OEA/Ser.W

CIDI/INF. 542/23

 30 March 2023

 Original: English

**WHITE PAPER FOR THE**

**FOURTH INTER-AMERICAN MEETING OF MINISTERS AND HIGH-LEVEL AUTHORITIES ON SUSTAINABLE DEVELOPMENT**

**“CLIMATE ACTION: BUILDING A REGIONAL AGENDA TO SECURE OUR FUTURE”**

TABLE OF CONTENTS

Page

[BACKGROUND - 3 -](#_Toc131067741)

[Situational Analysis: State of Climate Change in the Americas - 4 -](#_Toc131067742)

[Climate Change Economics - 6 -](#_Toc131067743)

[GAPS, NEEDS AND OPPORTUNITIES FOR CLIMATE ACTION - 7 -](#_Toc131067744)

[Mitigation - 9 -](#_Toc131067745)

[Energy - 9 -](#_Toc131067746)

[Carbon Sequestration - 11 -](#_Toc131067747)

[Nature-Based Solutions - 12 -](#_Toc131067748)

[Adaptation - 12 -](#_Toc131067749)

[Water - 13 -](#_Toc131067750)

[Natural Disasters - 14 -](#_Toc131067751)

[Strategic Opportunities for Climate Action - 15 -](#_Toc131067752)

[STRATEGY 1 – Climate Change Adaptation: Actions for a More Resilient and Inclusive Region - 15 -](#_Toc131067753)

[STRATEGY 2 – Climate Change Mitigation: Actions to Reduce and Sequester Greenhouse Gas Emissions - 16 -](#_Toc131067754)

[STRATEGY 3 – Climate Finance: Actions to Meet Financing Needs - 17 -](#_Toc131067755)

[STRATEGY 4 – Regional Cooperation and Integration to Face the Climate Crisis and Secure Long-Term Sustainable Development - 18 -](#_Toc131067756)

[SUSTAINABLE DEVELOPMENT MANDATES OF THE OAS - 19 -](#_Toc131067757)

[FOURTH INTER-AMERICAN MEETING OF MINISTERS AND HIGH-LEVEL AUTHORITIES ON SUSTAINABLE DEVELOPMENT - 20 -](#_Toc131067758)

# BACKGROUND

 The Ministers and High-Level Authorities on Sustainable Development will meet in Nassau, The Bahamas, in October 2023 to take up the theme of “Climate Action” with the goal of defining policies, activities, projects, and other solutions-oriented outcomes that put the Americas on track to better address the causes of, and resiliency to, the impacts of climate change. In preparation for this Ministerial event, this white paper serves to summarize the key themes, challenges, gaps, opportunities, and other key issues facing the countries of the Americas in efforts to mitigate the causes of climate change while adapting to its impacts.

 On September 25, 2015, the United Nations adopted the 2030 Agenda for Sustainable Development,[[1]](#footnote-1)/ effectively setting 17 Sustainable Development Goals and 169 targets. These Goals and targets seek to stimulate action in areas of critical importance for humanity and the planet, with focus on sustained, inclusive, and sustainable economic growth and decent work for all; sustainable consumption and production patterns and use of all natural resources; democracy, good governance and the rule of law as essential ingredients for sustainable development; and the application of technologies that are climate-sensitive, respect biodiversity and are resilient.

 Cognizant of these goals, at the Ninth Summit of the Americas held in Los Angeles on June 9, 2022, the Heads of State and Government of the Americas agreed to pursue “Our Sustainable Green Future.”[[2]](#footnote-2)/ Their commitment furthers the UN Climate Change Conference UK 2021 (COP26), Glasgow Leaders’ Declaration on Forest and Land Use, and is an emphatic call to cut greenhouse gas emissions, harness the role of oceans and other bodies of water to mitigate and adapt to climate change, accelerate climate change adaptation, strengthen regional cooperation to assist governments and build resilience, and promote responsible and sustainable production and consumption.[[3]](#footnote-3)/ In the same vein, the Heads of State and Government of the Americas gathered in Los Angeles also committed to “Accelerating the Clean, Sustainable, Renewable, and Just Energy Transition”[[4]](#footnote-4)/ as the most efficacious action to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

 Consistent with this approach, on November 20, 2022, at the Twenty Seventh Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 27), the parties acknowledged “the urgent and immediate need for new, additional, predictable and adequate financial resources to assist developing countries that are particularly vulnerable to the adverse effects of climate change in responding to economic and non-economic ‘loss and damage’ associated with the adverse effects of climate change, including extreme weather events and slow onset events, especially in the context of ongoing and ex post (including rehabilitation, recovery and reconstruction) action.”[[5]](#footnote-5)/ The parties decided “to establish new funding arrangements for assisting developing countries that are particularly vulnerable to the adverse effects of climate change, in responding to loss and damage, including with a focus on addressing loss and damage by providing and assisting in mobilizing new and additional resources, and that these new arrangements complement and include sources, funds, processes and initiatives under and outside the Convention and the Paris Agreement.”[[6]](#footnote-6)/

 Furthermore, on December 18, 2022, the Fifteenth Conference of Parties to the United Nations Convention on Biological Diversity adopted the Kunming-Montreal Global Biodiversity Framework,[[7]](#footnote-7)/ which advances four long-term goals for 2050 related to the 2050 Vision for Biodiversity. These goals relate to the integrity, connectivity, and resilience of all ecosystems; the sustainable use of biodiversity; the fair use of genetic resources and indigenous knowledge; and the availability of financial resources, capacity-building, technical and scientific cooperation, and access to and transfer of technology to implement these goals.

As of February 2023, 198 Parties have ratified the Paris Agreement which aims to keep global average temperature to well below 2°C and as close as possible to 1.5°C above pre-industrial levels.[[8]](#footnote-8)/ However, in 2019 the IPCC indicated that neither of these targets will bring about any significant reduction in climate change impacts, especially on the marine environment. Furthermore, the 2022 IPCC Assessment Report revealed that tracked financial flows fell short of the levels needed to achieve mitigation goals across all sectors and regions, and that the challenge of closing gaps is largest in developing countries.[[9]](#footnote-9)/

## **Situational Analysis: State of Climate Change in the Americas**

 Credible scientific and empirical evidence demonstrates that the targets contained in the Paris Agreement, and in the voluntary commitments of signatory nations in their Nationally Determined Contributions (NDCs) are not ambitious enough to stave off impending disaster for countries on the front-line of climate change impacts, which includes the vast majority of countries in the Americas. According to the Emissions Gap Report released in November 2018, by the UN Environment Program, the current NDCs will see global average temperature rise by 2.9°C to 3.4°C above pre-industrial levels by the end of this century.

