is considered an important step in the government's plan to ramp up its renewable energy.

Climate club

On June 2022, Germany hosted the G7 leaders annual meeting in the Bavarian town of Elmau, the main focus being the Ukrainian crisis and the climate breakdown. The hosting country tried to influence the G7 to commit to curb global warming, and one of the proposals was the creation of a "Climate Club" for countries willing to speed up in addressing the difficulty.

The promoter of the so called "Climate Club" was Yale economist and Nobel Prize winner William Nordhaus, who said the voluntary nature of existing climate deals hasn't led to enough progress. According to Nordhaus, the

primary rationale behind climate clubs is that partaking nations would agree to undertake harmonized emission reductions, and the ones that do not participate would be penalized[1].

He proposed that countries with a serious approach on emissions' reduction could get together, which jointly set ambitious goals, and exempt each other from climate-related trade tariffs, which non-members would be subject to. In the simplest sense, the concept of climate clubs is similar to any other society – members receive exclusive benefits for which non-members are rejected and, what's more, penalized.

At the end of the up-mentioned G7 meeting in Germany, Canada, France, Germany, Italy, Japan, the UK and the US announced the formation of a climate club aiming to advance ambitious and transparent climate change mitigation policies towards climate neutrality.

According to G7 statement on the Climate Club[2], three are the pillars:

(1) William Nordhaus, *Climate clubs: Overcoming free-riding in international climate policy*, in *American Economic Review*, *105*(4), 2015, pp. 1339-1370.

(2) G7 final statement, June 2022: https://www.g7germany.de/resource/blob/974430/2057926/2a7cd9f10213a481924492942dd660a1/2022-06-28-g7-climate-club-data.pdf (page accessed on December 12, 2022)

- Advancing ambitious and transparent climate mitigation policies to reduce emissions intensities of participating economies on the pathway towards climate neutrality, by making policies and outcomes consistent with the club's ambition, strengthening emissions measurement and reporting mechanisms, and countering carbon leakage at the international level.
- Transforming industries jointly to accelerate decarbonization, including through taking into account the industrial decarbonization Agenda, the Hydrogen Action Pact, and expanding markets for green industrial products.
- Boosting international ambition through partnerships and cooperation to encourage and facilitate climate action and unlock socio-economic benefits of climate cooperation and to promote just energy transition.

Members of the Climate Club would share best practices and work together to compare the effectiveness and economic impacts of each of their mitigation policies, such as explicit carbon pricing and other carbon mitigation approaches.

They would also use their influence to encourage developing countries to increase climate transparency and

decarbonize their energy and industrial sectors, including through financial, technical capacity support and technology transfer development and deployment[1].

The Alliance for Multilateralism

The "Alliance for Multilateralism" is an informal international network launched by Germany and France in September 2019. What makes it particularly attractive is the capacity to integrate non-state actors, companies and civil society bodies, for example, into initiatives with many stakeholders.

Berlin Energy Transition Dialogue (BETD)

The Berlin Energy Transition Dialogue (BETD)[2] is an annual conference hosted by the Germany Ministry of foreign affairs. In the past years the conference has become a leading forum for key stakeholders of the energy sector. High-level policymakers, industry, science and grassroots groups are given the opportunity to share their experiences and ideas on a safe, affordable and environmentally responsible global energy transition.

(1) Ibidem.

(2) The Berlin Energy Transition Dialogue is hosted and supported by the German Federal Government and is a joint initiative of the German Renewable Energy Federation (BEE), the German Solar Association (BSW), the German Energy Agency (DENA) and Eclareon.

Germany believes the 2050 neutrality target compels a broad cooperation in a new multilateral framework as a precondition for a global green transition. Over 2,000 participants from more than 90 countries, 50 foreign affairs and energy resources ministers and state Secretaries, and over 100 high-level speakers gather in the German capital every spring to be part of the Berlin Energy Transition Dialogue.

Appointment of special envoys

Several countries on 2021 have appointed special envoy for the climate issue. This step was considered one of the newest trends in international relations especially after the nomination of John Kerry as the USA special climate envoy(1). This action that aimed at raising the prospect of a greater role for climate diplomacy, was implemented also by Italy, Germany, China and Saudi Arabia.

We'll highlight the decisions taken by some of the abovementioned countries to appoint a special climate envoy, introducing their profiles and mention their main roles.

Special Envoy John Kerry of United States of America

«When it comes to fighting the climate change – climate change, I will not take no for an answer. I will do everything

(1) Daniel Klier, *Five climate trends for 2021*, https://www.business.hsbc.gr/en-gb/insights/sustainability/five-climate-trends-for-2021 (page accessed on March 08, 2022).

in my power to clean our air and water, protect our people's health, to win the clean energy future »[1].

Appointed as America's first Special presidential envoy for climate[2], Kerry would have a seat at every table around the world as he combats the climate crisis to meet the existential threat that the globe faces.

When John Kerry served as President Barack Obama's Secretary of state, he helped steer the negotiation of the Paris Agreement on climate change, locking down commitments from nearly 200 nations – including his own – to begin to reverse the dangerous warming of the planet[3].

Special Envoy Adel El Jubair of Kingdom of Saudi Arabia

«Today, we are ushering in a new green era for the region; in which we are collectively leading and reaping its fruits, in

(1) Joe Biden, Remarks by President Biden on Actions to Tackle the Climate Crisis, https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/07/20/remarks-by-president-biden-on-actions-to-tackle-the-climatecrisis/#:~:text=And%20when%20it%20comes%20to,grandchildren%20are%20counting%20on%20us. (page accessed on October 7, 2022).

(2) See p. 86.

