

BIMUN XXIII



UNEP

United Nations Environment Programme



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1. Words by the Chair

I. Words by President Ustariz

Dear teachers, sponsors, delegates, ladies and gentlemen.

“A country that destroys its soil destroys itself.”

— Franklin D. Roosevelt

In a world where critical thinking is paramount, tackling the most urgent environmental challenges has rightly taken center stage. The preservation of our environment is not just a priority—it is vital to our very survival. It is with immense pride that my co-president and I introduce ourselves as leaders of the esteemed Model United Nations team at the Fundación Bilingüe de Valledupar, where we have the honor of serving as presidents of the United Nations Environment Program (UNEP).

There is no doubt that we are currently living in a reality where complex challenges demand decisive action. We are facing an unprecedented climate crisis, marked by rising temperatures, decreasing biodiversity, and pervasive pollution, all of which threaten the stability of our ecosystems. The impact of these challenges goes beyond the environmental sphere, profoundly affecting the lives of millions, deepening poverty, food insecurity, and endangering vulnerable communities.

As president, I am committed to leading with transparency, fairness, and determination, ensuring that every perspective on the committee is considered and that our decisions reflect a global consensus. I am convinced that each delegate will approach their role with dedication, contributing their utmost to this collective effort.

Being part of this committee fills me with enthusiasm and a deep sense of responsibility. I am confident that through discussion, we will develop policies and strategies that not only contemplate the protection of our planet but also promote sustainable and equitable development for all.

I extend a warm invitation to you to take full advantage of these opportunities, using this environment to share your ideas and foster meaningful connections with others. I encourage you to create your own space, feel secure in the company of others, and take the time to get to know each other. Finally, I welcome you to the UNEP Committee.

Leonel Ustariz Aragón

President of the UNEP Committee



II. Words by President Martínez

Dear Academic Advisors, Sponsors, Delegates, and Distinguished Guests,

"Critical thinking is the tool that allows us to question accepted truths and discover new ways of seeing the world." – John Dewey

In a world filled with complex challenges, both social and environmental, the true protagonists are those critical thinkers who, through their daily endeavors, contribute meaningfully by rigorously evaluating information, arguments, and ideas, and forming well-reasoned judgments in response to the demands of our modern era. It is, therefore, a profound honor for me, María Victoria Martínez Calderón, to have been entrusted with the distinguished position of President of the United Nations Environment Programme (UNEP) Committee at the twenty-third edition of the BIMUN Model.

Throughout my academic journey, I have long admired this exceptional event, which provides an unparalleled platform for the application of critical thinking and highlights the vital role of youth in advancing human knowledge and improving the structures that govern our societies. This model exemplifies the very essence of what it means to engage in meaningful dialogue, to challenge the status quo, and to innovate solutions that address the most pressing issues of our time. To all present, I urge you to give your fully effort, to set aside preconceived notions, and to contribute solutions that will enrich the debates within this committee. The topics we will address are not merely academic exercises; they are real-world issues that demand our most thoughtful and creative contributions.

To the esteemed delegates, know that I hold the highest confidence in your abilities. I am certain that with dedication, diligence, and a genuine passion for the goals you pursue, you can leave an indelible mark on this committee's proceedings. I encourage you to demonstrate your capacity to confront and mitigate the environmental challenges that threaten our planet, the future of countless species, and humanity as a whole. My co-chair and I are fully at your disposal for any concerns or difficulties you may encounter throughout this conference.

As we embark on this intellectual journey together, I also encourage you to take full advantage of this extraordinary opportunity to connect with others, to step beyond the familiar, and to embrace diverse perspectives and ideologies. Without further ado, it is with great pleasure that I extend a warm and heartfelt welcome to each of you to the UNEP Committee.

Sincerely,

María Victoria Martínez Calderón

President of the UNEP Committee.



2. Information about the Committee

I. Introduction to UNEP

The United Nations Environment Programme (UNEP) is a leading international organization dedicated to addressing global environmental challenges. Founded in 1972, UNEP plays a crucial role in coordinating responses to environmental issues within the United



Nations system. Its mandate includes providing leadership, delivering science, and developing solutions on a wide range of environmental issues globally. UNEP works towards achieving the 17 Sustainable Development Goals set by the United Nations and is headquartered in Nairobi, Kenya.

This committee strives to coordinate global responses to the triple planetary crisis of climate change, nature and biodiversity loss, and pollution and waste; provide scientific leadership and solutions, promote sustainable development goals, and to create and support international environmental agreements and conventions.

For over 50 years, this organization has worked with governments, civil society, the private sector and UN entities to address humanity's most pressing environmental challenges - from restoring the ozone layer to protecting the world's seas and promoting a green, inclusive economy. Effective institutions such as this one serve an essential role to live more in harmony with nature and move beyond the unsustainable consumption and production practices that are pushing the planet to a breaking point. This is truly important for realizing the Sustainable Development Goals, the world's blueprint for long-term peace and prosperity.