 The observed and anticipated impacts of climate change include more intense hurricanes, and changes in rainfall patterns and sea level rise that will negatively impact everyone, especially the most vulnerable groups, undermine social, economic, and environmental rights and threaten national and regional security in the Americas. The threats posed by Sea Level Rise (SLR) are of particular concern to coastal systems and low-lying areas in the region. Credible empirical data collated by the scientific community around the world is compelling; unabated carbon emissions will lead to 4°C warming could lock in 6.9 to 10.8 meters (22.6 to 35.4 feet) of long-term global SLR and would threaten to submerge land currently home to 470 to 760 million people on six continents, over the coming centuries.[[10]](#footnote-10)/ Other studies show that parts of the Caribbean (The Bahamas, Guyana, Belize and Jamaica), as well as Mexico and Ecuador are at risk from SLR.[[11]](#footnote-11)/ Even a 1-meter rise in sea level would flood an area in coastal Guyana where 70% of the population and 40% of agricultural land is located and would force a major re-organization of the country's economy. Argentina, Mexico, and Jamaica also appear among the top 10 vulnerable countries when measured by the impact of a 1-meter rise on agricultural lands.

Due to the fact that climate change places more stress on water and food availability, and exacerbates natural hazards, such as tropical cyclones, floods, and droughts, among others, the conditions to protect human beings worsen, with negative implications for people’s dignity, human rights, and fundamental freedoms. Further to this, the World Bank 2018 Report, “Groundswell: Preparing for Internal Climate Migration” suggests that in Mexico and Central America “the number of climate migrants will increase from 2020 to 2050 across all scenarios,” and “the region could see an average 1.4 to 2.1 million climate migrants by 2050.” The report also indicates that “Mexico and Central America could potentially see dramatic increases in climate migration toward the end of the century, because of steadily worsening impacts for water availability and crop productivity.” Domestic and international migration will concurrently increase the vulnerability in the recipient countries and communities, particularly in cities.[[12]](#footnote-12)/

At the same time, scientists have indicated that rapid and aggressive carbon cuts could decrease these threats by more than half. Mitigation and adaptation policies and strategies focused on human drivers, combined with preserving and enhancing the carbon sequestration roles and functions of terrestrial and marine ecosystems and biodiversity are paramount to avoid irreversible damage to marine and terrestrial ecosystems, and livelihoods.

Climate change is a direct driver that is increasingly exacerbating the impact of other drivers on terrestrial and marine ecosystems and human well-being. The IPCC’s Special Report predicts that warming of 1.5°C will destroy between 70 and 90 percent of reef-building corals, while warming of 2°C will likely destroy 99 percent of tropical coral reefs. Six years earlier, the IPCC in its Fifth Assessment Report had estimated that a doubling of carbon dioxide levels will likely cause global average surface temperature to rise between 1.5°C to 4.5°C. However, the latest climate models are now predicting that a doubling of carbon dioxide may produce warming of between 2.5°C and 5.8°C. Carbon dioxide concentrations in the atmosphere are now measured at 410 parts per million (ppm) today, compared to pre-industrial levels of 280 parts per million. Scientists forecast that without major mitigation efforts, carbon dioxide concentrations will reach about 560 ppm by 2060 (Gergis, 2019).[[13]](#footnote-13)/

The Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) released in May 2019 has found that 75 percent of the land surface is significantly altered, 66 percent of the ocean area is experiencing increasing cumulative impacts, and over 85 percent of wetlands have been lost. Further, the IPBES Report revealed that 32 million hectares of primary or recovering forest were lost between 2010 and 2015 while half the live coral cover on coral reefs has been lost since the 1870s, with accelerating losses in recent decades due to climate change exacerbating other drivers.[[14]](#footnote-14)/

These changes have contributed to widespread impacts in many aspects of biodiversity, including species distribution, phenology, population dynamics, community structure and ecosystem’s function. According to observational evidence, the effects are accelerating in marine, terrestrial and freshwater ecosystems and are already impacting agriculture, aquaculture, fisheries, and nature’s contributions to people. The compounding effects of drivers such as climate change, land-/sea-use change, over-exploitation of resources, pollution and invasive alien species are likely to exacerbate the negative impacts on nature, as seen in different ecosystems including coral reefs, the Arctic systems, and savannas.

## **Climate Change Economics**

Inasmuch as climate change affects the environment in many ways, it has direct impacts on the economy. Economic impacts are tied to the costs associated with building resilience to, and recovering from, the natural disasters caused by climate change. Economies are also challenged by the necessary steps required to mitigate the causes of climate change, including the transition to clean and green energy sources. While all segments of society feel the economic effects of climate change, it is widely understood that the poor and disenfranchised are most vulnerable and suffer the greatest consequences of this reality.

Climate change is becoming an increasing threat that deepens the social divide, exacerbates inequality, and pushes millions into poverty. Impoverished people, rural communities, and indigenous peoples are always those most affected by the adverse effects of climate change. For example, in November 2021, two massive hurricanes that lashed Central America—Eta and Iota—upended the lives of millions of people, compelling them to pull up roots and seek a better future elsewhere. The World Bank has estimated that climate change will lead to up to a 300% increase in extreme poverty in Latin America and the Caribbean by 2030.[[15]](#footnote-15)/

The World Bank estimates that climate change could push 3 million people into poverty every year in Latin America and the Caribbean until 2030. This impacts people in cities, rural areas, and along coastlines and low-lying areas where hurricanes and other hazards are a growing threat.[[16]](#footnote-16)/ To overcome many of the challenges and stave off the fall of millions of people into poverty, critical investments in resilience and economic support for the poorest urban, rural, and indigenous communities must be prioritized. The recent Conferences of the Parties to the UNFCCC have taken up these issues, but many efforts are yet to be activated, and regionally based solutions are lacking.

Eradicating extreme poverty for all people everywhere by 2030 is a pivotal goal of the 2030 Agenda for Sustainable Development. Between 2015 and 2018, global poverty continued its historical decline, with the global poverty rate falling from 10.1% in 2015 to 8.6% in 2018. Owing to the COVID-19 pandemic, the global poverty rate increased sharply from 8.3% in 2019 to 9.2% in 2020, rewinding progress by about three years.