(3) Lisa Friedman, John Kerry Pick, *Biden Selects a 'Climate Envoy' With Stature*, New York Times, https://www.nytimes.com/2020/11/23/climate/john-kerry-climate-change.html (page accessed on October 10, 2022).

our joint belief that the effects of climate change are not limited to the natural environment only, but also to the economy and security of our nations. »[1]

The Kingdom of Saudi Arabia has pledged to reduce carbon emissions to zero by 2060 and an upward strategy that the Kingdom began implementing years ago, during which the Green Middle East initiative was launched through a global summit held in Riyadh on 2021.

In this sense, the Middle East Green Initiative (MGI) is a regional effort led by Saudi Arabia to mitigate the impact of climate change on the region and to cooperate to meet global climate targets. By increasing regional cooperation and creating the infrastructure needed to reduce emissions and protect the environment, MGI can amplify impact in the global fight against climate breakdown.

MGI will not only deliver environmental impact, but will also create far-reaching economic opportunities. Sustainable development in the region will spur economic diversification, job creation, and private sector investment – thereby benefiting future generations while forging a greener future[2].

(1) Crown Prince Mohammed Bin Salman Bin Abdulaziz al-Saud, https://www.greeninitiatives.gov.sa/saudi-climate-vision/ (page accessed on October 7, 2022).

(2) *The Middle East Green Initiative (MGI),* https://www.greeninitiatives.gov.sa/about-mgi (page accessed on October 10, 2022).

Moreover, Saudi Arabia seeks to unify stakeholders across the region to prevent, mitigate and adapt to the risks posed by climate change. In line with KSA's efforts on international and regional arena to face the climate change's effects on human life, Saudi King Salman has appointed on May 2022, Minister of state for foreign affairs, Mr. Adel al-Jubeir as the kingdom's climate envoy(1).

Al-Jubeir is a veteran diplomat, with extensive experience in regional and international affairs, and has a wide range of relations, by virtue of his position as Minister, and before that, as head of Saudi diplomacy and the Kingdom's Ambassador extraordinary in Washington and representative at the UN.

If this appointment means anything, it signifies clearly the importance that the Kingdom – the world's largest crude oil exporter – assigns to the issue of combating climate change, reducing carbon emissions, contributing to global efforts, and placing these efforts at the core of Vision 2030, Saudi diplomacy and the strategy of economic diversification.

The kingdom announced the "Green Saudi Arabia" and "Green Middle East"(2) initiatives to improve the quality of

(1) Reuters, *King Salman appoints Al Jubeir as the Kingdom's climate envoy*, https://www.reuters.com/world/middle-east/saudi-king-salman-appoints-climate-envoy-ambassador-china-royal-decrees-2022-05-29/ (page accessed on October 10, 2022).

(2) The Green Middle East Initiative supports the coordination of efforts between the Kingdom and its regional and international partners to transfer

life by increasing reliance on clean energy, neutralizing the effects of oil, and protecting the environment. This includes launching a regional fund of more than 10 billion dollars to finance technical solutions in reducing carbon emissions and developing clean energies for multiple purposes, especially home cooking(1).

Special Envoy Jennifer Morgan of Germany

«No crisis is a greater threat to the future of humanity than the climate crisis»(2).

Germany, the biggest marketplace and the biggest CO^2 emitter in Europe has set for itself a set of goals on Climate issue.

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knowledge and exchange experiences, which contributes tin achieving a significant reduction in global carbon emissions, in addition to implementing the largest reforestation program in the world by planting 50 billion trees, 10 billion of which are in the Kingdom. It also launched the Green Initiative Foundation, a non-profit organization that seeks to support and ensure the implementation of the goals of the Green Saudi Initiatives and the Green Middle East. This institution includes sub-projects: the establishment of: a collaborative platform to accelerate the acceptance of the concepts of a circular economy of carbon; a regional center for carbon capture, use and storage; a regional center for sustainable development of fisheries; a regional center for climate change; a regional center for early warning of storms.

(1) *Green Middle East Initiative*, https://www.saudigreeninitiative.org/events-2021/middle-east-green-initiative-summit/# (page accessed on February 10, 2022).

(2) Jennifer Morgen, https://www.auswaertiges-amt.de/en/newsroom/news/morgan-bangladesh/2522094

Moreover, Baerbock – once appointed[1] – stressed the importance of tackling the climate crisis on her diplomatic agenda. She affirmed on her first working day as Foreign Minister that she will give international climate policies the space they deserve on the diplomatic agenda from day one[2].

The role of German special envoy, described as the new face on worldwide climate policy[3], is to expand partnerships with other countries and lead dialogue with civil society[4].

Morgan, an American citizen while appointed, acquired the German citizenship before being allowed to become a fully-fledged state secretary in the ministry, she has decades of experience in climate policy and is a very well-connected player to the international stage: she also served as the head of environmental NGO Greenpeace International.

She believes that the world needed unprecedented international cooperation to bring the world onto a 1.5° C

(1) Appointed as German Foreign Minister on December 2021.

(2) https://www.dw.com/en/germanys-new-foreign-minister-puts-climate-high-up-on-diplomatic-agenda/a-60065408 (page accessed on December 09, 2021).

(3) Julian Wettengel, *Germany bolsters climate foreign policy with appointment of Greenpeace head as special envoy*, on *Clean energy wire*, 10/02/2022 https://www.cleanenergywire.org/news/germany-bolsters-climate-foreign-policy-appointment-greenpeace-head-special-envoy (page accessed on October 10, 2022).

(4) Ibidem.

path and introduce an ambitious agenda for the phase-out of fossil fuels[1].