3. Topic A: "Evaluation of the Need for Countries to Transition to Electricity Systems Based on Renewable Energies."

I. Introduction to the Topic

Global Energy is a critical driver of global economic systems, technological innovations, and societal advancement. A reliable and sustainable energy supply is fundamental to maintaining the infrastructure that supports modern economies and enhances human well-being. Currently, global energy generation is predominantly reliant on fossil fuels, such as coal, oil, and natural gas, which are finite resources and have significant environmental externalities, including greenhouse gas (GHG) emissions and air pollution. This reliance on fossil fuels has exacerbated climate change and raised concerns about the long-term viability of conventional energy systems.

As energy demand continues to rise, driven by population growth, industrialization, and increasing urbanization, there is a pressing need for nations to transition towards electricity systems that are rooted in renewable energy technologies. Renewable sources, including solar photovoltaic, wind, hydroelectric, and geothermal, offer low-carbon, sustainable alternatives that mitigate the environmental degradation caused by conventional power generation methods. This transition is crucial not only for reducing global carbon footprints but also for enhancing energy security and achieving economic resilience through the diversification of energy sources.



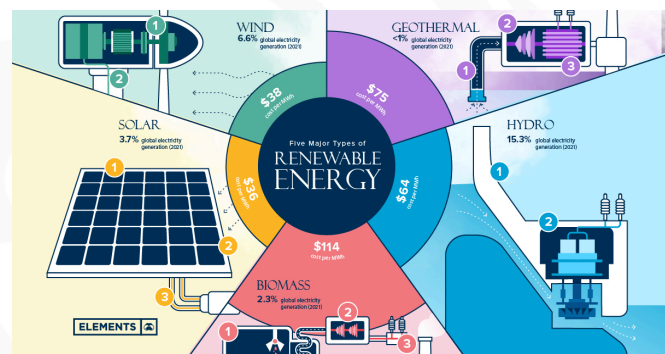
The evaluation of this need requires a comprehensive analysis of the technical, economic, and environmental dimensions associated with renewable energy integration. Factors such as the levelized cost of electricity (LCOE), energy storage solutions, grid reliability, and energy intermittency must be addressed in the transition. Moreover, significant capital investments are



necessary to modernize electrical grids, enhance energy storage capabilities, and develop policy frameworks that incentivize renewable energy deployment. Despite these challenges, the long-term benefits such as reduced dependency on fossil fuel imports, energy price stabilization, and alignment with global decarbonization targets underscore the necessity for countries to transition towards renewable energy-based electricity systems.

Definition of Renewable Energy

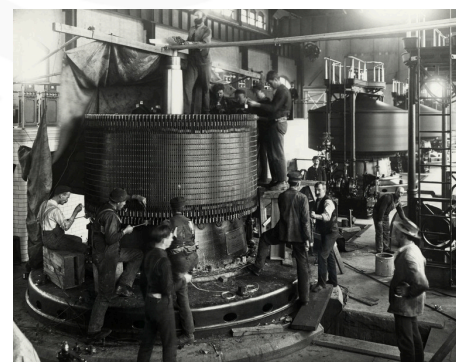
According to the definition of the International Energy Agency (IEA), renewable energy refers to the type of energy that is obtained directly or indirectly from the sun or the interior of earth, and which is sustainably supplied. Compared to traditional energy, it has the characteristics



of renewable, recyclable, large reserves and less pollution (Qin, 2019). Therefore, as an important supplement to traditional fossil energy, renewable energy is the main force to reduce the use of high-carbon energy and carbon dioxide emissions, which will become the trend of social development in the future. For this reason, researchers and policymakers have recently underlined the importance of increasing the use of renewable energy to meet the problem of rising energy requirements.

II. Historical Context

The global reliance on fossil fuels for electricity generation has deep historical roots, tracing back to the Industrial of the late 18th and early 19th centuries. This period marked the rapid expansion of coal-based energy, which fueled industrial growth, urbanization, and economic development across Europe and North America. The advent of oil and natural gas in the early 20th century further





entrenched the dominance of fossil fuels in energy systems, with their resources becoming the backbone of global power generation, transportation, and manufacturing.

However, by the mid-20th century, the environmental consequences of this energy model began to emerge. The 1970s saw a growing awareness of the limits of fossil fuels resources, highlighted by the oil crises of 1973 and 1979, which underscored the geopolitical vulnerabilities of energy dependence on a few oil-rich nations. In parallel, the rise of environmental degradation led to the first discussions about the need for alternative, cleaner energy sources.

The release of reports, in the 1980s and 1990s, from the Intergovernmental Panel on Climate Change (IPCC), which highlighted the role of fossil fuel-based emissions in accelerating climate change. This was compounded by global commitments like the Kyoto Protocol (1997), which aimed to reduce greenhouse gas emissions and set the stage for nations to explore renewable energy as a sustainable alternative.

Technological advances in the late 20th and early 21st centuries made renewable energy sources, such as solar and wind, more viable. Innovations in solar photovoltaic cells, wind turbines, and energy storage technologies began to reduce the costs of renewable energy generation. Simultaneously, concerns about energy security, climate change, and the depletion of fossil fuel reserves intensified, pushing governments and international organizations to adopt policies and incentives promoting the development of clean energy.