Further, the COVID-19 pandemic provoked the deepest global recession since the second world war. In 2020, global GDP contracted by 3%. However, in Latin America and the Caribbean output fell by 7%, the worst of any region tracked by the IMF.[[17]](#footnote-17)/ In 2022, Russia's invasion of Ukraine drove yet another global economic slowdown. Record inflation, fueled by the largest energy crisis since the 1970s, created financial hardship for millions, triggering food shortages and deepening poverty and inequality throughout the region. Last year, nearly one-third of the region’s population (equivalent to 201 million people) fell below the poverty line, while extreme poverty affected 13.1% (82 million).[[18]](#footnote-18)/

In this context of climate uncertainty, the OAS serves as the prime forum to support the Americas in developing a hemispheric approach to climate change. Further, as stated in the 2016-2020 Comprehensive Strategic Plan,[[19]](#footnote-19)/ the OAS brings together ministers and high-level authorities to discuss shared challenges, work on solutions, and establish priorities for joint action.

The proposition of the Fourth Meeting of Ministers and High-Level Authorities on Sustainable Development, to be held in October 2023, centers on providing member states with a unique opportunity to envision a shared regional approach to climate change, as well as the role of the OAS in supporting such effort. The ministerial sessions will allow climate policy decision-makers to outline collective actions which, in the aggregate, will meet the challenges of climate change.

# GAPS, NEEDS AND OPPORTUNITIES FOR CLIMATE ACTION

Leaders around the world, and in the Americas, are rallying to tackle the climate crisis and meet the demands through science-based actions. Several industrialized countries announced new greenhouse gas emission targets to ensure that nations accounting for half of the world’s economy are committed to the emission reductions needed globally to keep global warming to 1.5°C within reach. On the other hand, countries with developing and emerging economies are taking steps to scale up their climate ambitions while prompting economic growth. All these efforts converge on the need to adapt to a changing climate and mitigate future climate risks. However, the scientific data indicates that, to get on track for limiting global warming to 1.5°C within this decade, global annual greenhouse gas emissions must be reduced by 45% compared with emissions projections under policies currently in place, and they must continue to decline rapidly after 2030, to avoid exhausting the limited remaining atmospheric carbon budget.[[20]](#footnote-20)/

Addressing climate change gaps is a multisectoral effort that requires the engagement of all actors in society. Main actors include national governments, cities and local governments, the private sector, civil society and the scientific community.

At the national level, several governments in the region show major transformational gaps, including the absence of national climate change strategies with clear measurable targets and/or key performance indicators to monitor progress, a general lack of reliable scientific data, and technical capacity, and a weak evaluation of externalities, as well as their inclusion into national accounting processes. At the local level, few cities and municipal governments include carbon reduction as part of their mandate, and there is inadequate awareness of the carbon footprint of food systems.[[21]](#footnote-21)/

Private sector action with regard to limiting global warming shows insufficient commitment, coupled with inadequate technical capacities, and opposition to taxes and environmental regulations. For its part, civil society knowledge and incentives is limited, technical and financial resources available to climate change NGOs, grassroots organizations, and advocacy groups are inadequate, and there isn’t but a small number of mechanisms to enable the involvement of citizenry in climate change decision-making. Finally, with regard to academia, a robust alignment between science and societal needs, and stronger interdisciplinary approaches are needed to strengthen the region’s climate agenda. [[22]](#footnote-22)/

Government actions to cut down on greenhouse gas emissions, slow the pace of global warming, and further the engagement of all sectors of society in this task include a wide array of policy interventions ranging from renewable energy power generation to electric mobility, public transport, energy efficiency, waste and land management, monitoring and evaluation of environmental commitments at the local and national levels, or public participation strategies for climate change decision-making, to name a few. However, the world must adapt to the consequences of an already changing climate, the fallout of which varies depending on the region, and might mean fires, floods, hurricanes, droughts, hotter or colder days, or sea-level rise.

As countries transition to a decarbonized economy, their development plans can shape the economy in ways that are clean, green, and more resilient. Their response to climate change will involve two critical approaches. The first consists of reducing and stabilizing the levels of greenhouse gases in the atmosphere (mitigation), whereas the second centers on adapting to the climate change already in the pipeline (adaptation). In both instances, the post COVID-19 recovery is an opportunity for a deep systemic shift toward a sustainable economy that works for both people and the planet.

## **Mitigation**

There is a direct correlation between global average temperatures and concentrated levels of greenhouse gases (e.g., carbon dioxide, methane, nitrous oxide, water vapor, etc.) in Earth’s atmosphere. The key to address this issue is to decrease emissions released into the atmosphere and to reduce the current concentration of carbon dioxide by enhancing “sinks” that accumulate and store these gases (e.g., oceans, forests, and soil). Efforts to reduce emissions and enhance sinks are referred to as “mitigation.” The goal of mitigation is to avoid significant human interference with Earth's climate, “stabilize greenhouse gas levels in a timeframe sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.”[[23]](#footnote-23)/

More than half of global methane emissions stem from human activities in three sectors: fossil fuels (35%), waste (20%), and agriculture (40%). In the fossil fuel sector, oil and gas extraction, processing, and distribution account for 23%, and coal mining accounts for 12% of emissions.[[24]](#footnote-24)/ In the waste sector, landfills and wastewater make up about 20% of global anthropogenic emissions. In the agricultural sector, livestock emissions from manure and enteric fermentation represent roughly 32%, and rice cultivation 8% of global anthropogenic emissions.[[25]](#footnote-25)/ Further, there are readily available targeted control measures that can reduce more than 30% of projected anthropogenic methane emissions by 2030. Most of these technical solutions are in the fossil fuels (oil, gas, and coal) and waste sectors, and can be deployed at low or negative cost.[[26]](#footnote-26)/ A combination of policies centered on these measures could reduce emissions from these major sectors by approximately by as much as 45% by 2030, thus achieving the Paris Agreement 1.5° C target. Additionally, these policies should leverage nature-based solutions.

### Energy

 Electric power generation and consumption, and transportation are major sources of greenhouse gas emissions in the region. Countries seeking to reduce their carbon footprint and decarbonize the energy sector have at their disposal a host of policies which, if successfully deployed, have the potential to drastically reduce greenhouse gas emissions.