Special Envoy Xie Zhenhua of China

«We are developing countries. We need to develop and eradicate poverty while protecting the environment. We've done what we should do, but you [developed countries] haven't. What right do you have to lecture us?»[2]

China has set for itself a wide range of goals to face the climate crisis: increasing alternative energy to oil by 25 per cent, reducing domestic use of coal by 65 per cent, growing forest volume by 4.5 billion cubic meters[3]. The core is to reach the so-called "carbon neutrality" set by the recently reappointed President Xi Jinping for 2060.

China is strengthening its role in fighting climate change and the appointing of a special envoy is an action towards that path. Mr. Xie Zhenhua is a Chinese politician who served as vice-chairman of China's top economic development body, the National Development and Reform Commission as well as serving as China's special climate envoy.

In this sense, many foreign politicians and environmental

(1) Ibidem.

(2) Xie Zhenhua, Speech at the 2010 climate conference in South Africa.

(3) Stuart, Braun, *Is China the main climate change culprit?* https://www.dw.com/en/fact-check-is-china-the-main-climate-change-culprit/a-57777113 (page accessed on October 10, 2022).

activists assessed positively Xie's role in climate diplomacy[1] as he has been a driver behind China signing binding commitments to reduce emissions. Xie is seen as "China's voice on climate change". He has emphasized China's stance that rich countries have a greater responsibility regarding climate change, though China has been the world's largest carbon emitter since 2006[2].

Speaking at the COP27, Mr. Xie stated that China had no obligation to partake, but stressed his solidarity with those calling for more action on the issue from wealthy nations, and outlined the damage China had suffered from climate-linked weather extremes. He also affirmed that China would be willing to contribute to a mechanism for compensating poorer countries for losses and damage caused by global heating[3].

Special Envoy Alessandro Modiano of Italy

«Climate change is the key challenge of our time. Our generation is the first to experience the rapid rise in temperatures

(1) Jane Li, *China's Xie Zhenhua is the most important person attending COP26* (page accessed on October 19, 2022).

(2) Ibidem.

(3) Al Jazeera, China willing to contribute to climate damage compensation, 9 November 2022, in https://www.aljazeera.com/news/2022/11/9/china-willing-to-contribute-to-climate-damage-compensation?fbclid=IwAR1yHtdxU4IoNLSV20m2CWZcNT3Dja1LU-htgSzBEBu78sEdL9q3CNFMWOA (page accessed on 10 November, 2022).

around the world and probably the last to actually fight the impending global climate crisis.»[1]

Italy has an important role to play in the fight against climate crisis. This is due to its geopolitical position in the Mediterranean and its deep-rooted influence on the international economic stage, as it is the third-largest national economy in the European Union and the 9th largest in the world by nominal GDP[2].

The high expectation coming also from the results of the leading role Italy played on environmental issues with the Presidency of the G20 and the co-chairmanship of COP26 along with the United Kingdom, the Italian government has appointed on January 2022, Ambassador Alessando Modiano as Italian special envoy for climate.

This position has been chosen by the former Minister of foreign affairs and international cooperation, Luigi Di Maio, and the Minister for ecological transition (MiTE), Roberto Cingolani and will further strengthens Italy's leadership in the climate policy[3].

(1) Sergio Mattarella, https://www.quirinale.it/elementi/19230

(2) *Report by the International Monetary Fund for Selected Countries and Subjects*, in www.imf.org (page accessed on October 10, 2022).

(3) https://www.esteri.it/en/sala_stampa/archivionotizie/comunicati/2022/01/clima-i-ministri-di-maio-e-cingolani-nominano-il-diplomatico-alessandro-modiano-inviato-speciale-per-il-cambiamento-climatico/ (page accessed on October 10, 2022).

Modiano, appointed by Cingolani as Director General for European and international activities, will be the reference point for all external climate policies, carrying out an important liaison activity amid the foreign affairs bureau, the Ministry for ecological transition, diverse Italian agencies involved in fighting climate change[1].

Italian climate activists had welcomed the decision by Rome to appoint a special envoy following the example set by other countries to appoint prominent figures to similar roles, such as John Kerry in the United States. «With this appointment, Italy confirms its commitment and determination to reaffirm its leadership on a crucial issue for the survival of our Planet as we know it», commented Minister Di Maio[2].

Special Envoy Dr. Sultan bin Ahmed Al Jaber of United Arab Emirates

«The UAE is firmly committed to pursuing effective climate action solutions and we look forward to welcoming the world at COP28 next year»[3].

The UAE is paying the utmost care and attention to the climate topic, as it is an integral part of the country, of the

(1) Ibidem.

(2) Ibidem.

(3) Sheikh Mohamed bin Zayed Al Nahyan, Speech during the COP27 in Egypt, November 7, 2022.

history and the heritage[1]. Its leadership has been taking climate action in absolute regard. In this sense, the UAE believes if the world can come together now in a concerted effort to stop climate change, together we'll succeed in building a better, more secure and more prosperous scenario for everyone, everywhere.

To meet its commitments towards the climate crisis, and to implement its agenda in climate diplomacy since hosting the UNFCCC COP28 in 2023, the UAE has appointed in November 2020 the Minister of industry and advanced technology, Dr. Sultan bin Ahmed Al Jaber, as the special envoy for climate change and to represent the UAE in all international tables on the matter. Dr Al Jaber's experience is prominent, since the UN Secretary General Ban Ki-Moon appointed him in 2009 to his Advisory Group on Energy and Climate Change (AGECC), which published its final report in 2010. The outcomes from this report gave the basis of the *Sustainable Energy for All* initiative, launched in 2011.

The UAE, that considers the climate action as a chance to diversify economies by creating new growth in clean energy, was the first Middle Eastern nation to sign and ratify the Paris Agreement and the first country in the

(1) These were the words of the UAE's founding father, His Highness Sheikh Zayed Bin Sultan Al Nahyan, https://climateenvoy.gov.ae/en/ (page accessed on October 10, 2022).

region to submit its Nationally Determined Contribution (NDC) in 2015.