III. Current Situation

The Paris Agreement of 2015 marked a pivotal moment in the global commitment to combat climate change, with nearly 200 countries agreeing to limit global temperature rise to below 2°C above pre-industrial levels. This agreement solidified the urgency of transitioning away from fossil fuels and toward renewable energy systems. Since then, renewable energy has rapidly expanded, with solar and wind energy leading global capacity growth.



Many developing countries have called for greater financial and technological support from wealthier nations to meet their climate goals, arguing that without such support, it will be difficult for them to transition to low-carbon energy sources. And some, despite being aligned with the agreement, have a heavy dependence on oil and gas exports, and setting low emissions reduction targets.

The transition to electricity systems based on renewable energies is a critical component of the global response to climate change and energy security challenges. In recent years, renewable energy technologies have experienced rapid growth and increased adoption, driven by advances in technology, cost reductions, and international commitments to decarbonization.

At the global level, the need for a swift transition has been emphasized by the increasing frequency of extreme weather events, rising global temperatures, and growing concerns about the depletion of fossil fuel reserves. The Intergovernmental Panel on Climate Change has underscored the necessity of drastically reducing greenhouse gas emissions to limit global warming to 1.5°C above pre-industrial levels, which requires a rapid shift toward low-carbon energy systems. In response, many countries have set ambitious targets for achieving net-zero emissions, with renewable energy playing a central role in their strategies.

However, the current situation also reveals significant disparities between countries in terms of progress toward renewable energy adoption. Developed nations, such as Germany, the United States, and China, have made substantial investments in renewable infrastructure and are leading in renewable capacity installations. For example, the European Union's Green Deal and the United States' Inflation Reduction Act provide strong policy frameworks and incentives to accelerate the clean





energy transition. China, the world's largest producer of solar panels and wind turbines, has also set aggressive targets to become carbon-neutral by 2060.

In contrast, many developing countries, particularly in Africa, Latin America, and parts of Asia, face challenges in transitioning to renewable energy systems due to limited financial resources, inadequate infrastructure, and a reliance on fossil fuels for economic growth. While these regions have vast renewable energy potential, the lack of investment in grid modernization and energy storage technologies hampers their ability to fully harness it. International cooperation, financing mechanisms, and capacity-building initiatives are essential to support these nations in overcoming these barriers.

Problematic of Electricity Systems Based on Fossil Fuels:

Environmental Impacts

The most critical environmental impacts of electricity systems based on fossil fuels is the emission of greenhouse gasses, primarily carbon dioxide, methane and nitrous oxide. These emissions are the leading contributor to global warming and climate change, driving rising global temperatures, extreme weather events, and sea-level rise.



The burning of fossil fuels for electricity accounts for nearly 30% of global GHG emissions, making it a central factor in the climate crisis. Additionally, fossil fuels release harmful pollutants, which contribute to acid rain, smog and environmental degradation.

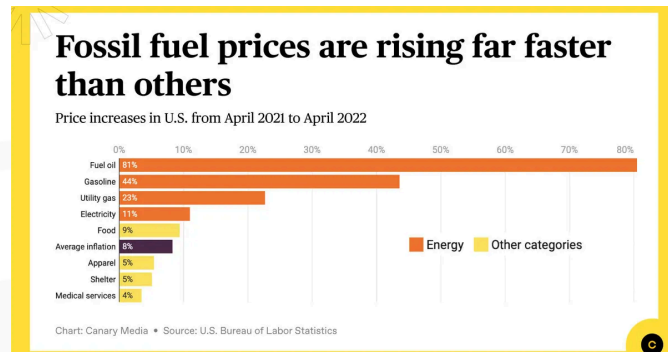
Economic Impacts

Fossil fuel-based electricity systems are associated with high economic costs, both direct and indirect. While fossil fuels have historically been seen as cost-effective, their long-term economic sustainability is questionable due to several factors, such as the volatility of fossil fuels



prices, as these markets are subject to frequent price fluctuations driven by geopolitical tensions, supply disruptions, and market speculation.

- **Global Energy Crisis:** this crisis has led to skyrocketing natural gas prices, driven by Russia's invasion of Ukraine and reduced gas supplies to Europe. This triggered a bidding war for gas and caused sharp rises in coal and oil prices as



countries switched energy sources. The crisis has made electricity unaffordable for millions, especially in developing countries because of it, tens of millions of people across the world may lose access to electricity, or fuel for their homes. Liquefied petroleum gas (LPG) prices have also surged, forcing many to revert to firewood for cooking.

Health Impacts

Fossil fuel-based electricity generation is a major contributor to air pollution, which is linked to severe health issues. Fine particulate matter and toxic gasses released from the combustion of coal, oil, and natural gas increase the risk of respiratory and cardiovascular diseases, lung cancer, stroke, and premature death. According to the World Health Organization (WHO), outdoor air pollution, largely driven by fossil fuel use, is responsible for millions of premature deaths globally each year.





Geopolitical Effects

The global competition for access to fossil fuel resources has historically been a source of geopolitical tension, with countries engaging in diplomatic or military actions to secure energy supplies. This reliance on fossil fuels perpetuates global power imbalances, where energy-rich countries wield disproportionate influence over global energy markets and geopolitical dynamics.



