Response to Environmental Risk Management International

A Study on Confronting Climate Change

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There is no exaggeration to say that "the world cannot enjoy peace unless individuals enjoy security, and that what human needs have produced has made man the cause of climate changes, to the point that those changes have become a threat to his existence, and the international response has come to manage those risks, the international community has identified a foundations to confront climate fluctuations through international agreements and protocols that established the adoption of national strategies targeting the causes of climate deterioration, especially addressing gas emissions of various types and the extent of the damage resulting from them, especially strategies to reach (net zero) emissions of carbon dioxide, methane, and other gases, according to different timetables, and the Paris Climate Agreement in 2015 represented the broadest and most comprehensive response in the context of confronting the climate change, while countries have adopted strategies to mitigate the effects of climate change, by adopting strategies to confront climate change by completely eliminating the emission of chlorofluorocarbon gases, and unconventional strategies concerned with adapting to climate change, including the Gulf strategy that worked to create environmentally friendly cities, sustainability projects, such as artificial rivers, seawater desalination projects, and others, as well as the establishment of a carbon bank, as well as the adoption of hybrid approaches, renewable energies, and innovations associated with the environment in meeting human needs.

Keywords: Climate, Response, Environmental Risks, Climate Change.

Introduction:

Climate change represents one of the most prominent global threats in the twenty-first century, and many specialists attribute the cause of climate change to the rise in the average temperature of the Earth's surface, as a result of natural cosmic events on the one hand, and the increase in the emission of gases (carbon dioxide - methane and others) into the atmosphere, and human-caused activities, on the other hand, and most climate scientists agree that climate change occurs primarily by man-made as a result of the increase in harmful practices in the environment, which contribute significantly to climate variability, this results in significant natural, social and economic damage that has affected many countries, especially Iraq, the international response to manage the threat of climate change through global strategies represented a basic option to confront the climate threat, by addressing the most prominent of these efforts at the global institutional level, as well as the Iraqi national efforts to confront climate change, which requires understanding the scientific perspective of the phenomenon of climate change first, and identifying the dangers resulting from climate change, especially the risks directed at Iraq, as well as identifying and reviewing the most prominent international strategies, the Iraqi national strategy response to confront climate change "in light of the Iraqi response to the risks of climate change mentioned in the American intelligence report 2021," as well as measuring the effectiveness of regional and Iraqi strategies to confront climate change.

Importance: The importance of the study stems from the directed environmental risks that affect human security, especially in the context of global climate deterioration and its cause of an increase in the rate of desertification, water scarcity, and drought, as well as natural disasters such as floods, fires, and environmental pollution, this importance has increased with the governmental side giving priority to confronting climate change on the national level.

Search Goal:

The research aims to shed light on international and national treatments for the phenomenon of climate change, especially in light of the threats that the Iraqi state is concerned with and that citizens and authorities are now seeking in terms of impact, especially the environmental threats mentioned in international reports and relevant organizations, and to benefit from the effectiveness of international strategies in confronting climate change and their application.

Hypothesis:

The study is based on the assumption that: if the international response focuses on the causes of climate change with an effective strategy, the more this will contribute to reducing the exacerbation of the threat of climate change. The more countries realize the magnitude of the environmental threat, they formulate effective strategies to confront it, and the greater the cooperative effort within the framework of organizations and institutions concerned with climate, the more this will contribute to finding solutions to confront the phenomenon, taking into account that confronting climate threats requires long-term periods and strategies that are difficult to solve immediately, especially in the case of late awareness of this threat, and to prove or deny this hypothesis, we proceeded to raise questions, the most prominent of which are:

1. What is the content of climate change, what are its causes, and what are the most prominent risks resulting from it?

2. What are the global strategies to confront climate change?

3. What is the content of the Iraqi national strategy and the extent of its effectiveness in confronting the magnitude of the climate threat?

Methodology: We intended to adopt the descriptive approach to identify and understand the roots and causes of climate change, as well as the systemic approach to determine the inputs and outputs of the phenomenon and build feedback for approaches and

solutions, as well as the analytical approach. To analyze the information, especially contained in the CIA report for the year 2021, as well as the comparative approach to measure the effectiveness of the national strategy.

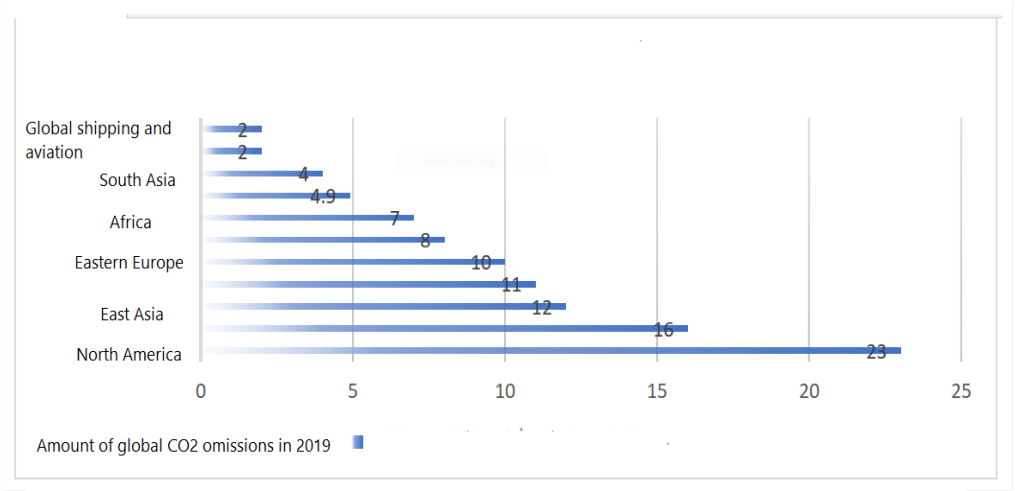
First: The scientific perspective of climate change