The UAE is facilitating climate action and innovation, through several partnerships: with the United States for the Agriculture Innovation Mission for Climate (AIM for Climate); with South Korea in the development of the 5,600 MW Barakah Nuclear Energy Plant; with France and Germany to maximize the social and economic benefits of environmentalism.

Climate Change litigation

Since the last decade, we are witnessing the spread of judicial cases in which the climate change issue is brought before the courts. In this sense, climate litigation is an emerging body of environmental law using legal practice to set case law precedent to further efforts from public institutions, such as governments and companies. In 2022, and to confirm the role of litigation in climate change cases, the Intergovernmental Panel on Climate Change (IPCC) recognised the role of litigation in affecting «the outcome and ambition of climate governance»[(1)].

Moreover, in the face of slow politics of climate change delaying, activists and lawyers have increased efforts to use

(1) IPCC, Mitigation of Climate Change, 2022 https://report.ipcc.ch/ar6/wg3/IPCC_AR6_WGIII_Full_Report.pdf (page accessed on September 9, 2022).

national and international judiciary systems to advance the effort[1].

In 2021, Germany's supreme constitutional court has ruled that the government's climate protection measures are insufficient to protect future generations and that the government had until the end of 2022 to improve its Climate Protection Act[2].

According to the Grantham Research Institute on Climate Change and the Environment, climate change litigation grows in importance year by year as a way of either advancing or delaying effective action on global heating[3]. The latest edition of the Institute annual report on global trends in climate change litigation takes stock of developments over the period May 2021 to May 2022, and draws on a number of

(1) Climate litigation typically engages in one of five types of legal claims, such as constitutional law, administrative law, private law, consumer protection and human rights. See AA. VV., *Climate change litigation - what is it and what to expect?*, in www.lexology.com, 27 February 2020 (page accessed on September 9, 2022).

(2) Kate Connolly, Historic German ruling says climate goals not tough enough, in *The Guardian*. Archived from the original on April 29, 2021 (page accessed on September 9, 2022).

(3) Joana Setzer, Catherine Higham, *Global Trends in Climate Change Litigation: 2022 Snapshot*, London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science, 2022 (page accessed on September 9, 2022).

recent case studies worldwide and also identifies areas where such cases are likely to increase in the future[1].

According to the Grantham Institute and the recent UNEP Global Climate Litigation Report, 1,587 climate litigation cases were brought between 1986 and 2020. Moreover, the report found that climate cases have nearly doubled over the last three years.

Urgenda case is one of those cases that have reached iconic status. Through this case, the Dutch Supreme Court has ordered the Dutch government to reduce its emissions immediately in line with its human rights obligations[2], confirming once again the deep connection between human rights and environment and the obligation of states to take measures in the occasion of foreseeable environmental risks.

However, a very recent advisory opinion of the Inter-American Court[3] went in this direction. The Court stated that the claim for a healthy environment is a human right in itself and the adverse effects of environmental degradation interfere with the enjoyment of human rights, specifically

(1) Ibidem

(2) Urgenda case, https://www.urgenda.nl/en/themas/climate-case/climate-case-explained/ (page accessed on September 9, 2022).

(3) The Inter-American Court of Human Rights, *Advisory opinion OC-23/17 of November 2017, requested by the republic of Colombia*, https://www.corteidh.or.cr/docs/opiniones/seriea_23_ing.pdf (page accessed on September 9, 2022).

with the right to life and personal integrity(1).

Urgenda has inspired many others across the globe, including young people in Colombia who sought to enforce fundamental rights to a healthy environment. Recently a coalition of French NGOs gained a similar result in 'L'Affaire du Siecle', a case that managed to attract the support of 2.3 million citizens.

Another original and easy media outlet form of social protest is increasing. On October 2022, in room 43 of London's National Gallery, two young women from the group Just Stop Oil(2), poured the content of tomato soup cans on Vincent van Gogh's masterpiece Sunflowers.

A general question arose: How much the sabotage against national heritage can have a positive return on climate advocacy? In this contest, Dr. Michael Mann, a University of Pennsylvania climate scientist, told the Associated Press that he worries vandalism «alienates many people we need to bring into the fold. People who are natural allies in the climate battle but will draw negative associations with climate

(1) Ibidem.

(2) The group Just Stop Oil wants the British government to halt new oil and gas projects. Just Stop Oil has drawn attention, and criticism, for targeting artworks in museums. In July, Just Stop Oil activists glued themselves to the frame of an early copy of Leonardo da Vinci's "The Last Supper" at London's Royal Academy of Arts, and to John Constable's "The Hay Wain" in the National Gallery.

advocacy and activism from such acts»[1].

Climate change and conflicts

The United Nations Development Programme (UNDP) has conducted several reports about the relation between climate change and conflicts. One of the analyses shows that many countries recognize climate change as a matter of national security, but also as a factor that exacerbates the drivers of diverse of conflict and security risks[2].

The United Nations Secretary-General recognized climate change as a "threat multiplier" in his 2009 report – Climate change and its possible security implications. The report identified mechanisms through which climate change can affect security: vulnerability, threats to food security and human health and increase exposure to extreme events; development, slowing down or reversal[3].

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(1) Associated Press, *UK: Climate protesters throw soup on Van Gogh's 'Sunflowers',* 15 October 2022 https://apnews.com/article/london-painting-climate-and-environment-b15e0092560b290c04920620b2d7c061(page accessed on September 9, 2022).

(2) UNDP, *A typology and analysis of climate-related security risks in the first round Nationally Determined Contributions*, 27 October 2020, https://www.undp.org/publications/typology-and-analysis-climate-related-security-risks-first-round-nationally-determined-contributions (page accessed on September 9, 2022).