Social and Inequity Implications

The social impacts of fossil fuel-based electricity systems are marked by inequality and injustice, as the negative consequences of fossil fuel extraction, production, and consumption often disproportionately affect vulnerable populations.



International Agreements and Treaties:

The global transition to renewable energy has been shaped and guided by a series of international agreements, treaties, and frameworks that seek to reduce greenhouse gas emissions, mitigate climate change, and promote sustainable energy development. These agreements serve as a foundation for countries to commit to decarbonizing their energy systems and accelerating the adoption of renewable energy technologies. Below are key international agreements and treaties relevant to this transition:

The Paris Agreement (2015)

It is the most significant global accord addressing climate change, aiming to limit global warming to well below 2°C and preferably to 1.5°C above pre-industrial levels. Signed by nearly every country, the agreement requires nations to submit Nationally Determined Contributions



(NDCs) outlining their emissions' reduction plans, many of which include transitioning to renewable energy. It promotes achieving net-zero emissions by mid-century, thereby driving large-scale investments in renewable energy technologies and emphasizing the need for financial support for developing nations.

The Kyoto Protocol (1997)

The Kyoto Protocol was the first international treaty to establish legally binding targets for industrialized countries to reduce greenhouse gas emissions, which indirectly promoted the adoption of renewable energy by encouraging cleaner energy sources. Although its main focus was emission reductions, mechanisms like carbon trading and the Clean Development Mechanism (CDM) incentivized countries to invest in renewable energy projects, especially in developing nations.

The United Nations Sustainable Development Goals – Goal 7 (2015)

The United Nations Sustainable Development Goals (SDGs) – Goal 7 (2015) focuses on ensuring access to affordable, reliable, sustainable, and modern energy for all. This goal includes increasing the share of renewable energy in the global energy mix, improving energy efficiency, and enhancing international cooperation to facilitate clean energy development. It has been instrumental in promoting renewable energy initiatives, particularly in developing countries, and catalyzing financial commitments for renewable energy infrastructures.

The International Renewable Energy Agency

The IRENA, though not a treaty, plays a key role in promoting the global adoption of renewable energy. IRENA provides policy guidance, technical support, and data to member countries, helping them assess their renewable energy potential and design effective transition strategies. It serves as a platform for international cooperation and capacity-building, supporting the achievement of renewable energy goals worldwide.



IV. Countries Positions

People's Republic of China

China is both the largest greenhouse gas emitter and the leading producer of renewable energy technologies, making its position on renewable energy crucial to global efforts. The country has invested heavily in renewable energy, particularly in solar, wind, and hydropower, and is scaling up its renewable energy capacity rapidly. However, China still relies



significantly on coal, which fuels a large portion of its electricity generation, reflecting its challenge in balancing economic growth with emissions reduction. China supports renewable energy expansion but maintains a strong fossil fuel base, making its transition gradual yet pivotal for global climate targets.

United States of America

The United States has become increasingly supportive of transitioning to renewable energy, particularly under the Biden administration, which has prioritized green energy investments and re-engaged in international climate commitments like the Paris Agreement. The U.S. has seen rapid



growth in renewable sectors, such as wind and solar, particularly in states like California and Texas. However, political divisions between regions dependent on coal and other fossil fuels present internal challenges. Despite these challenges, the U.S. remains a critical actor, with its innovations and global leadership essential to driving the international renewable energy agenda.



European Union

The European Union is a leading advocate for the global transition to renewable energy, having set ambitious climate goals such as becoming carbon-neutral by 2050 through its European Green Deal. Member states like Germany, Spain, and Denmark are global leaders in the deployment of wind, solar, and other renewable technologies. The EU not only



prioritizes the internal shift to clean energy but also plays a significant role in influencing global energy policies and providing financial and technical support to developing nations. Its position as a frontrunner in renewable energy transitions makes the EU a key player in setting international standards and driving collective action.


V. QARMAS and FAQs

1. What national policies or plans exist regarding the transition to renewable energy, such as long-term goals, targets, or subsidies for renewable energy development?
2. What are the main challenges or barriers your country faces in transitioning to renewable energy (e.g., lack of infrastructure, investment, geographic limitations)?
3. Does your country support or oppose international efforts to promote renewable energy transitions, such as financial support for developing countries or global regulations to limit fossil fuel use?
4. How does your country address the social and economic impacts of transitioning to renewable energy, particularly for communities that are heavily dependent on fossil fuel industries?



5. Has your country signed or committed to international agreements related to climate change and renewable energy, such as the Paris Agreement? If so, what specific pledges have been made?
6. How does your country support research and development in renewable energy technologies, and what are its main areas of focus (e.g., new materials, energy efficiency, smart grids)?
7. What financial mechanisms or incentives does my country offer to support the growth of the renewable energy sector, such as tax credits, grants, or low-interest loans?