when starting to study any natural or field phenomenon, it is necessary to define the conceptual frameworks of it, and to identify what climate change refers to in its scientific framework, it is necessary to determine:

1. Understanding Climate Change.

The importance of determining the scientific content of what climate change brings has increased, as it is one of the most prominent global challenges facing human security directly, and to determine the content of climate change and the implications it carries of environmental deterioration as a result of direct or indirect human activity, climate change represents one of the most prominent non-traditional challenges that countries face, in addition to being one of the most prominent obstacles to their development, and when searching for a definition of climate change, the World Climate Conference (WCC) of 1979 was the first to provide clear content for climate change as a major environmental problem facing a wide range of societies, the United Nations Framework Convention on Climate Change defined climate change as "a change that is due directly or indirectly to human activity resulting from the combustion of fossil fuels, along with other causes that change the composition of the global atmosphere, as well as natural climate fluctuations.([1]) The definition of the Intergovernmental Panel on Climate Change indicates (IPCC), in the assessment that it divided in 2007 as the change in climate over time and for successive decades, whether due to natural fluctuations or as a result of human activity, and the change resulting from natural variation along with human activity, climate change can be defined as any change or disturbance Long-term climate change occurs as a result of changes in the balance and flow of energy, affecting

environmental and natural systems. Climate change also refers to the continuous change in the Earth's climate resulting from cosmic, natural or human causes that negatively affects the biosphere and leads to the occurrence of devastating natural disasters.([2]) Hence, climate change can be understood as the state of change and fluctuation that occurs in the composition of the Earth's atmosphere, causing a state of harmful environmental changes, perhaps the most prominent of which is the increase in the volume of emissions of harmful gases into the environment.

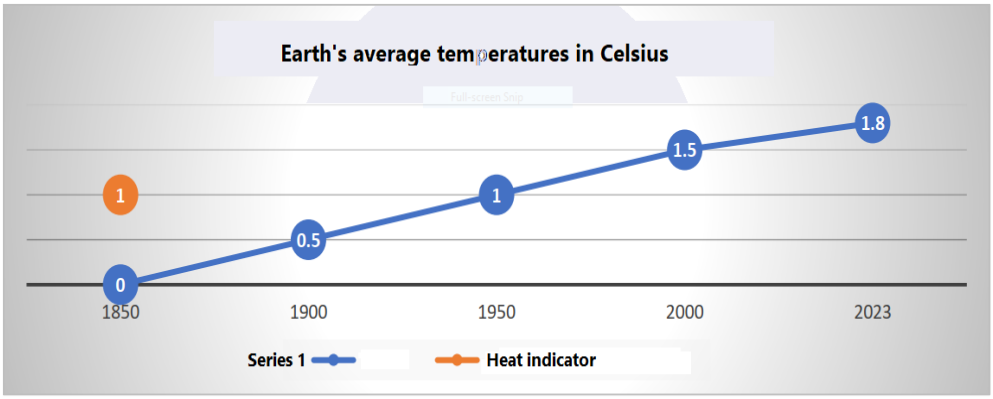


- **Intergovernmental Panel on Climate Change (IPCC), Climate Change 2022 - Mitigation of Climate Change: Working Group III In the sixth assessment report of the Intergovernmental Panel on Climate Change, Cambridge University Press, New York, 2022,p10.**

2. Causes of Climate Change

Specialists generally classify the causes of climate change into two things. The first is: the external influence on the climate system "climate sensitivity" (*): It arises as a result of the external radiation response, as the Earth's ecosystem is exposed to solar radiation that threatens or changes the environmental balance within the atmosphere, causing internal variation and oscillations in the temperature of elements responding or affected by external radiation, such as seas, oceans, and other components of the climate

system. Some scientists believe that the warming of the planet Earth may be part of a natural climate cycle and that humans have nothing to do with it, their proof of this is that the Earth went through a similar state in the period before the Industrial Revolution. While others say that the causes of climate change are largely due to human activities, which have increased significantly, especially in the last decades of the twentieth century ([3])



Second: The internal impact on the climate system.