(3) United Nations General Assembly, Report of the Secretary General, *Climate change and its possible security implications 11 September 2009*. https://www.securitycouncilreport.org/atf/cf/ per cent7B65BFCF9B-

A study entitled Climate as a risk factor for conflicts armed published by the experts of Nature journal, stated that between 3 per cent and 20 per cent of the conflicts of the last century were caused by factors linked to the climate and the risk will increase as a result of global warming[1]. They agree that climate has affected organized armed conflict within countries[2].

According to an analysis led by Stanford Athenaeum – with aims to investigate on how much climate change affects the risk of armed conflict – in a scenario with 4° C of warming – approximately the path we're on if societies do not substantially reduce emissions of heat-trapping gases, the influence of climate on conflicts would increase more than five times, leaping to a 26 per cent chance of a substantial escalation in conflict risk. Even in a scenario from 2 to 1.5° C of warming beyond preindustrial levels – the stated goal of the Paris Climate Agreement – the influence of climate on conflicts would more than double, rising to a 13 per cent chance[3].

6D27-4E9C-8CD3-CF6E4FF96FF9 per cent7D/sg per cent20reportper cent202009.pdf (page accessed on September 9, 2022).

(1) Mach, K.J., Kraan, C.M., Adger, W.N. et al. Climate as a risk factor for armed conflict. Nature 571, 193–197 (2019). https://doi.org/10.1038/s41586-019-1300-6 (page accessed on September 9, 2022).

(2) Ibidem.

(3) Ryan Davon, *Stanford investigates how much climate change affects the risk of armed conflict*, in *Sandford Journal*, 12 June 2019. https://news.

The impact of climate change on armed conflicts, and on human security in general, is a confirmed fact, and it is recognized over the last few years, as a central theme in the actions of states and in the debate within the main international decisional bodies. Fragile and natural resource-constrained contexts can provide fertile ground for violence and to extremist groups to flourish and extend their reach(1).

Terrorist groups are taking benefits from this situation as they are increasingly using natural resources as a weapon of war. Analyst Lukas Rüttinger from Adelphi, claims that «the more resources are scarce, the more power those who control them assume»(2). Indeed, there are several examples where violence and conflicts were motivated by the willingness to increase control over scarce natural resources.

An important recent case is that when the Islamic State (IS, ISIL or ISIS) seized control of water infrastructure in Syria and Iraq and has brought under its control several important dams on the Euphrates and Tigris as part of its expansion strategy and, particularly since 2014, has used water as a

stanford.edu/press/view/28445 (page accessed on November 10, 2022).

(1) Alec Crawford, *Climate change and state fragility in the Sahel*, in *Fride*, n. 205, June 2015. https://www.iisd.org/sites/default/files/publications/climate-change-and-state-fragility-in-the-Sahel-fride.pdf (page accessed on November 09, 2022).

(2) Joachim Wille, *Ein Klima für Terror*, 2017. https://www.fr.de/wissen/klima-terror-11052732.html (page accessed on November 10, 2022).

weapon in a number of ways. However, and apart from this, the Islamic State's engagement in the black-market oil trade, during its reign of terror, became a major income stream, through which it could fund its operations[1].

Likewise, in the Lake Chad Basin, the rise of Boko Haram has been partly aided, by climate change effects such as droughts, desertification, land degradation, and food insecurity, combined with rapid population growth and poor governance[2]. The scarcity of resources increased local competition for land and water and caused social tensions that led to conflicts.

Furthermore, a large area between Somalia, Kenya and Ethiopia looks like a sort of triangle of death due to a prolonged period of drought in which the rainy seasons have passed without making their contribution to those lands. According to the World Food Program (WFP), at least 13 million people are involved[3]. In this sense, Michael Dunford, WFP's

(1) Ana Swanson, *How the Islamic State makes its money*, in *The Washington Post*, 18 November 2015. https://www.washingtonpost.com/news/wonk/wp/2015/11/18/how-isis-makes-its-money/ (page accessed on November 10, 2022).

(2) Samuel Malik, *Economics of terrorism in Lake Chad Basin*. Institute for Security Studies, 2019. https://issafrica.org/amp/iss-today/economics-of-terrorism-in-lake-chad-basin (page accessed on November 10, 2022).

(3) World Food Programme, *Millions face hunger as drought grips Ethiopia, Kenya and Somalia*, 2022.https://www.wfp.org/stories/millions-face-hunger-drought-grips-ethiopia-kenya-and-somalia-warns-world-food-programme

Regional Director for Eastern Africa, warns that droughts in the Horn of Africa are becoming frequent and severe and are one of the key drivers of hunger across the region, devastating livelihoods and forcing families out from their homes[1].

For the above-mentioned motive, the belief is that the point of view of climate experts needs to be considered by agencies on conflicts and peace processes. Climate change is interacting with non-state armed groups in three main ways[2]:

- Increasingly contributing to fragility, especially by aggravating conflicts over natural resources;
- Having a progressively negative impact on livelihoods in many areas, for example with food insecurity. This particularly affects the most vulnerable groups of some populations, exposing them to both negative climate impacts and recruitment by armed and/ or criminal militias.
- The Non-State armed groups (Nsag) are increasingly us-

(page accessed on November 10, 2022).

(1) Ibidem.

(2) Climate Diplomacy, (2016) Insurgency, Terrorism and Organised Crime in a Warming Climate https://climate-diplomacy.org/sites/default/files/2020-10/CDpercent20Report_Insurgency_170724_web.pdf (page accessed on November 09, 2022).

ing natural resources as a weapon of war, such as water parcel.