 Although countries in the Americas have made considerable progress in decarbonizing the energy sector, the hemisphere remain heavily dependent on highly volatile oil markets and fuel subsidies. At present, the energy sector is dominated by fossil fuels, which account for around 70% of total primary energy supplies, while the remaining 30% comes from renewables. In terms of installed capacity, fossil fuels represent 39%, and renewables 61% (OLADE, 2020). According to the International Monetary Fund (IMF), fossil fuel subsidies were $5.9 trillion or 6.8% of GDP in 2020 and are expected to increase in the near future.[[27]](#footnote-27)/

The region will require new technologies and staggering amounts of capital over the next 20 years to meet demand growth, strengthen energy security, and meet climate commitments under the Paris Agreement. According to the International Energy Agency (IEA), by 2040 electricity demand will have doubled, hydropower and natural gas will remain dominant in the generation matrix, there will be a stronger participation of variable renewable energy (from 2% in 2014 to 11% in 2040), and fuel oil and coal will continue to play a role in the energy mix. Additionally, data from the Inter-American Development Bank indicates the region will require an additional 408 gigawatts in new capacity over the next two decades (138 gigawatts from natural gas and 270 gigawatts from renewable sources) at an average cost of US$24 billion per year. Additionally, by 2040 several energy assets reaching the end of their life cycle will need to be replaced at an estimated cost of US$177 billion. On the other hand, power grid expansion and retrofitting to supply new end-users and electric mobility requirements will demand almost US$80 billion. Based on these estimates, the region is looking at annual sustainable energy infrastructure investment needs in the order of US$36.85 billion between 2023 and 2040 to implement energy transitions in power generation alone.

Countries may enhance energy security, improve the balance of payments, and achieve greater fiscal stewardship by increasing the share of renewables in the national energy matrix. Ramping up the uptake of renewable energy technologies curbs dependence on oil imports, creates new employment opportunities, and reduces greenhouse gas emissions. However, government budgets lack the fiscal headroom to provide the level of financial support required to fund full-scale energy sector decarbonization. Furthermore, the sharp financial decline resulting from the COVID-19 pandemic, combined with the armed conflict between Russia and the Ukraine, begs the need to implement a whole-of-government approach to ensure that all sectors of the economy can contribute to economic recovery.

Private sector capital and technology solutions are critical to achieving successful energy transitions across the Americas. There is both a need and an opportunity for the private sector to help turn the region’s energy transition into a climate-smart and social impact investment haven. As such, solving the climate change crisis will require the ultimate public-private partnership, and business leaders should be part of the ongoing conversation about how to align finance and innovation with the transition to a sustainable, net-zero energy sector.

In addition to deploying renewable energy solutions, effectively decarbonizing the economy requires major efforts to improve energy efficiency in homes, businesses, and industries. Energy efficiency is a cost-effective way to combat climate change, reduce energy costs, and improve competitiveness. Energy efficiency is also vital in achieving net-zero emissions. Conserving energy reduces the need for future investments, frees up capital and hedging of fuel risks, enhances competitiveness, and supports long term resource planning. Most Latin American and Caribbean countries contemplate energy efficiency targets as part of their Nationally Determined Contributions (NDCs) under the Paris Agreement.

With regard to the transport sector, World Bank data shows that, in Latin America and the Caribbean, 35% of greenhouse gas emissions related to fuel combustion originate from internal combustion engine vehicles—much higher than the global average of 22%. On the other hand, the region’s public transport ridership is one of the highest in the world. Electrifying public transport would bring about huge transformational gains in terms of reduced greenhouse emissions, while helping countries meet their nationally determined contributions under the Paris Agreement.

From the perspective of technological innovation, green hydrogen is showing great promise, as a growing number of countries in the region are gearing up to produce clean hydrogen, driven by their abundant renewable energy resources, the need to decarbonize their economies, and the huge potential for hydrogen exports. Additionally, hydrogen technologies provide a new perspective and new opportunities for energy integration in the region.

The transportation sector has been a legitimate target of decarbonization policies and strategies in the Americas not only because of its contribution to the attainment of NDCs but also because of the significant positive impact on air quality and human health that can accrue. Latin America’s current electric vehicle (EV) market is small. The charging infrastructure is in its infancy, EVs are expensive and their import tariffs high, which make them unaffordable to most people. Electric buses on the other hand show a huge potential for market growth. They provide a viable solution for cities looking into technology to improve air quality and public transit, curb greenhouse gas emissions, and reduce exposure to volatile oil markets.

Most passenger travel in Latin American and Caribbean cities is done on public transit. Health safety in urban transport is an issue of concern, but it is also part of the new reality riders and governments alike will be faced with for many years to come. Providing high-quality public transport remains a priority for most cities, especially those that have not kept pace with the growth in transport demand for decades. Transport planning strategies based on a combination of good policy and the right market signals can help governments offset investment so that businesses supplement public funding in return for service fees based on performance.

The Covid-19 pandemic and the armed conflict between Russia and the Ukraine caused unprecedented oil market disruptions that resulted in a profound impact on petroleum supply, demand, and prices. Transitioning toward electric mobility will curb air pollution, reduce exposure to volatile petroleum markets, and enable compliance with national greenhouse gas emission targets. Countries are already deploying electric mobility as a technological solution to address multiple priorities.

### Carbon Sequestration

The carbon dioxide present in Earth’s atmosphere originates in two distinct primary sources—natural and human activities. Natural sources include most animals, which exhale carbon dioxide and excrete methane. Human activities that lead to carbon dioxide emissions come primarily from energy, agriculture, industry, transportation, etc. Carbon dioxide, as well as other greenhouse gases, has a heat-trapping effect which keeps Earth warm. Excessive carbon dioxide accumulations lead to increased temperatures and global warming.

Carbon dioxide is the most ubiquitous greenhouse gas in Earth’s atmosphere, followed by methane, nitrous oxides, and water vapor. Carbon sequestration is the process by which atmospheric carbon dioxide is captured and stored, thereby reducing its amount and with it, global warming. Carbon sequestration processes may be either biological or geological.

Biological carbon sequestration refers to the natural ability of aquatic and land ecosystems to store carbon. Forests, peat marshes, and coastal wetlands are capable of storing massive amounts of carbon dioxide. Natural sequestration processes store carbon dioxide in plant tissue such as tree bark or roots. On the other hand, Geological carbon sequestration is the process of storing carbon dioxide in underground geological formations. The carbon dioxide is pressurized until it turns into a liquid, and then it is injected into porous rock formations in geological basins.[[28]](#footnote-28)/ This method is also sometimes combined with enhanced oil recovery techniques, also known as tertiary recovery.