One of the most prominent causes of the phenomenon of climate change lies in the high rates of trapped gases in the atmosphere, represented by (carbon dioxide CO2, methane gas CH_4, and nitrous oxide gas N2O), which achieved their highest rates in 2022, and the internal impacts contributed on the climate system, which is represented by human (industrial) activities, the high rate of ocean warming and the accelerating loss of ice masses, as well as other climate fluctuations resulting from that warming ([4]), and the internal effect is based on the theory that followed the rise in the Earth's temperature, which is that the emission of greenhouse gases generates global warming, either caused by the burning of fossil fuels by humans, negative impacts from changing weather patterns, such as floods and droughts, and related economic costs, including compensation for lost land, can threaten to polarize society and marginalize local communities, this, in turn, could weaken the state's institutional capacity to resolve conflicts peacefully and democratically.

3. Environmental risks and human security

With the apparent changes in the international system in the dynamics of global security, this has necessitated the expansion of the concept of state security from the threats of organized violence that emanate from other countries, beyond the limited concerns with state security, this expansion has seen the content of security to include human security as a whole, meaning "that security has moved from the content of external threats directed at the state to the security of the molecules of individual stability within states and the security of need, in line with that; The term was first introduced by the United Nations Development Program in the 1994 UNDP Human Development Report, and reported; The report states that "the world cannot enjoy peace unless people enjoy security in their daily lives." The report identified two factors in defining the concept of human security to include first: freedom from fear and second, freedom from want, explaining: The threats to human security are many, and environmental threats are one of the most prominent global challenges facing human security.([5]) Naomi Klein believes that climate change is not just another issue that must be carefully classified between taxes and health care, but rather it is a warning calling on us to reform the economic system that has already failed us in so many way in frank word . that countries' economic interests are at the root of the world's climate change, Klein meticulously builds the case for how dramatically reducing our greenhouse gas emissions is our best chance of reducing inequality, achieving democracy and reorganizing the international economic structure, Klein argues that the imposed changes by our economic reality require us to respond directly to the climate crisis in a humane manner, and should not be seen as an economic restriction, but rather as an incentive to transform traditional economic priorities into new ones capable of achieving confronting climate change([6]).

This justifies the tendency of many major countries to adopt strategies associated with the environment and make it a fundamental pillar of human security and an economic pillar through the development portal, due to the climate conditions around the world, and through the direct threat climate change has

created to the security of states, a distinction must be made when formulating environmental concerns as challenges to human security and not to state security from a purely military perspective, and therefore the basic idea to enhance the human security was to formulate a contrary response to the old perspective of the international community, which assigns military security to state security as a supreme goal, environmental threats resulting from climate change have even become apparent. interconnection between the state and human security is such that when the security of a people is exposed to danger anywhere in the world, all states are vulnerable to the same threat as long as the climate is characterized by global rather than local, and there is no doubt that behind climate change there are a number of threats that affect the sustainability of human security, as the lack of water resources represents a threat to the abundance of agricultural crops, especially in areas that depend for their agricultural irrigation on direct irrigation from rainwater in addition to the traditional irrigation, as global warming leads to a decrease in water resources and their scarcity, and according to the report of the International Panel on Climate Change (IPCC), it is likely that rainfall will decrease in most regions of the world, especially the Middle East, where water decline will increase to its highest levels, which represents a direct threat for food security, especially with the increasing population that the world is witnessing. As the world has witnessed for quite some time now; An era of accelerating climate change, causing a number of natural disasters, including hurricanes, earthquakes, and volcanic eruptions) and long-term environmental degradation such as soil erosion, drought, and desertification, these disturbances have led to crop failure, fresh water shortages, infrastructure collapse, power outages, and the spread of infectious diseases. , and the loss of arable land, causing demographic changes as a result of the disruption of livelihoods. Although humans have adapted to sudden disasters and environmental change - and the societal disturbances resulting from (migration), our current era poses special challenges, as environmental historian (John R. McNeill) believes), Our ancestors previously dealt with climate change and their response to climate change was by moving from one place to another, but they

did so when the Earth's population was less than it is in Chicago today([7]).

However, with the demographic affiliations that the nation-state has produced, the old response has become completely impractical, with the increase in population, threats have come to affect the safety of tens of millions of people who will be forced to move to other places, temporarily or permanently, in the coming decades as a result of these natural threats. Which will put the world before a climate-security challenge as a result of large numbers of people being forced to migrate to countries less affected by climate crises in an unprecedented situation in previous eras, which will put international laws concerned with migration and human rights in permanent difficulty([8]).

Second: The global response to confront climate change (protocols and agreements)

Despite the ancient interest in climate change issues, the seriousness of the response was evident in the early 1980s when the international community realized the importance of confronting climate change as a strategic necessity, to review the contents of these agreements, the most prominent of them will be addressed as follows:

1.Montreal Protocol of 1987.

Montreal Protocol of 1987 is the starting point for establishing legal foundations binding on states, after the Vienna Convention for the Protection of the Ozone Layer (VCPOL) of 1985 was a non-binding framework treaty for its parties. The Montreal Convention called on its parties to develop environmental solutions regarding deplete substances to the Ozone layer, which represented a historic multilateral environmental agreement that regulates the production and consumption of approximately (100 man-made chemicals) referred to as ozone depleting substances (ODS) when they are released into the atmosphere ([9]), Under the Protocol, all parties bear specific responsibilities related to the gradual elimination of various groups of ozone-depleting substances, and the agreement imposes

the aforementioned strict control of the substances that have the most impact on the ozone layer, namely (hydrochlorofluorocarbons (*)(HCFCs), and developing countries agreed to the phase-out process began in 2013, and is now following a phase-out until its full phase-out is scheduled for 2030.([10])

The 1992 United Nations Framework Convention on Climate Change, known as UNFCCC.