Scientific data shows that climate stress is bound to worsen. In the Central African Republic, rising temperatures, droughts and heat waves, and a reduction in soil fertility are expected. In Iraq, there are fears that high temperatures, low rainfall and increased soil salinization could turn the entire Fertile Crescent region into a completely barren area by 2100.

This would erase the main source of livelihood for at least one fifth of the Iraqi population, which depends primarily on irrigated or rain-fed agricultural production. While in northern Mali, which is also heavily dependent on agriculture, the intricate social dynamics due to the sharing of resources in constant depletion could lead to a peak in violence and displacement.

The impact on people's health and well-being is severe, particularly where their survival depends on safe access to pasture, water and fertile soil[(1)].

Finally, the current relation between climate and conflict reinforces the need for immediate humanitarian action and resilience measures for the future. Major global efforts must

(1) ICRC, *When rain turns to dust*. https://www.icrc.org/sites/default/files/topic/file_plus_list/rain_turns_to_dust_climate_change_conflict.pdf (page accessed on November 09, 2022).

be made to limit climate change and to help people adapt to a changing environment.

Climate migration

Climate emergency on vulnerable populations may worsen the flow of migration to member states[1]. People forced to flee their countries due to the effects of climate change are currently not entitled to seek asylum, subsidiary or temporary protection. Temperature breakdown and ensuing natural disasters have become common drivers of migration, affecting the exercise of fundamental rights, which will be further worsened as the environmental consequences of global heating escalate.

The majority of climate-induced migrants are likely to come from rural areas, as their livelihoods often depend on climate-sensitive sectors, such as farming and fishing. There are other environmental features – linked to man-driven changes – such as marine and coastal ecosystems abuse, land and water grabbing, environmental disasters and pollution caused by conflicts, acting as risk generators and drivers of migration, mostly amid exposed folks highly dependent on

(1) For an overview of the topic, see Enrico Barich, *Dinamiche delle popolazioni, scambi culturali e risposte ai cambiamenti climatici in Africa: Il primo Workshop del Forum per l'Archeologia e l'Eredità Culturale Africana (Roma, 19-21 aprile)*, in *Africa: Rivista trimestrale di studi e documentazione dell'Istituto italiano per l'Africa e l'Oriente*, Year 50, No. 4 (Dec. 1995), pp. 544-549.

local natural resources.

Climate-induced displacements are expected to increase with extreme weather events and due to rising sea levels, and many countries are reaching the limits of adaptation and disaster risk reduction measures, which require much greater international cooperation. There's a growing belief that addressing and answering climate change-related migration is largely an evolving-related challenge.

In some developing countries, local and regional governments have begun to strengthen displacement risk management and seek sustainable solutions for affected communities in disaster risk reduction plans and climate adaptation strategies, while cooperating with their counterparts in initiatives such as the Covenant of Mayors.

The UN Global Compact for Safe, Orderly and Regular Migration emphasizes that global heating is a driver for people to leave their homeland and commits countries to improve the availability of regular migration corridors, even for displaced folks who cannot return to their countries of origin.

The UN Global Compact on Refugees recognizes that forced external displacement can be caused by sudden natural disasters and gradual environmental decline, and notes the need for guidance and support to assist people ousted by calamities[1].

(1) https://www.europarl.europa.eu/doceo/document/A-9-2021-0115_

Furthermore, experts are expecting that the planet's average temperature could rise by up to four degrees Celsius by the end of the century if no significant policy changes are undertaken [(1)]. This means that certain parts of our planet will become unlivable and this will force many people to migrate to more livable parts of the planet.

The migration caused be climate change raises also the topic of the illegal immigration around the world and affirms the necessity to deliver a durable solution to this topic. In this sense, the militarization of external borders and the constructions of walls are not an efficient solution because experience showed that illegal immigration continued after that.

Moreover, we need to launch a global approach that takes into consideration the real causes of the illegal immigration phenomenon, especially conflicts, economic degradation and climate change. This approach should goes beyond the rhetoric of border control and security, based on real cooperation, protection and respect for the human rights of migrants and above all that considers migration as

IT.html#title1 (page accessed on October 7, 2021).

(1) These are highlights of "Turn Down the Heat ~ why a 4°C warmer world must be avoided. " A report for the world Bank by the Potsdam institute for Climate impact research and Climate Analytics on the health, social and environmental impact of climate change induced by a global warming of 4°C

resources for both sides[1]

Last Wakeup call

Researchers are insisting that the world is going to miss the totemic 1.5° C climate target[2]. They consider that the international efforts to bind the world into a meaningful pact that would control greenhouse-gas emissions—in Kyoto in 1997 and in Copenhagen in 2009—had failed[3].

Furthermore, the Intergovernmental Panel on Climate Change (IPCC) has launched on March 2023 its latest report on the climate crisis entitled, the AR6 Synthesis Report: Climate Change 2023. This report is the summary of all reports of the IPCC's 6th Assessment Cycle that were published between 2018 and 2023, which covered, including the landmark Global Warming of 1.5°C, the more recent reports demonstrating how anthropogenic greenhouse gases are causing unprecedented damage, and the report demonstrating that at current levels, many parts of the planet will become unlivable in the next few decades.

(1) Hamza Jammoul, *The European Foreign Policy in the Mediterranean, Immigration crisis as a case study,* Dar Abaad, 2021

(2) https://www.economist.com/interactive/briefing/2022/11/05/the-world-is-going-to-miss-the-totemic-1-5c-climate-target (page accessed on 04/05/2023).

(3) Ibidem

The experts found out that the viability of humanity living within planetary boundaries rests on the actions we take in the next seven years. There's no time to lose to keep to the target of limiting the global average temperature to below 1.5°C[1].