### Nature-Based Solutions

Nature-based solutions are defined as “actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.”[[29]](#footnote-29)/ Nature-based solutions involve harnessing the forces of nature to address societal challenges, providing benefits for both human well-being and biodiversity. Nature-based solutions involve actions to protect, restore or manage natural and semi-natural ecosystems, aquatic systems, and arable lands, or the creation of novel ecosystems in and around cities. These actions are underpinned by biodiversity and engage local communities and indigenous peoples in their design and implementation. For example, restoring forests and wetlands in catchments can secure water supplies, support forest livelihoods, and protect communities from floods, soil erosion and landslides. Adding green roofs in buildings can moderate the impacts of heatwaves, capture storm water, and abate pollution. Restoring coastal ecosystems (mangroves, reefs, and salt marshes) protects communities and infrastructure from storm surges and erosion. Coastal habitats, especially mangroves, are particularly good at sequestering carbon, thus contributing to mitigation.

## **Adaptation**

Climate change adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climate stimuli and their effects.[[30]](#footnote-30)/Adaptation techniques denote changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change. Earth is already experiencing changes in average temperatures, seasonal shifts, increased frequency of extreme weather events, and slow onset events. The fast rate at which climate is changing, combined with lagging adaptation efforts, are heightening the difficulty of deploying effective climate adaptation measures, and elevating their cost. Countries and communities must develop adaptation solutions and implement actions to respond to current and future climate change impacts.

Adaptation actions can take on many forms, depending on the context of a community, country, or region. Adaptation can range from building flood defenses, setting up early warning systems for hurricanes, switching to drought-resistant crops, building climate-resistant infrastructure, reforming building codes, to redesigning communication systems, business operations and government policies. Many nations in the Americas are taking steps to build climate resilience into their societies and economies. However, greater ambition will be needed to cost-effectively manage both present and future climate risks.

While climate change is a global issue, it is felt on a local scale. Local governments and communities are therefore at the frontline of adaptation. Successfully adapting to climate change does not depend exclusively on governments taking action, but also on local communities, national, regional, multilateral, and international organizations, businesses, and civil society doing their part. Adaptation is a critical component of the long-term global response to protect people, livelihoods, and ecosystems. It should be based on and guided by scientific knowledge and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into socioeconomic and environmental policies and actions.[[31]](#footnote-31)/

### Water

Latin America boasts abundant water resources, accounting for 31% of the world's freshwater reserves. However, many areas in the region are being affected by climate change-induced fluctuations in precipitation patterns, mega-droughts and other devastating weather phenomena.[[32]](#footnote-32)/ Climate change is exacerbating the variability of hydrological cycles, leading to extreme weather conditions that weaken people's ability to manage the impacts of droughts or floods, reducing the predictability of water resources availability, decreasing water quality, and threatening sustainable development, biodiversity, and access to safe drinking water and sanitation worldwide.

Climate change is also affecting water supply systems and the different productive uses of water. Access to safe drinking water, adequate sanitation and hygiene are essential for human health and well-being, this taking into consideration that today more than 166 million people[[33]](#footnote-33)/ (26% of the population in LAC) do not have adequate access to safe drinking water. Additionally, water is needed for industrial, food and energy production, which are closely related and potentially in conflict with each other if mismanaged. Given that access to safe, affordable, and reliable drinking water and sanitation services are basic human rights, moreover, the previous risks stated risks and water insecurity in our region are exacerbated due to the low rate of investment in the water and sanitation sector.

Promoting integrated water resources management approaches, including in transboundary bodies of water, is a priority considering the impacts of climate change, increasing water scarcity, and a growing demand for water. The region has 67 international river basins covering approximately 50% of its land, and a large share of the region’s economic activities depends on transboundary water resources. This economic and hydrographic dependence on shared bodies of water requires a basin-wide approach. Transboundary water resources rely on cooperation among multiple countries. Hence the need to promote dialogue, diplomacy, and agreements between and among countries.

An integrated and sustainable approach to climate and water resources management would carry with it substantial benefits, and therefore should be given adequate consideration in climate policymaking and planning at the regional level.

Integrated water resources management processes promote the coordinated use of water, land and related resources in a fashion that maximizes economic and social welfare without compromising the sustainability of vital ecosystems and gives proper acknowledgment to the transformational power that access to clean water represents to human wellbeing.

### Natural Disasters

All people face natural and human-made threats such as disasters. Today, climate change is scientifically linked to water scarcity and compound natural disasters, including hurricanes, floods, wildfires, heat waves, and extreme weather events. The Americas remain one of the most disaster-prone regions in the world, leaving citizenry exposed to multiple rapid-onset disasters and in a constant state of struggle. Although member states are willing to strengthen cooperation on disaster risk reduction, most notably through the implementation of the Sendai Framework, they understand this is not enough if they want to build an integrated approach to greater resilience.

As the frequency and intensity of extreme weather phenomena increase, member states should contemplate in their planning processes, measures to reduce the impacts of catastrophic events on people and the economy, with the mindset of protecting the most vulnerable groups, especially women, the elderly, persons with disabilities, the youth, and the poor.

Vulnerability is never evenly distributed, especially considering factors such as the dynamic changes in the natural environment, the region’s high rate of urbanization (80% of the population resides in urban areas), environmental degradation, and the unplanned overloading of cities with aging and often inadequate infrastructure. This context underscores the need to strengthen disaster risk management capacities.

Furthermore, the concept of Smart Cities is characterized by digital innovation and the use of modern communication technologies, enabling new capabilities to assess the impact of natural disasters and the response that a particular solution can provide, which contribute to mitigate the impacts during natural disasters caused by climate change and to achieve a faster and more efficient recovery after an emergency.

To mitigate and respond to disasters, it is necessary to design comprehensive strategies and intervention models that allow for risk management to be addressed at multiple levels within government, with special emphasis on the urban sphere, and considering cross-sectoral measures that are key elements for making cities more resilient. However, despite the large amount of information available today, there is still limited capacity for analysis and interpretation for decision making with regard to appropriate courses of action.

## **Strategic Opportunities for Climate Action**

There are strategies to adapt to the impacts of climate change, and similarly there are multiple ways in which the world may mitigate the causes of climate change. In this section, this report highlights a number of key strategies that may be considered for discussion at the Ministerial, including those related to adaptation, mitigation, finance, and cooperation.