United Nations Convention on Climate Change (UNFCCC) represents one of the most prominent early international efforts to confront climate change, the agreement is based on the principles of the 1992 Earth Summit in Rio de Janeiro, and defines the agreement that entered into force in 1994, the UNFCCC aims to reduce environmental damage resulting from dangerous human interference in the climate system, as part of its mission to promote sustainable development and reduce poverty through environmentally sound and economically viable methods, the United Nations Convention on Climate Change (UNFCCC) calls for an urgent and effective action by developed countries to address high greenhouse gas emissions([11]).

3. Kyoto Protocol of 2005

Kyoto Climate Agreement represents one of the most important and supportive protocols of the International Framework Convention on Climate Change with the aim of reducing greenhouse gases that cause climate change, it was adopted on December 11, 1997 by the Third Conference of the Parties, which was held in Kyoto, and entered into force on February 16. 2005, and as of June 2008, 182 countries have ratified the Protocol.([12]) of these, 36 developed countries (as well as the European Union as a party in its own right) are required to reduce greenhouse gas emissions to specified levels in the treaty (representing more than % 61.6 of emissions from Annex I countries), and the Kyoto Protocol divides countries into two groups. Appendix I includes developed countries, while Appendix II refers to developing countries([13]). The Protocol imposes restrictions on emissions from

countries included in Annex I, and countries not included in Annex II participate by investing in projects that work to reduce emissions in their countries, especially carbon market in which Annex II countries can obtain carbon credits and trade or sell these credits to Annex I countries, allowing them to level above the cap on carbon emissions for that period.

4.Paris Agreement to combat global climate change of 2015.

The 2015 Paris Climate Agreement aims to establish legal frameworks for countries' commitment to a set of measures concerned with mitigation, adaptation, and treatment of the increase in radiation resulting from human employment of materials that have the greatest impact on the climate, the agreement identified three options for climate response: mitigation, adaptation, and suffering. The mitigation option means reducing climate change, as it includes reducing carbon emissions and leveling the amount of greenhouse gases in the Earth's atmosphere. As for adaptation, "its aim is to reduce our exposure to the harmful effects of climate change (such as sea level rise, more extreme weather events, or food insecurity). The other option is the suffering caused by climate change ([14]), and the decisions of the framework United Nations Convention came on climate change, which requires the establishment of the Green Climate Fund (GCF). The Green Climate Fund (GCF) contributes to achieving the goals of the Paris Agreement, as it provides financial allocations to address climate change issues, to reduce the amount of climate change to less than (2 degrees Celsius). The Fund pays special attention to the needs of communities that are highly vulnerable to climate impacts, in particular the least developed countries, small developing island states and African countries([15]).

Third: Global strategies and the effectiveness of confronting climate change (policies - procedures - implementation).

Avoiding the unprecedented threats posed by global climate change requires a collective unparalleled practice in international cooperation. However, a sustainable global emissions pathway will

only be meaningful if it is translated into practical national strategies linked to global strategies. Climate change should be formulated after fully realizing the magnitude of that threat. The more countries realize the magnitude of the environmental threat, the more effective strategies they will formulate to confront it, and the greater the cooperative effort within the framework of organizations and institutions concerned with climate, this will contribute to finding solutions to confront the phenomenon, taking into account that the threats confronting climate change requires long-term strategies and strategies that are difficult to solve immediately in the event of late realization of that threat. Hence, it has become necessary to determine the nature of international efforts at the level of the relevant international organizations:

1.Climate change in light of the strategy of the United States of America. (response - confrontation)

Despite the participation of the United States of America in summits, protocols, and international agreements related to climate, the actual response has been inconsistent, during the administration of former President George W. Bush and climate change (2001-2009). It did not offer strategic solutions that would raise the level of the climate threat facing the world and the United States of America in particular, and focused only on research efforts, as national efforts issued 20 assessments about the state of the world about a group of topics of interest to the impact of climate change and discussions of adaptation to climate change in the United States, despite this, the American national efforts were not effective in the field confrontation of climate change on the level of reducing carbon emissions as well as the fumes resulting from Furochlorine substances, however, they provided accurate monitoring of the causes of climate change and natural disasters. However, the administration of the former president (George W. Bush) did not paid great attention to climate issues, in proportion to the size of the threat, until he announced his withdrawal from the Kyoto Protocol in 2001, as it was based on China's deliberate ignorance of combating climate change([16]). As for the administration of President Barack Obama and climate change (2009-2017), the former