VI. Useful Material

- "Evaluation of renewable energy projects based on sustainability goals using a hybrid pythagorean fuzzy-based decision approach"
<https://doi.org/10.1016/j.energy.2024.131272>
- "Episode 3: Transition to renewable energy systems | renewable energy | SDGPlus"
 Episode 3: Transition to Renewable Energy Systems | Renewable Energy | SDGPlus
- "Sustainable renewable energy key to unlocking developing countries' potential, achieving global goals, speakers tell High-Level political forum" [Sustainable Renewable Energy Key to Unlocking Developing Countries' Potential, Achieving Global Goals, Speakers Tell High-Level Political Forum | Meetings Coverage and Press Releases](#)
- "Boosting rapid transition to sustainable energy, top priority as UN marks first International Day of Clean Energy" [Boosting rapid transition to sustainable energy, top priority as UN marks first International Day of Clean Energy | United Nations](#)



➤ "Evaluation of renewable energy system for sustainable development"

<https://doi.org/10.1051/rees/2021045>





4. Topic B: "Harnessing and Monetization of Ecosystem Services, Regarding the Beneficial Implications and Limitations for Sustainable Economic Development."

I. Introduction to the Topic

The implementation of ecosystems as a tool for the global economy would transform the global economy to be more sustainable, safeguarding biodiversity over time while caring for ecosystems. These services provide humanitarian welfare with resources such as water, food and primary materials or biodiversity, and at the same time serve as a support for the economy and its full development.



Currently, the world is facing the use and monetization of ecosystem services, a problem that consists of the economic valuation of the benefits that ecosystems provide to communities, whether it is water supply, pollination, climate regulation, and erosion control, among others.

In recent decades, this issue has gained relevance as the importance of these services for human well-being and economic development has been recognized. However, the exploitation of ecosystem services provided by water and raw materials represents an economic expenditure of trillion-dollar magnitude, estimated at a minimum of 33 billion dollars per year. This situation calls for a regrouping of these exploited services together with economic and political areas, with the aim of preserving valuable natural resources.

II. Historical Context

The monetization of ecosystem services has gained some importance in recent decades, especially towards the end of the 20th century. The economic value of the services provided by natural ecosystems is increasingly recognized. These services, which include pollination, water



purification, carbon sequestration and protection against natural disasters, are vital for human survival and economic development.

The term ecosystem services began to be used in the 1970s, but gained prominence with a report called the "Millennium Ecosystem Assessment" published in 2005, a study commissioned by the United Nations to examine changes in ecosystems and their impacts on human well-being. This report identified and classified ecosystem services into four categories: provisioning, regulating, cultural and supporting services. The recognition that ecosystems provide critical goods and services that contribute to human well-being laid the foundation for the monetization of these services.

As the exploitation of natural resources and economic development began to have negative consequences on the environment (such as deforestation, pollution and biodiversity loss), the need arose to incorporate the value of ecosystem services into economic policies. Monetization is the retribution of an economic value to ecosystem services in order



to be integrated into market and public policy decisions and the integration of the value of ecosystem services into economic systems has enabled countries to move towards sustainable development, in which economic growth does not conflict with environmental conservation.

III. Current Situation

At present, it can be said that societies and the whole world derive enormous benefits from ecosystem services and on this basis monetize what ecosystems are, the most specifically used ecosystem services currently are the logging of forests, currently representing more than a fifth of the world's total wealth as it has an estimated value of 7.5 trillion dollars in 2018, although this same has decreased in middle and low-income countries.



Forest ecosystems and the elements that compose them, whether timber, forest fruits or resins, are products that have a very large relevance in today's market, nationally and internationally. And they generate income, jobs and productive values that are recorded in national registers. Despite recent efforts to



expand international classifications of forest products, insufficient information can be provided to quantify forest production. And deforestation itself is not currently taken into account in the use of this ecosystem, which is so fruitful for society and the economy.

Recently, the Foundation for Sustainable Development updated its database on the valuation of ecosystem services and its objective was to create value estimates of all forest ecosystem services provided by new types of mangrove ecosystems. Their approach is based on the economics of ecosystems and biodiversity to increase the representation and geographic scope of forest ecosystem services and to provide an overview of the feasibility of reporting on the value of ecosystem services provided by forests and the values of different biomes can be compared.

These ecosystem services, which play a fundamental role in human life and well-being, have historically been undervalued in traditional economic markets and have been subject to interventions and challenges:

Implications and Challenges

Value of Nature

The monetization of these services enhances the economic value of ecosystems, which facilitates their implementation in public policies, investments and business strategies.



Inclusive Economic Development

Monetization can lead to economic opportunities in local communities, in rural or high biodiversity areas, linked to sustainable tourism activities, organic agriculture, or forest management and conservation.

Commoditization of Nature

When we transform nature into an economic good, there is a potential risk that only ecosystems that are given immediate financial value will be conserved, ignoring other crucial ecosystems that do not generate direct income.

Conflicts with Sustainable Development

Monetization prioritizes short-term profits over long-term environmental conservation, which causes tensions between the desired economic development and environmental sustainability, which will be greatly affected in the near future due to the scarcity of natural resources.