### STRATEGY 1 – Climate Change Adaptation: Actions for a More Resilient and Inclusive Region

The observed and anticipated impacts of climate change include heightened frequency and intensity of hurricanes, changes in rainfall patterns, droughts, and sea level rise, all of which negatively impact over 1 billion people globally, particularly vulnerable groups, undermine social, economic, and environmental rights, and threaten national and regional security in the Americas. There are many actions that countries of the region may take to reduces the risks associated with these impacts. Several key actions are described below:

**Improving resilience to reduce vulnerability to the impacts of climate change**

To effectively improve resilience to reduce vulnerability to the impacts posed of climate change, the region must adopt a comprehensive and strategic approach to enhance resilience. This can involve a variety of actions, including:

1. Implementing **nature-based solutions** is crucial to restoring and preserving our natural ecosystems, including key transboundary basins, mangroves, and forests. By doing so, we can provide critical protection against climate change impacts like flooding, erosion, and droughts, while safeguarding vital natural resources, and reducing the vulnerability of local communities.
2. Low lying coastal zones may benefit from **strategic planning and targeted investments in protective infrastructure**, such as seawalls, flood barriers, and stormwater management systems, to help mitigate the impacts of hurricanes. Similarly, urgent action is needed for **urban planning and infrastructure development** in cities around the hemisphere to ensure that buildings and infrastructure are designed to withstand the effects of extreme weather events.
3. Development of a **data and science-based information system to** support governments in developing resilience initiatives that reduce the vulnerability of communities throughout Latin America and the Caribbean.
4. Member states may prioritize the **development of new building codes that promote resilient infrastructure and implement land management practices** that can help mitigate the impact of natural disasters. Scientific research should inform the development of mitigation measures such as constructing storm-resistant buildings, developing early warning systems, and establishing evacuation routes.

**Responding to natural disasters**

Responding to natural disasters in the Americas requires a comprehensive approach that encompasses both short-term emergency response and long-term strategic planning. This can involve a variety of actions, including:

1. Effective **training program**s must be established to equip policy makers and decision makers with the necessary knowledge and understanding of the scientific data related to natural disasters. This would enable countries to make informed decisions based on evidence and past experiences.
2. To ensure a prompt and efficient response to natural disasters, there is a crucial need for better **coordination and communication between governments, aid organizations, and local communities in high-risk areas**. Clear lines of communication and response protocols should be established to minimize the impact of disasters.

### STRATEGY 2 – Climate Change Mitigation: Actions to Reduce and Sequester Greenhouse Gas Emissions

It is generally accepted that rapid decarbonization of the global economy through reducing atmospheric concentrations of Greenhouse Gas (GHG) emissions is critical to the attainment of the goals of the Paris Agreement and the Sustainable Development Goals (SDGs) adopted in 2015. Also critical in terms of mitigation are efforts to preserve and enhance carbon sequestration via the functions of terrestrial and marine ecosystems and biodiversity. A number of potential mitigation actions are described below:

**Accelerate the transition to sustainable energy solutions,** **particularly renewable energy, and energy efficiency**

1. Governments in the region may adopt and enhance **policies and mandates to encourage the widespread adoption of renewable energy and energy efficiency solutions**.
2. It is essential to **promote public awareness and knowledge sharing campaigns** to educate individuals about the advantages of renewable energy and energy efficiency.
3. Organize collaborative efforts among countries in the region to establish **regional agreements and deeper energy integration are necessary to encourage the adoption of renewable energy and energy efficiency solutions on a larger scale**.

**Promote the use of natural climate solutions**

1. The Latin American and Caribbean (LAC) region boasts an incredible richness of biodiversity, making it crucial to **prioritize the protection and restoration of its forests, grasslands, and wetlands.** These ecosystems are vital for providing essential ecosystem services and serve as natural carbon sinks, helping to mitigate the impact of carbon emissions on the atmosphere.
2. One way to support the LAC region's efforts to combat climate change is by **promoting regenerative agriculture practices.** These practices focus on healthy soil and maximize carbon sequestration through nature-based methods such as no-till farming, cover cropping, and crop rotation.
3. To further encourage sustainable land management practices, countries in the LAC region should **promote incentives and policies that are evidence-based and support the use of climate solutions.** Examples of such policies include carbon pricing, tax incentives, and subsidies. By incentivizing sustainable practices, we can help protect the LAC region's biodiversity while also reducing the region's carbon footprint.

### STRATEGY 3 – Climate Finance: Actions to Meet Financing Needs

Finance aimed at supporting investments in climate mitigation (reducing and/or sequestering greenhouse gas emissions) and climate adaptation (increasing the resilience of human and ecological systems to the negative impacts of climate change) is essential to meeting the challenges presented by climate change. As a cross-cutting theme supporting climate change discussions at the Ministerial, this is a critical topic for the hemisphere, which is poised to engage in multi-billion-dollar transactions involving public, multilateral, and private equity.

At the recently concluded COP27 Conference, the countries reached agreement on a breakthrough “loss and damage” fund to support vulnerable countries being ravaged by climate impacts. The funding levels and operationalization of this fund will be defined at the upcoming COP28 in late 2023. With regard to mitigation, there continues to be considerable interest on the part of developed countries and the private sector to invest in decarbonization and transition through diplomacy or multilateral development institutions (e.g., World Bank, GCF, GEF), and through foreign direct investment respectively, thereby helping developing countries achieve their NDCs.

**Climate finance assessments and knowledge sharing**

To secure climate finance resources, member states may consider the following actions:

1. The countries of the hemisphere may conduct an **assessment of the current allocation of climate finance resources for the region**. This entails identifying the different sources of climate finance, such as private sector investments, government funding, and international aid, and analyzing how these resources are distributed across various regions and sectors.
2. To tackle the key obstacle in accessing climate finance, it is essential to **establish a more transparent process and ensure greater harmonization in the application procedures**. Such measures would facilitate countries in comprehending the process and enhance their likelihood of attaining success. It is imperative to prioritize these actions to ensure equitable access to climate finance for all nations.
3. Developing countries require **institutional capacity building to enable effective access to and management of climate finance**. This includes improving legal frameworks, building technical expertise and developing financial management skills.
4. Develop a **hemispheric climate finance information hub** which would share information on new sources of financing, such as green bonds, climate investment funds, and other innovative mechanisms that can help mobilize the necessary resources to address climate change in the region.
5. Promote **knowledge sharing and capacity building** and foster collaboration among countries and international partners, to facilitate the sharing of best practices and build capacity in areas such as project design, financing, and implementation. Consider including alliances among different actors in the region, including governments, civil society organizations, the private sector, and international organizations, to leverage expertise and resources to address the challenges of climate finance in the region.