President (Obama) announced a climate action plan whose goal was to fulfill the commitment he made in one of the meetings. and the conferences of the parties to the United Nations Framework Convention on Climate Change held in Copenhagen in 2009 – which pledged to reduce greenhouse gases by 17 percent below 2005 levels by 2020, in 2014, the United States had achieved significant reductions in emissions in response to the new policies, represented by economic standards in automobile fuel consumption, and the market-based transition from coal to natural gas in power generation, president Obama was keen to contribute to achieving a global agreement on climate change in 2015, and was willing to take some risks to do so, the administration of former president Obama was an important stage in addressing climate change

While the administration of former president (Donald Trump) and climate change (2017-2021) were not in line with what was established by the former President (Obama), despite the progress his predecessor made in confronting climate change, as Trump announced withdrawal of the United States from the Paris Agreement in June. 2017, and part of Trump's rejection of the Paris Agreement, representing his predecessor George W. Bush's rejection of the Kyoto Protocol, was based on willful ignorance of the steps China was taking to combat climate change. Trump believes that China is primarily a traditional economic competitor who is not serious about implementing commitments to confront climate change. In contrast, the financial commitments of the United States of America in the Paris Agreement are very expensive in exchange for useless policies, and his withdrawal is the prominent feature of the Trump administration's approach to governance([17]). While the administration of the current president (Joe Biden) and climate change (2021-present) seemed more concerned than the president who preceded him, as on the first day of his term, the United States returned to the Paris Climate Agreement, which his predecessor had withdrawn from, realizing the magnitude of the climate threat directed towards the United States of America, and the world, as he announced the new United States goal is to reduce greenhouse gas emissions by (50 to %52) by 2030 compared to

2005, this goal represents almost double Washington's previous commitment to reduce %26to %28 of emissions by 2025([18]).

President Joe Biden also partially disclosed in 2021 the CIA report, which represented the first of its kind for a security agency to discuss the impact of global climate change on national security. A recent US intelligence report entitled "The Impact of Climate Change on National Security until 2040" was revealed. There was a failure in international cooperation on global climate issues, and the report concluded with dangerous results and a state of turmoil, warning of the reluctance of some countries to cooperate on confronting climate change([19]). The report provided direct warnings, especially for countries whose economies depend entirely on the production of fossil fuels, especially Iraq, including this, requires finding effective solutions to confront climate change at the national level, and perhaps the most effective of them is resorting to employing artificial intelligence applications to confront climate change. The report indicates the need to reduce dependence on fossil fuels and resort to alternative energy sources, explaining that the decline in fossil fuel revenues would increase the pace of conflict in countries that are highly vulnerable to climate change. In the same regard, the report identified eleven countries and two regional regions that would provide energy security, food, and health there are at risk as a result of climate change. The report attributes that these countries are more affected than others because they are poorer and less able to adapt, which leaves them prey to instability and internal conflict, as Iraq came at the forefront of the countries exposed to climate change in the Middle East ([20]).

2. **Confronting climate change in light of the strategies of major powers**.

With the growing awareness of countries of the magnitude of climate threats, interest in confronting them has increased, but all of them, for reasons mostly related to the economy, limit the effective contribution and total involvement in confronting global warming. Despite international efforts and national strategies concerned with the phenomenon, it was not at the level that rises to the magnitude

of the directed threat, in order to review international efforts to confront climate change in light of the strategies of the United States of America, which will be discussed as follows:

a. **The place of climate change in Russian strategic perception.**

Despite the relative growth of the Russian economy in the field of industry in particular, the technology used in Russia is still largely old technology dating back to the Soviet era, as many old power plants still operate on fossil fuels, as well as Nickel, Aluminum and other factories is still polluted the air with gases causing climate change([21]). The effects of climate change have also begun to appear clearly in recent years, as the consequences of this phenomenon have increased significantly, as evidenced by the recurrence of floods, storms, forest fires, melting ice, and high heat waves, to confront this, Moscow signed in 2009 the climate agreement, which stipulates that humans bear responsibility for climate change, this is an advanced step for Russia. Russia has also realized something important, which is that it has enormous potential to save energy and reduce energy waste, by renewing the economic system ([22]).

Experts agree that the reasons behind Russia's recent adoption of a new discourse of this kind are primarily due to economic reasons that can contribute to creating new opportunities for the Russian economy, which depends on exports, as well as reasons related to confronting climate change. However, Russian efforts to confront the climate change came late; Russia has agreed to reduce greenhouse gas emissions by 2020 to between %10 and %15 compared to 1990. However, the value currently is already lower by a third, and Russia's need to continue growth will increase the obstacles to confronting climate change for some time, before she realizes the urgent need to catch up with countries that are moving to build their economies on an environmentally friendly basis. Despite this, Russia has pledged to reduce the cumulative volume of net emissions of greenhouse gases to less than the European Union's emissions in the next thirty years. However, it may face an economic decline that will cause a decline in the level of growth, which will greatly undermine Russian policies to confront climate

change, the reason is that to being a country that exports fossil fuels and relies on them greatly to sustain its economy, some say that the Russian Federation does not have a foreign policy, but rather it has energy security policies ([23]).