IV. Countries' Position

People's Republic of China

The People's Republic of China's approach to the use of ecosystem services reflects its broader goal of achieving sustainable development through the concept of "ecological civilization", which is the focus and aspiration of its national policies. The Chinese government has created sound strategies to incorporate the value of services into economic decision-making, identifying that with healthy ecosystems, long-term prosperity will be achieved. China sacrifices many opportunities in order to focus on improving natural capital accounting and launching large-scale safeguarding projects.





A current example would be the “Natural Forest Protection Program” and “Grain for Green” which are among the most extensive payment for ecosystem services programs in the world.

These programs aim to correct the environmental damage caused by overexploitation of natural resources, particularly after the devastating floods of the 1990s. Through these monetization initiatives, the country seeks to balance economic growth with ecological preservation. The government has promoted environmental reforms, supported green investments and implemented market mechanisms such as carbon emissions trading. However, there is a connection with certain issues, especially in the impact of accelerated business development, which puts heavy pressure on ecosystems. To ensure the sustainable use of ecosystem services, continuous investments, monitoring and public commitments are required, despite the continuous development of ecosystem management and compensation mechanisms.

Federal Republic of Nigeria

Nigeria's approach to monetizing ecosystem services focuses on balancing economic development with environmental preservation, “Reducing emissions from deforestation and forest clearing”. To meet the Sustainable Development Goals (SDGs) and climate goals, it is working to mainstream ecosystem services into its national policies.



Carbon sequestration and biodiversity protection are recognized as essential ecosystem services for sustainable development and climate change mitigation. Programs such as REDD focus on forest conservation in order to halt deforestation while ensuring that local communities benefit economically from conservation. However, Nigeria also faces other challenges linked to the exploitation of forest resources, land tenure systems and the need to safeguard the rights of indigenous communities that depend on these ecosystems. These factors must be carefully managed to avoid conflict and ensure equity.



Republic of Indonesia

In global talks on sustainable management of ecosystem services. Indonesia, one of the world's most biodiverse countries, is committed to matching economic development with environmental conservation. In order to safeguard biodiversity and foster sustainable economic growth, the country has focused on strengthening its green and blue economies.



Biodiversity and ecosystem services are incorporated into Indonesia's national development plans and spatial planning initiatives. To enrich ecosystem resilience, the Indonesian government encourages sustainable management of landscapes and seascapes. In seeking funding models and impact investment strategies that align safeguarding objectives with economic incentives, working in partnership with local communities, the public and private sectors and international partners is mandatory. Reducing deforestation, reducing climate vulnerability and supporting livelihoods that depend on ecosystem services, such as sustainable forestry and coastal resilience projects, are the main objectives of these efforts.

V. Useful Material

- “The state of the world forests” [The state of the World's forests 2022](#)
- “The world economy depends on healthy ecosystems” [La economía mundial depende de ecosistemas sanos - Ojo al Clima](#)
- “Sustainable development and ecosystem services” <https://www.google.com/url?q=https://sustainabledevelopment.un.org/content/documents/629475-McCartney-Sustainable%2520development%2520and%2520ecos>



[ystem%2520services.pdf&sa=D&source=docs&ust=1728276568729657&usg=AOvVaw2odC50APTapvAOB-JvgmG9](https://www.google.com/url?q=https://sustainabledevelopment.un.org/content/documents/629475-McCartney-Sustainable%2520development%2520and%2520ecosystem%2520services.pdf&sa=D&source=docs&ust=1728276568729657&usg=AOvVaw2odC50APTapvAOB-JvgmG9)

- “Monetization of ecosystem services: bioeconomy and natural capital” <https://www.google.com/url?q=https://sustainabledevelopment.un.org/content/documents/629475-McCartney-Sustainable%2520development%2520and%2520ecosystem%2520services.pdf&sa=D&source=docs&ust=1728276568729657&usg=AOvVaw2odC50APTapvAOB-JvgmG9>
- “Monetising ecosystem services” [Monetising ecosystem services | AGRI-ECO SERVICES Project | Results in brief | FP7 | CORDIS](#)
- “Ecosystem services/ Ministry of the Environment” [Servicios Ecosistémicos – MMA](#)
- “One-fifth of the world's countries are at risk of ecosystem collapse, according to Swiss Re” [Una quinta parte de los países de todo el mundo corre el riesgo de sufrir un colapso de los ecosistemas, según Swiss Re | Noticias Ambientales](#)

VI. QARMAS and FAQs

1. What actions has your nation taken to ensure that ecosystem services are used sustainably in your economy?
2. What beneficial implications have been evidenced in your nation thanks to the monetization of ecosystem services?
3. How does your country address the inequalities that are created between communities in the use of ecosystem services and resources?



4. What governance decisions has your country implemented to prevent problems with shared ecosystem services, such as watersheds or forest systems, and to ensure sustainability?
5. What is your position in your country in the conservation of environmental resources and the monetization of the services they provide?
6. Has your country succeeded in creating an economically sustainable development through the exploitation of ecosystem resources?
7. How does your nation manage to maintain a balance between its economic demands and the preservation of biodiversity through payment for ecosystem services?
8. What measures is your country taking to involve local communities in the valuation and use of ecosystem services, and how does it ensure that benefits are equitably distributed?