### STRATEGY 4 – Regional Cooperation and Integration to Face the Climate Crisis and Secure Long-Term Sustainable Development

Recognizing the serious challenges faced by the region, the value of working together for an integrated and inclusive sustainable development, through more intraregional energy systems, roads, trade and aligning policies to strengthen national capacities, can help the Americas’ region to build greater resilience, as well as enhance bargaining power on the global stage, especially in the framework of the new funds to be negotiated at COP28. There is no doubt that expanding and deepening cross-border cooperation in the region will help the us navigate the worsening climate crisis.

**Address impediments to institutional integration by harmonizing and strengthening institutions and processes across the region and resolving resource/capacity constraints.**

1. Foster a culture of political will and collaboration to **prioritize institutional integration in Latin America and the Caribbean**.
2. **Address resource and capacity constraints** through innovative financing mechanisms and partnerships, including public-private partnerships and international cooperation.
3. Overcome political and social differences by engaging in **open and constructive dialogue that seeks to find common ground and build consensus around institutional integration efforts.**

**Enhance functional policy coordination in the areas of common challenges, including building climate resilience, climate infrastructure, and reduction of fossil-fuel subsidies, and reducing harmful competition among member states.**

1. Encourage political leaders to work towards a **shared vision for sustainable development**, which prioritizes the reduction of harmful competition and the promotion of regional cooperation and integration.
2. Promote the need for greater transparency and accountability in policy-making processes, ensuring that **decision-making is informed by sound scientific evidence and guided by the principles of equity and social justice.**
3. **Facilitate dialogue and knowledge-sharing** among member states, civil society organizations, and other stakeholders to identify and address common challenges, leverage shared resources, and build a more resilient and sustainable future for all.

# SUSTAINABLE DEVELOPMENT MANDATES OF THE OAS

#

 In the pursuit of increased sustainable development and climate action, the OAS actively supports member states to develop and implement initiatives that address key aspects of these challenges. These actions are instructed by numerous Ministerial level mandates, including the following:

* The OAS Charter mandates the Inter-American Council for Integral Development (CIDI) to promote cooperation among OAS member states to achieve integral development. The Charter also directs CIDI to “promote, coordinate and assign responsibility for the execution of development programs and projects to the subsidiary bodies and relevant organizations, on the basis of the priorities identified by the member states, in areas such as economic and social development, including trade, tourism, integration and the environment.”
* At the OAS General Assembly, held on June 14, 2016, OAS member states adopted the Inter-American Program for Sustainable Development (PIDS) which establishes priority actions for sustainable development in 6 areas namely: (1) disaster risk management; (2) sustainable management of ecosystems; (3) integrated water resources management; (4) sustainable cities and communities; (5) sustainable energy management, prioritizing the promotion of clean, renewable, environmentally sustainable energy and energy efficiency; and (6) strengthening and capacity building for efficient, effective, accountable and inclusive institutions for sustainable development. The PIDS aims at ensuring that the work of the General Secretariat on sustainable development is aligned with the implementation in the Hemisphere of the 2030 Agenda on Sustainable Development and the Paris Agreement on Climate Change and that its objectives and results are guided by the SDGs approved by member states and contribute to the attainment.
* The PIDS also directs that the work of the General Secretariat should contribute directly to supporting in their efforts to meet: SDG#11 “Make cities and human settlements inclusive, safe, resilient and sustainable;” SDG#15, “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss;” and SDG#7 “Ensure access to affordable, reliable, sustainable and modern energy for all;” as well as the interrelated targets of other SDGs on the 2030 Agenda and its crosscutting elements.
* The link between climate change, disasters and security has also been receiving focused attention of OAS member states since 2002. At the thirty-second regular session of the General Assembly, in Barbados, in 2002, member states declared that “the security of the Hemisphere encompasses political, economic, social, health, and environmental factors.” They further agreed that “Member states should seek to enhance and deepen cooperation and coordination in order to address in a more focused manner the new multidimensional threats, concerns, and other challenges to hemispheric security.” Later, in 2003, at the Special Conference on Security, in Mexico, a new concept of “Multidimensional Security” was agreed including new threats to the traditional ones, including natural and man-made disasters, as well as environmental degradation.
* The link between climate change and energy was the focus of the thirty-seventh regular session of the General Assembly in Panama, in 2007. The member states approved the Declaration of Panama: Energy for Sustainable Development, and underscored that democratic governance, strong democratic institutions, the rule of law, and respect for human rights and fundamental freedoms are essential elements in advancing the energy and sustainable development goals of member states and the region, combating social exclusion, and fostering the public good.[[34]](#footnote-34)/

The principal entity within the OAS responsible for fulfilling these and other sustainable development mandates is the Department of Sustainable Development (DSD) of the Executive Secretariat for Integral Development (SEDI). For over 60 years SEDI/DSD has been devoted to supporting the member states to achieve inclusive and **sustainable development through technical assistance and regional policy dialogue on key water, energy, natural disasters, and climate change**. The work of the OAS has focused on building the capacity of individuals and institutions to generate tangible impacts. Moving forward, the OAS will leverage its technical and institutional capacities to implement tipping point climate change interventions that will lead to major regional long-term environmental gains.

# FOURTH INTER-AMERICAN MEETING OF MINISTERS AND HIGH-LEVEL AUTHORITIES ON SUSTAINABLE DEVELOPMENT

The Ministers and High-Level Authorities for Sustainable Development are expected to convene with the goal of building consensus around key policies, activities, projects, and other solutions would allow the Americas to collectively better address the causes of, and resilience to the impacts of climate change.

In addition to the current and projected impacts of climate change described above, the global efforts to combat these threats been affected by other events. In particular, the COVID-19 global pandemic and the armed conflict between Russia and the Ukraine have only exacerbated these impacts while demonstrating how vulnerable and dependent the world, and our region is on third parties to maintain its food and energy security, while continuing to build economic growth. An approach that emphasizes strengthening regional integration and cooperation will help with both mitigating climate change and increasing resilience to its impacts. There is consensus that a green pathway that promotes carbon neutral investments, fair and green jobs, pollution reduction, sustainable and resilient infrastructure, and attracting private investment is the way to guarantee long term sustainability and achieve an inclusive recovery for all.