B. The status of climate change in Chinese strategic perception

Since the conclusion of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, climate change and its adverse impacts have become a common concern for humanity, and one of the goals of sustainable development, consistent with this, for long periods of time, China has been the largest emitter of greenhouse gases, generating a desire for "cooperation" to confront the phenomenon of climate change, as well as the desire of the Chinese government to reform the economy away from the traditional development pattern, which relied heavily on heavy industries that consume fossil fuels([24]). The Chinese government's economic development strategy, starting in 2011, aims to reduce carbon intensity, enhance innovative capabilities, raise the level of industrialization, shift to a service-based economy, and achieve "ecological civilization, focusing on strategic industries associated with the environment, and reducing dependence on fossil energy by allocating a medium- and long-term plan to achieve development goals and reduce the exploitation of traditional energy and reliance on renewable energy, including alternative compositions and clean energy.([25]) Structural transformations contribute significantly to reducing greenhouse gases and air pollution in urban areas, to strengthen the position of the central government in implementing reforms in the economic structure, and the Chinese government has demonstrated its ambition in this regard by implementing the United Nations Framework Convention on Climate Change and contributing to finalizing the 2015 Paris Agreement. China has also taken measures to deal with climate change at the local level ([26]) and at the end of 2020, China announced, It will begin cutting carbon dioxide emissions before 2030, to achieve “carbon neutrality” – that is, equalization of the amount of gases that are emitted and those that are absorbed – by 2060. The Chinese central government also has new global

ambitions([27]). The Joint Declaration (United States - China) came in November 2014 to represent a major turning point that led to the Paris Agreement, and the former Secretary-General of the United Nations (Ban Ki-moon) commented, saying: “The Chinese-American Joint Declaration indicates the common vision and seriousness with which "It moves the world's two largest economies towards a low-carbon future; it shows strong leadership and momentum to reach a comprehensive global climate agreement in 2018." Despite the withdrawal of the administration of former President (Trump) from the Paris Agreement, the Chinese government was determined to continue the path with regard to domestic and international climate policy at the Nineteenth National Congress of the Communist Party of China in 2017, in which the Chinese leadership confirmed its intention to develop effective treatments in accordance with the vision of Long-term concerns towards climate policy ([28]).

C. The place of climate change in the strategic awareness of the European Union

The pan-European region has long witnessed an increase in temperatures and extreme weather conditions, as a result of their exposure to longer droughts and more frequent heat waves, as well as the increasing frequency of water stress, which leads to reduced crop production and increased forest fires. Storms and floods are also worsening, leading to far-reaching consequences for local communities in the region. New types of policies, partnerships and instruments will be needed to scale up existing climate change efforts and address this growing challenge, the European Union did not ignore the danger of the challenge represented by climate change, whether that concern was on the same level as the unified policy of the European Union or individually at the level of countries. France represented one of the most prominent countries responding to confronting climate change, the European Union put forward common frameworks to confront the phenomenon, and Europe worked to reduce the level of emissions of gases and fumes, despite the costs facing the economies of its countries, Germany may implement in April 2023 the promise it made to close its last

three nuclear reactors at the end of a process of abandoning nuclear energy that began a long time ago, despite the controversy that this decision raises in the context of an urgent climate crisis. It was decided to close the smoke towers at the Isar 2, Emsland and Neckarfestheim 2 reactors forever, as part of Berlin's implementation of its plan to limit electricity generation to renewable sources by 2035. Thus, since 2003, Germany has implemented the closure of 16 nuclear reactors that relied on to supply electrical energy. . It is in implementation of part of the European Union's commitments in the Glasgow Agreement, in which most countries pledged to reduce net emissions by 2050, as the European Union and the United States promised to reduce net emissions by 2050, as well as the promise of countries such as Russia and China to reduce net emissions by 2060, and India promised to reduce net emissions by 2070([29]).

D. The place of climate change in the strategies of other powers.

Although there are many international environmental problems that may require international solutions, the problems of climate change (the ozone layer, global warming (greenhouse gases), deforestation, and ocean pollution) are the focus of great attention by specialists and policymakers, as much as they may ,while the security, population, and food problems facing the world are exhausting at the strategic level, environmental problems are no less serious([30]). In line with this, many of the active powers in the international system have realized the necessity of developing strategies to confront climate change, and the main participating powers, which collectively represent (%80 of global emissions of carbon dioxide), have shown a response in achieving the goals of the Framework Convention on Climate and the goals of the 2015 Paris Climate Agreement. the United Kingdom only announced a reduction of %78 by 2035 compared to what emissions were in 1990. Canada also announced that it will pledge to reduce emissions by %40-45 by 2030 compared to 2005, instead of %30 in the previous plan. Japan also announced a reduction in its carbon dioxide emissions by %46 by 2030 compared to 2013. Brazilian President Jair Bolsonaro also sent a message pledging to end the

illegal deforestation of the Amazon forest by 2030, and given that the 2030 targets for the largest causing countries to emissions were so far below what the 1.5°C pathway would require, the Glasgow Agreement encourages countries to return to the 2022 COP with stronger targets – rather than waiting another five years to strengthen their pledges. The gap between countries' near-term commitments and their long-term promises to reach (net zero) has generated a great deal of controversy surrounding Glasgow. The independent research group Climate Action Tracker has released a report entitled "Glasgow's One Degree Credibility Gap 2030". The report concluded: "It is all very well for leaders to claim they have a net zero target, but if they have no plans on how to get there, and their 2030 targets are as low as many of them are, frankly, these net zero goals are just talk about real climate action([31]).