5. Topic C: "Impact of the Mining Industry on the Environment and its Balance with Ecological Conservation and Economic Development."

I. Introduction to the Topic

Currently, it is critical to have a supply of raw materials to power the global economy, which is denoted as the mining industry is presenting significant challenges to the environment. The extraction of minerals significantly alters the landscape, ecosystems, water pollution, greenhouse gas emissions and soil degradation, due to a global misinformation that allows civilians to develop this practice illegally and unconsciously.



Taking into account the harmful effects, the mining industry maintains a fundamental role in the economic progress of the world, specifically in countries where it plays an important role in driving economic growth and job creation, seeking to provide the population with a form of employment and a more dignified life.

An integral vision is being implemented that seeks to preserve a balance between economic development and ecological conservation, focusing on environmental care to preserve the environment and the necessary impulse to improve the global economy, ensuring that the benefits of mining do not influence the long-term sustainability of natural resources.

In addition, campaigns are being carried out to promote non-misinformation about these actions and their resilience to the environment. Likewise, the aim is to reduce the harmful effects



and promote environmentally friendly economic growth through techniques such as responsible mining and the use of clean technologies.

II. Historical Context

The influence generated by mining companies has been a concern that has transformed throughout history in such a way that societies have become increasingly dependent on mineral resources for economic development. Mining gained a relevant role during the Industrial Revolution in the 18th and 19th centuries since it provided crucial



raw materials at that time such as coal, iron and copper to fuel industrial growth. At this time, mineral extraction was considered an inexhaustible source of wealth, but long-term environmental effects were not taken into account.

A century later, in the 20th century, the demand for metals such as iron, copper, aluminum and oil increased, particularly after World War II, this caused a global growth in mining. Countries on the path to development have certain ecosystems rich in natural resources and unfortunately these same countries, in order to enhance their economy, rely on mining extraction to boost it. The imbalance that is beginning to be generated thanks to mining extraction seeks to focus on a comparison between the economic progress of developing countries and environmental protection.

The industries themselves have the purpose of maximizing economic profits based on mining, but they do not take into account the negative implications of this practice. The contamination of rivers, the spread of toxic gases or the alteration of landscapes came to light to give concern to all nations.



III. Current Situation

In actuality, mining has been a long-standing key player in economic development, employment, infrastructure, and supply of essential raw materials for society. It has served as a viable route to economic transformation in resource-rich countries like Australia, Canada, the United States, and parts of Africa. In this review, the impact of mining has been conceptualized into economic, environmental, and social impacts. While it is clear that mining has transformed many economies, it has also impacted negatively on the environment and, to some extent, society. Some of the economic and environmental impacts are:

Economic Implications

Commodity Prices

In 2023, the top 40 mining companies experienced a decline in revenues by over 7%, marking a second consecutive year of falling revenues for the first time since 2016. This decline is attributed to falling commodity prices and rising operational costs despite increased production levels of key commodities. The prices of essential minerals like



lithium, copper, and nickel have sharply decreased, while uranium prices have surged due to renewed interest in nuclear energy.

Demand for Minerals

The demand for metals and minerals is expected to rise dramatically due to urbanization and the energy transition. Estimates suggest that the world will need to mine 6 to 13 times more critical minerals for technologies such as batteries and electric vehicles by 2040. This surge in demand necessitates significant investments in





exploration and production capacity, especially as traditional ore grades decline.

Investment Trends

Mining companies are increasingly focusing on sustainability and technological innovation to adapt to changing market conditions. There is a notable shift towards long-term investment strategies aimed at meeting net-zero goals by 2050. However, inflationary pressures have increased production costs by nearly 30% over the past five years, prompting companies to seek cost-saving technologies.

Environmental Challenges

Impact of Climate Change

The mining sector is both a contributor to climate change and a victim of its effects. Mining operations are energy-intensive, primarily relying on fossil fuels, which exacerbates greenhouse gas emissions. The industry is responsible for approximately 4%-7% of global emissions. As climate change intensifies, mining companies must adapt their operations to mitigate risks associated with extreme weather events.

Sustainability Initiatives

In response to environmental concerns, many mining firms are adopting sustainable practices aimed at reducing their carbon footprints. Initiatives include transitioning to renewable energy sources and implementing circular economy principles to minimize waste. The World Bank's Climate-Smart Mining initiative emphasizes decarbonization and resilience within the sector.

Community Impact

While mining can drive economic growth by providing jobs and community development investments, it often leads to significant environmental degradation. Issues such as land destruction, biodiversity loss, and pollution are prevalent, particularly in low-income countries



where regulatory frameworks may be weaker. Furthermore, marginalized communities often do not benefit equitably from resource extraction activities.

IV. Countries' Positions

People's Republic of China

China plays a critical role in global mining, being the world's largest producer of various minerals, including rare earth elements, coal, and aluminum. However, its rapid industrialization has come at a high environmental cost, including severe water and air pollution, deforestation, and soil degradation. In recent years, China has made efforts to clean up its mining sector, closing environmentally harmful mines, imposing stricter regulations, and investing in renewable energy. As it pushes for leadership in renewable technologies, such as electric vehicles, China is working to balance economic growth with the urgent need to reduce the environmental impacts of its vast mining industry.