The IPPC experts considered that there is a rapidly closing window of opportunity to secure a livable and sustainable future for all and despite progress in policies and legislation around climate mitigation since the previous such report in 2014, it's "likely that warming will exceed 1.5°C during the 21st century [2].

Below we can list the main findings of the report as follows:

- Human-caused climate change is already affecting many weather and climate extremes in every region across the globe – with widespread loss and damage to both nature and people.
- GHG emissions will lead to increasing global warming in the near term, and it's likely this will reach 1.5°C between 2030 and 2035.
- We are currently at around 1.1°C of warming and cur-

(1) IPCC, 2023: Summary for Policymakers. In: the AR6 Synthesis Report: Climate Change 2023, https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf

(2) Ibidem.

rent climate policies are projected to increase global warming by 3.2°C by 2100.

- The IPCC has "very high confidence" that the risks and adverse impacts from climate change will escalate with increasing global warming.
- To keep within the 1.5°C limit, emissions need to be reduced by at least 43% by 2030 compared to 2019 levels, and at least 60% by 2035. This is the decisive decade to make that happen.
- Losses and damages will disproportionately affect the poorest and most vulnerable populations, particularly those in Africa and least-developed countries, creating more poverty.
- Prioritizing equity, social justice, inclusion and just transition processes would enable ambitious climate mitigation actions and climate-resilient development.
- Tracked climate finance for mitigation falls short of the levels needed to limit warming to below 2°C or to 1.5°C across all sectors and regions.
- Public and private finance flows for fossil fuels are still greater than those for climate adaptation and mitigation.
- Among other measures to ensure energy systems are net-zero CO2 emitters, we need a "substantial reduc-

> tion in overall fossil fuel use, minimal use of unabated fossil fuels, and use of carbon capture and storage in the remaining fossil fuel systems; energy conservation and efficiency; and greater integration across the energy system".

Climate breakdown is not a local issue and humanity is dying. This situation needs action and improvement of the agreements from the COPs. Since affecting geopolitics to economies to migration, the matter should stress us all: acting locally to reckon globally on the principles of cooperation and multilateralism. In this sense, United Nations Secretary General António Guterres said, describing the IPCC report as an urgent call for leaders to decarbonize developed countries by 2040, and developing countries by 2050[1].

(1) UN Secretary General on Twitter.

Conclusion

Climate change refers to the long-term changes in global weather forms, particularly increases in temperature, sea level, and precipitation, that have occurred over the past century and are largely attributed to human activities, such as burning fossil fuels and deforestation. These changes can have significant impacts on natural ecosystems, human societies, global economy and political stability especially in poorer countries. Indeed, the consequences of climate change are also principal causes of wars and immigration. In this sense, addressing climate change is becoming more urgent and requires coordinated global action to reduce greenhouse gas emissions and promote sustainable practices.

Having this in mind, Climate diplomacy refers to the efforts by governments, international organizations, and other stakeholders to address the global challenge of climate change through diplomacy and negotiations. Climate diplomacy is essential in creating a framework for global cooperation and action on climate change, and it plays a key role in shaping international policies and agreements, such as the Paris Agreement.

Foreign ministries and international organizations can

play a crucial role in the global effort to tackle climate change. They can work to promote international cooperation, negotiate and implement international agreements, and encourage investment in clean energy solutions. Some specific actions foreign ministries can take include promoting renewable energy, encouraging energy efficiency, supporting the development of clean technologies, and working to reduce emissions from transportation. Additionally, foreign ministries can work to ensure that climate change is integrated into all aspects of foreign policy, including development assistance, trade policy, and security policy.

We believe that a dedicated climate change department within foreign ministries, as we have highlighted in the previous paragraphers, can ensure that climate change is integrated into foreign policy and diplomacy. Certainly, Climate change is intricately linked to diplomacy, as countries need to work together to address this global issue.

The efforts of governments and international organizations can lead to increased international cooperation on climate action, including the sharing of best practices, resources, and technology. Furthermore, a climate change department in foreign ministries can help countries to effectively represent their interests in international climate negotiations and ensure that climate change is a key con-

sideration in all bilateral and multilateral relationships.

Ultimately, this can help to accelerate progress towards achieving global climate goals and mitigate the impacts of climate change on vulnerable communities. Furthermore, diplomatic efforts are needed to address issues such as climate refugees and the impacts of climate change on vulnerable communities.

Several efforts were done by the international community to face the consequences of climate change. In this sense, there are several conferences organized on a global level to address climate change. The most notable among these conferences is the United Nations Climate Change Conference, also known as COP (Conference of Parties).

The conference is attended by representatives from various countries and organizations to discuss and negotiate on matters related to climate change. The Paris Agreement, which aims to limit global warming to below 2°C, was adopted during COP21 in 2015. Other conferences include the Climate Action Summit, the Global Climate Action Summit, and the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP).

The most recent conferences are the COP 26 and the COP 27 while the COP28 will take place in Dubai on November 2023. As mentioned before, the COP26 is the 26th

Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) took place in Glasgow, Scotland on 2021. It is an international meeting where world leaders, policymakers, and experts gathered to discuss and negotiate global action on climate change.

The COP26 climate summit in Glasgow resulted in the Glasgow Climate Pact, which recognized the urgency of action to limit global warming to below 2°C or 1.5°C, and called for stronger national action plans to reduce carbon dioxide emissions, the phasing down of coal power and phasing out of "inefficient" fossil fuel subsidies, and doubling finance for supporting developing countries in adapting to climate change impacts. Countries agreed to submit stronger 2030 emissions reduction targets next year to close the gap to a 1.5 degrees C rise in temperature. However, cuts in global greenhouse gas emissions are still inadequate, and support for the most vulnerable countries affected by climate change is deficient.