3. The response of the Gulf Cooperation Council countries to climate change

All Gulf Cooperation Council countries (Saudi Arabia, the United Arab Emirates, Bahrain, Kuwait, Oman, and Qatar) are witnessing; Historical social, economic and security transformations, as a result of the increasing impact of climate change and global policies to deal with it, the Kingdom of Saudi Arabia is one of the most responsive countries to climate change in the region, as it has launched investment initiatives worth more than (700 billion Saudi Riyals), which contributes to creating quality large job opportunities, for the private sector, with the aim of developing the green economy, in accordance with the Kingdom's Vision 2030, and the Kingdom of Saudi Arabia aims to reach (net zero) carbon emissions in the year 2060, through the carbon circular economy approach(*), in line with its development plans, and enabling it to Economic diversification, while maintaining and enhancing the Kingdom's leading role in the security and stability of global energy security, with the availability and maturity of the required technologies to manage and reduce emissions; The Kingdom of Saudi Arabia represented (1%) of the global goal of planting trees. We also announced raising the percentage of reserves to (%30) of the total area of the Kingdom and began implementing the first

phase of afforestation initiatives by planting more than 450 million trees, as well as rehabilitating (8 Million) hectares of land; Believing that confronting climate change is not only limited to reducing emissions, but also protecting and enhancing the environment([32]). The Kingdom of Saudi Arabia also participates in global future initiatives, as additional projects and initiatives were announced to achieve the goals set in the 2030 strategy, and in recognition of the importance of strengthening joint international action, to confront the climate, it announced its joining to the Global Oceans Alliance and the Alliance to Eliminate Plastic Waste in the Oceans and beaches, and sports agreement for Climate Action, as well as establishing a global center for sustainable tourism. The Kingdom of Saudi Arabia also seeks to reduce carbon emissions by %100 in Riyadh to become one of the most sustainable cities by (278 million tons) annually by 2030, and this announced initiative aims estimated at approximately (130 million tons) annually, aim to modify the energy mix in the Kingdom of Saudi Arabia, rationalize and increase the efficiency of energy production and use, and invest in new energy sources, including hydrogen. It also announced its participation in the Global Methane Pledge. which aims to reduce global methane emissions by %30 ([33]).

While Qatar's international commitments reflect its real interest in combating climate change, although adaptation to climate change halts the path of economic development in Qatar, the Qatari role in the international arena of climate change is indisputable. Qatar hosted the Conference of the Parties in 2012, which laid the foundation of the 2015 Paris Climate Agreement, in addition to being a signatory to the Kyoto Protocol and ratifying the United Nations Framework Convention on Climate Change ([34]). On the internal level, Qatar has focused in the Qatar National Vision 2030 on environmental development as the fourth pillar, which includes preventing air pollution and damage to natural habitats among several things. In addition, Qatar released its National Environment and Climate Change Strategy ahead of COP 26 in Glasgow, which provides the foundational policy framework for climate change adaptation and mitigation. The most prominent action plan

stipulates reducing greenhouse gas emissions by %25 by 2030 and switching by %55 to sustainable technology in water desalination, the action plan also includes an impressive %100 accounting of all waste and the closure and rehabilitation of %100 of unsanitary landfills([35]).

Oman and the United Arab Emirates have also issued national climate change action plans with detailed targets for climate change mitigation and adaptation, while Qatar is finalizing a similar national plan. Furthermore, in 2016, Oman issued a ministerial decision on climate change in the country, about Climate affairs management, which requires "greenhouse gas emitting projects" to obtain a climate permit, in order to maximize the benefits of direct government control from the regulatory approach based on reducing the greatest amount of carbon emissions, most Gulf countries have increasingly adopted the hybrid approach, such as Kuwait and Bahrain, as well as the Kingdom of Saudi Arabia, the Gulf countries worked to increase the regulatory bodies supervising the implementation of strategies to respond to climate change with the global approach of adapting and reducing the effects of climate change on the environmental and human security levels. For example, Bahrain formed a committee or agency supervising the environment, and the Supreme Council for the Environment in Bahrain also provides supervision of Public policies and strategic coordination of the country's programs related to the environment, natural and marine resources, wildlife and biodiversity. The Supreme Council bears ultimate responsibility for developing, monitoring and supervising Bahrain's environment and sustainable development strategy and policies, in coordination with other relevant ministries, agencies and institutions. Likewise, the Supreme Council for the Environment of Kuwait sets policies and procedures related to the environment and sustainable development in Kuwait.([36])

4. Iraqi response to climate change.

Since Iraq began signing the Paris Agreement in 2021, it has been moving towards drawing up a strategy concerned with responding to climate change aimed at adapting and mitigating the impact of climate change. The Iraqi government has also worked to fulfill the international conditions related to the Green Climate Fund linked to fulfilling conditions stipulated in the Paris Agreement of 2015, to obtain financial support allocated to combat this phenomenon, in addition, successive Iraqi governments are seeking to attract more foreign investments in renewable energy, which can also enhance various service sectors that contribute to achieving food security, and in line with international efforts through the global response to climate change. Iraq has pledged to voluntarily reduce (from %1 to %2) greenhouse gas emissions by 2030. The Iraqi strategy included reducing emissions by up to %15, stipulating international technical and financial support, as well as national stability at the political and security levels, this is conditional on the presence of International technical and financial support, as well as national stability in the political and security aspects ([37]).