Commonwealth of Australia

Australia is a global mining powerhouse, producing significant quantities of iron ore, coal, lithium, and gold, which contribute enormously to its economy. However, this has led to environmental challenges, including land degradation, biodiversity loss, and water contamination.



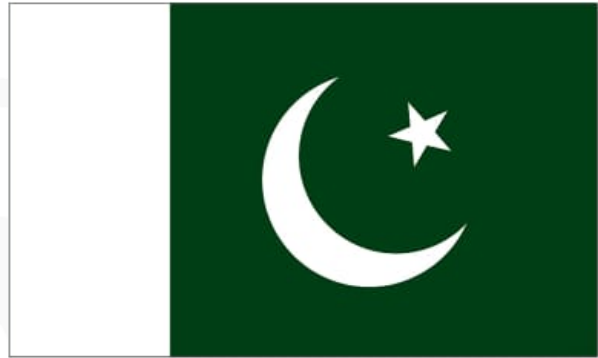
Australia has been at the forefront of adopting sustainable mining practices, with policies requiring environmental impact assessments and rehabilitation of mining sites. The country is also integrating renewable energy into mining operations to reduce its carbon footprint, but the



reliance on resource extraction for economic stability makes the balance between environmental conservation and economic development particularly delicate.

Islamic Republic of Pakistan

Pakistan's mining industry plays a significant role in the extraction of coal, gypsum, limestone, and various precious stones, yet it faces numerous challenges in balancing environmental conservation and economic development. The sector, which is crucial for the country's economic growth, especially in rural areas, often operates with outdated technologies, leading to issues like land degradation, deforestation, and water contamination. The regulatory framework for environmental protection is still developing, and enforcement is often weak, resulting in unsustainable mining practices. Pakistan is making gradual efforts to improve environmental oversight and adopt more sustainable practices, but the need for stronger policies and technological upgrades remains urgent to ensure a balance between economic benefits and ecological conservation.



Islamic Republic of Iran

Iran is rich in mineral resources such as iron ore, copper, lead, zinc, and gold, and mining is a growing sector within its economy. However, the environmental impacts of mining in Iran are significant, particularly in terms of deforestation, water pollution, and the disruption of local ecosystems.



Iran has begun to focus on improving its environmental regulations, particularly in its larger, state-run mining projects. Nonetheless, small-scale and illegal mining activities often



evade regulation, worsening environmental degradation. Balancing the economic contributions of mining with the need for ecological preservation is an ongoing challenge for Iran, which is trying to modernize its industry while addressing growing concerns about environmental sustainability.

V. QARMAS and FAQs

1. What is the economic significance of the mining industry in your country?
2. Which key minerals or resources are primarily extracted in your country (e.g., copper, lithium, coal)?
3. What are the major environmental challenges posed by mining in your country?
4. What regulations or policies does your country have in place to mitigate the environmental impact of mining?
5. What role does sustainable mining play in your country's long-term economic strategy?
6. How does your country balance the need for economic development with ecological conservation in mining regions?
7. What partnerships does your country have with international organizations or agreements on sustainable mining practices?
8. What is the role of foreign investment in your country's mining sector, and how is it regulated to ensure environmental protection?
9. Does your country have protected areas or biodiversity hotspots that are off-limits to mining activities?



VI. Useful Material

- “Understanding the impacts of mining on local environments and communities”
[Understanding the impacts of mining on local environments and communities | MIT News](#)
- “Feature article - Mining and the environment” [Impact of the mining industry on the environment](#)
- “Impact of natural resource mining on sustainable economic development: The role of education and green innovation in China” <https://doi.org/10.1016/j.gsf.2023.101703>
- “Preparing for impact” [Mine 2024: Preparing for impact | PwC](#)
- “The mining industry and sustainable development” [The Mining Industry and Sustainable Development](#)
- “Evaluating the environmental and economic impact of mining for post-mined land restoration and land-use: A review” [Evaluating the environmental and economic impact of mining for post-mined land restoration and land-use: A review - ScienceDirect](#)



6. Resources

I. Countries in the Committee

1. Canada
2. Commonwealth of Australia
3. Democratic People's Republic of Korea
4. Democratic Republic of the Congo
5. Federal Republic of Nigeria
6. Federative Republic of Brazil
7. French Republic
8. Islamic Republic of Iran
9. Italian Republic
10. Japan
11. Kingdom of Belgium
12. Kingdom of Norway
13. Kingdom of Spain
14. Kingdom of Thailand
15. People's Republic of China
16. Plurinational State of Bolivia
17. Republic of Chile
18. Republic of Colombia
19. Republic of Ecuador
20. Republic of Honduras
21. Republic of India
22. Republic of Indonesia
23. Republic of Kenya
24. Republic of Korea
25. Republic of Nicaragua
26. Russian Federation
27. State of Israel



28. United Kingdom of Great Britain and Northern Ireland
29. United Mexican States
30. United States of America

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