While the COP 27 that took place in Egypt on 2022 has resulted in an overarching cover decision called the Sharm el-Sheikh Implementation Plan, which reuses language on 1.5°C and phasing down coal from last year's summit. The outcomes of COP27 take the global ocean community

forward on collective action to tackle climate change. Additionally, COP27 recognized the need for a robust global climate observing system, for systematic and standardized climate data, and for a coordinated approach to climate research and modeling.

As mentioned in the previous parts of this book, the UAE will host the 28th Conference of the Parties to the UN Framework Convention on Climate Change (COP28) in November 2023 at Expo City Dubai to unite the world towards agreement on bold, practical and ambitious solutions to the most pressing global challenge of our time. In this sense, the COP28 is of particular significance as it marks the conclusion of the first Global Stocktake (GST)[1], a comprehensive assessment of the progress made in achieving the goals of the Paris Agreement.

Moreover, the first Global Stocktake (GST), will provide a comprehensive assessment of progress since adopt-

(1) The global stocktake is a critical turning point when it comes to efforts to address climate change – it's a moment to take a long, hard look at the state of our planet and chart a better course for the future. The global stocktake enables countries and other stakeholders to see where they're collectively making progress toward meeting the goals of the Paris Agreement – and where they're not. It's like taking inventory. It means looking at everything related to where the world stands on climate action and support, identifying the gaps, and working together to agree on solutions pathways (to 2030 and beyond).

ing the Paris Agreement. This will help align efforts on climate action, including measures that need to be put in place to bridge the gaps in progress.

Acknowledging that the world is off-track, COP28 President-Designate HE Dr. Sultan Al Jaber has said he will work to keep the 1.5C goal alive and ensure that the world responds to the Stocktake with a clear plan of action, including measures that need to be put in place to bridge the gaps in progress. As host, the UAE will mobilize action around a major course correction to accelerate emissions reductions while ensuring energy security.

Regardless all the efforts, the international community has failed to address climate change in several ways.

- Many countries have not ratified or fully implemented the Paris Agreement, which is the most significant international effort to combat climate change.
- There is a lack of political will to take strong action on climate change, and some countries prioritize economic growth over environmental concerns.
- There is a lack of coordinated global leadership on climate change, which has resulted in disjointed efforts and ineffective policy implementation.

These failures have contributed to the worsening of the climate crisis and threaten the future of our planet.

Indeed, Climate diplomacy faces several key challenges that must be addressed to foster effective international cooperation and coordinated action. These challenges include:

- Divergent national interests: Countries have different economic, social, and environmental priorities, making it difficult to reach a consensus on climate change policies and goals. Developing countries may prioritize economic growth and poverty alleviation, while developed countries may focus on transitioning to low-carbon economies and technological innovation.
- Inequality between developed and developing countries: Developing countries often have fewer resources and capacity to address climate change, and they tend to be more vulnerable to its impacts. This can create tensions in negotiations, as these countries may demand more financial and technical support from wealthier nations.
- Historical responsibility: Debates over the historical responsibility of developed countries for their contribution to global greenhouse gas emissions can be a contentious issue in climate negotiations. This can lead to disagreements about the fair distribution of mitigation and adaptation efforts.

- Verification and compliance: Ensuring that countries transparently report their emissions and progress towards climate goals is crucial for building trust and accountability. However, establishing robust monitoring, reporting, and verification systems can be challenging, especially for countries with limited resources.
- The urgency of action: Climate change impacts are increasingly evident, and the window for effective action is narrowing. Diplomatic efforts must address the urgency of the situation, pushing for ambitious commitments and timely implementation of climate policies.
- Geopolitical tensions: Climate diplomacy can be influenced by broader geopolitical tensions and conflicts, which may hamper progress in negotiations and undermine collaborative efforts.
- Fragmented global governance: The international climate change governance landscape is complex, with multiple institutions, agreements, and actors involved. This fragmentation can lead to challenges in coordination, consistency, and effectiveness of global climate action.
- Domestic politics: Domestic political factors can significantly influence a country's stance on climate diplo-

macy. Changes in government, public opinion, and interest group pressures can affect a country's willingness to commit to climate action and participate in international negotiations.

Addressing these challenges requires strong political will, enhanced cooperation, and the development of innovative solutions to bridge gaps between countries and foster effective climate action. In this sense, we can register some key recommendations for governments to face in an efficient way the climate change crisis as the following:

- Set ambitious targets: Leaders should set ambitious targets to reduce greenhouse gas emissions and transition to renewable energy.
- Invest in renewable energy: Governments and businesses should invest in renewable energy sources such as wind, solar, and hydro power.
- Encourage energy efficiency: Leaders should encourage energy efficiency in buildings, transportation, and industry.
- Implement carbon pricing: Carbon pricing can help to incentivize businesses to reduce their emissions and invest in low-carbon technologies.
- Support climate adaptation: Leaders should also invest

in climate adaptation measures to help communities deal with the impacts of climate change.

- Collaborate internationally: Climate change is a global issue, and leaders should collaborate with other countries to develop and implement solutions.
- Communicate with the public: Leaders should communicate the urgency of the climate crisis and the importance of taking action to reduce emissions and mitigate the impacts of climate change.

Finally, climate change is a complex issue that requires a concerted effort from individuals, governments, and businesses to mitigate its effects. Experts recommend several actions that can help in this regard. These include reducing greenhouse gas emissions, transitioning to renewable energy sources, conserving water and other resources, promoting sustainable agriculture and forestry practices, and investing in climate adaptation measures.

Additionally, individuals can make a difference by adopting eco-friendly habits such as using public transport, reducing meat consumption, and minimizing waste. By taking these steps, we can work together to create a more sustainable future for ourselves and future generations.

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