Although the Iraqi government seeks to expand the scope of investment in adaptation and mitigation programs as a central goal in the strategy to enhance human security, Iraq still faces challenges in the institutional capacity to translate adaptation and mitigation policies and translate them into reality in a way that is compatible with the magnitude of the directed threat. A comprehensive operational strategy requires international support and joining forces with other local actors. Iraq also has an urgent need for international expertise to provide effective solutions, especially since such a threat is new and not among the usual threats, in addition, there is a great connection between climate change and energy security, and based on the fact that Iraq is exporting country for fossil fuels, the world's transition to alternative sources of energy puts Iraq and all oil-producing countries are facing a major economic challenge, especially since Iraq depends to a very large extent on oil production for the sustainability of its economy([38]).

Conclusion.

It is inevitable to say that climate change represents one of the most significant global security threats in the twenty-first century. Perhaps the reason for this is due to what results from harmful practices resulting from human intervention, despite the increasing international response to climate change issues, the danger resulting from it existed, what prompted countries to adopt different strategies aimed at reducing the impacts resulting from human activities, in two frameworks: the first: treaties and binding agreements, and the second: the national strategies of countries concerned with climate change, and that, likely, solutions will not be found promptly to global environmental problems, and the reason is due to the nature of global pollution, international institutions and incentive systems that operate on international actors, the process of dispensing with fossil fuels and resorting to alternative energies seems difficult for many countries, especially countries that have joined late in the use of technology or countries that have not yet caught up. There is another paradox that many of the countries identified by international reports to confront climate change, or the American report issued in 2021, depend for their economies on fossil fuel exports to a very large extent, especially Iraq, despite this, the Iraqi response was not optimal in facing the climate challenge despite the availability of the appropriate natural environment for the transition to alternative energy, as well as the absence of conditional international support in the Paris Agreement, which puts Iraq far from the actual response to climate change on the foreseeable level compared to the size of the threat directed. for Iraq, compared to the size of the Gulf and international response, this requires intensifying external efforts to obtain financial support approved by the United Nations Support Fund, as well as starting to involve Iraq in international cooperation for climate, especially in the field of carbon balances and introducing modern technologies in the oil extraction mechanism, as well as reducing carbon emissions and

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Results

1. Artificial intelligence represents one of the most prominent means of confronting climate change through the use of modern technologies to address emissions, combat desertification and water scarcity.

2. Climate change results from a number of practices and industrial and service activities that can be addressed.

3. Despite the international response to the nature of the climate threat, the signs of the disappearance of the climate threat have not yet emerged

4. The major industrial countries cause the most climate pollution, led by the United States of America and China.

5. The 2015 Paris Climate Agreement represented a turning point in the international response to climate change, embodied in the effectiveness of the goals and the nature of the obligation.

6. The Gulf Cooperation Council countries, especially Saudi Arabia and Qatar, provide a good model for confronting climate change.

❖ Recommendations:

As far as the study model is concerned, specifically Iraq's climate response strategy, the researchers recommend:

1. Sensing the threat of climate change and dealing with climate change with a degree of importance no less than other security threats.

2. Studying water recycling projects for the Tigris and Euphrates rivers according to the artificial river model, as well as studying the establishment of seawater desalination projects.

3. Encouraging the use of the hybrid approach to vehicles, as customs and tax exemptions were provided for the import of vehicles that operate with the environmentally friendly (hybrid)

system, to gradually reduce carbon emissions resulting from traditional vehicles, as well as reduce fuel consumption.

4. Resorting to the use of modern agricultural irrigation systems, especially the project presented by (Ford Company) that works with artificial intelligence and does not require fuel, which we hope will be implemented, in addition to dispensing with non-strategic agricultural commodities, creating green agricultural belts and supporting responsive initiatives to climate change, especially adopting the idea of carbon credits that Qatar initiated through the Carbon Bank, as well as benefiting from alternative energy projects, as well as replacing electrical power stations from fossil to steam.

5. Taking advantage of artificial intelligence techniques and including them in issues of confronting carbon emissions and reducing pollution, as well as introducing them into the field of agriculture through irrigation using modern and programmed methods, and obligating factories in the public and private sectors to reduce carbon emission rates resulting from local industrial activities.

6. Using modern methods to extract crude oil that identify the main cause of emissions, and this explains the high temperatures in the southern regions of Iraq.

7. Benefiting from the model of the Gulf countries, especially the model of the Kingdom of Saudi Arabia, in the field of establishing environmentally friendly cities.

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