This is precisely why it makes sense to work together, as the Americas, on the common causes and effects of climate change, while achieving our much-desired sustainability and economic growth, but without destroying the ecosystems that provides us with air, food, and water.

CIDRP03817E01

1. . United Nations General Assembly, Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, Seventieth session, Agenda items 15 and 116. [↑](#footnote-ref-1)
2. . IX Summit of the Americas, Our Sustainable Green Future, June 9, 2022, Los Angeles, United States. [↑](#footnote-ref-2)
3. . Glasgow Leaders’ Declaration on Forests and Land Use - UN Climate Change Conference (COP26) at the SEC – Glasgow 2021. [↑](#footnote-ref-3)
4. . IX Summit of the Americas, Accelerating the Clean, Sustainable, Renewable, and Just Energy Transition, June 9, 2022, Los Angeles, United States. [↑](#footnote-ref-4)
5. . Conference of the Parties to the United Nations Framework Convention on Climate Change, Sharm el-Sheikh, Egypt, November 20, 2022, Funding arrangements for responding to loss and damage associated with the adverse effects of climate change, including a focus on addressing loss and damage, Decision -/CP.27 -/CMA.4, Twenty seventh session (advance unedited version). [↑](#footnote-ref-5)
6. . Ibid. [↑](#footnote-ref-6)
7. . Conference of the Parties to the Convention on Biological Diversity, Kunming-Montreal Global Biodiversity Framework, 18 December 2022, Montreal, Canada, CBD/COP/15/L.25, Fifteenth meeting – Part II Agenda item 9A. [↑](#footnote-ref-7)
8. . As reported by the UNFCCC Secretariat. [↑](#footnote-ref-8)
9. . IPCC, 2022: Summary for Policymakers. In: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. [↑](#footnote-ref-9)
10. . Climate Central: Program on Sea Level Rise. Available at <https://sealevel.climatecentral.org/maps/mapping-choices> [↑](#footnote-ref-10)
11. . Latin America & Caribbean cities at risk due to sea-level rise. UN-HABITAT Global Urban Observatory 2008. Available at <https://www.preventionweb.net/files/5649_latinamericascaribbean.pdf> [↑](#footnote-ref-11)
12. . Rigaud, Kanta Kumari; de Sherbinin, Alex; Jones, Bryan; Bergmann, Jonas; Clement, Viviane; Ober, Kayly; Schewe, Jacob; Adamo, Susana; McCusker, Brent; Heuser, Silke; Midgley, Amelia. 2018. Groundswell: Preparing for Internal Climate Migration. World Bank. <https://openknowledge.worldbank.org/handle/10986/2946> [↑](#footnote-ref-12)
13. . Joëlle Gergis. The terrible truth of climate change. August 2019. Available at <https://www.themonthly.com.au/issue/2019/august/1566136800/jo-lle-gergis/terrible-truth-climate-change> [↑](#footnote-ref-13)
14. . Global Assessment Report on Biodiversity and Ecosystem Services. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Available at <https://ipbes.net/global-assessment-report-biodiversity-ecosystem-services> [↑](#footnote-ref-14)
15. . Anna Wellenstein, Julie Rozenberg, Sara Turner, Brian Walsh. Climate change and poverty: the perfect storm. February 2, 2022. Available at <https://blogs.worldbank.org/latinamerica/climate-change-and-poverty-perfect-storm?cid=SHR_BlogSiteTweetable_EN_EXT> [↑](#footnote-ref-15)
16. . Juan Ignacio Coda. Promoting Climate Change Action in Latin America and the Caribbean. April 14, 2021. Available at <https://www.worldbank.org/en/results/2021/04/14/promoting-climate-change-action-in-latin-america-and-the-caribbean> [↑](#footnote-ref-16)
17. . Why Latin America’s economy has been so badly hurt by covid-19. The Economist. May 13, 2021. Available at <https://www.economist.com/the-americas/2021/05/13/why-latin-americas-economy-has-been-so-badly-hurt-by-covid-19> [↑](#footnote-ref-17)
18. . ECLAC, 2022 Social Panorama. Available at <https://repositorio.cepal.org/handle/11362/48518> [↑](#footnote-ref-18)
19. . Adopted by the member states on October 31, 2016, through General Assembly resolution AG/RES.1 (LI-E/16) [↑](#footnote-ref-19)
20. . United Nations Environment Programme (2022). Emissions Gap Report 2022: The Closing Window — Climate crisis calls for rapid transformation of societies. Nairobi. Available at <https://www.unep.org/emissions-gap-report-2022> [↑](#footnote-ref-20)
21. . United Nations Environment Programme (2022). Emissions Gap Report 2022: The Closing Window — Climate crisis calls for rapid transformation of societies. Nairobi. Available at <https://www.unep.org/emissions-gap-report-2022> [↑](#footnote-ref-21)
22. . Ibid. [↑](#footnote-ref-22)
23. . IPCC, 2014: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. [↑](#footnote-ref-23)
24. . United Nations Environment Programme and Climate and Clean Air Coalition (2021). Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions. Nairobi: United Nations Environment Programme. [↑](#footnote-ref-24)
25. . Ibid. [↑](#footnote-ref-25)
26. . Ibid. [↑](#footnote-ref-26)
27. . Climate Change | Fossil Fuel Subsidies. International Monetary Fund. Available at <https://www.imf.org/en/Topics/climate-change/energy-subsidies> [↑](#footnote-ref-27)
28. . U.S. Geological Survey [↑](#footnote-ref-28)
29. . As defined by the 2016 World Conservation Congress. [↑](#footnote-ref-29)
30. . As defined by the UNFCCC Secretariat. [↑](#footnote-ref-30)
31. . UNFCCC [↑](#footnote-ref-31)
32. . OAS, 2022; Glaciares tropicales y cambio climático, perspectivas desde las NDC y la adaptación: Análisis y propuestas desde los escenarios de Bolivia, Perú, Ecuador y Colombia. [↑](#footnote-ref-32)
33. . United Nations Department of Economic and Social Affairs. Statistics. SDG Indicators Database. Available at <https://unstats.un.org/sdgs/dataportal/database> [↑](#footnote-ref-33)
34. . Declaration of Panama: Energy for Sustainable Development. Adopted at the fourth plenary session, held on June 5, 2007. AG/DEC. 52 (XXXVII-O/07). [↑](#footnote-ref-34)