GLOBAL POLICY ANALYSIS

GETTING FROM CLIMATE PLEDGES TO CLIMATE ACTION

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Conference of Parties (COP) constitutes a series of formal gatherings where nations convene to evaluate global efforts aimed at advancing the objectives of the Paris Agreement, primarily focusing on limiting global warming to 1.5°C based on the latest scientific findings. These conferences serve as platforms for world leaders to assess progress and engage in negotiations concerning strategies to combat climate change. Since its inception in 1995, COP meetings have played a pivotal role in shaping international climate policies. The United Nations Framework Convention on Climate Change (UNFCCC), established in 1992, provides the overarching framework for global endeavors aimed at stabilizing greenhouse gas concentrations in the atmosphere and averting detrimental human interference with the climate system.

COP29, the forthcoming conference, is anticipated to concentrate on several crucial themes, including the acceleration of emission reduction targets, bolstering climate resilience and adaptation strategies, and fostering international collaboration to support the climate action endeavors of developing nations. Currently, the Convention boasts 198 Parties, comprising 197 countries and the European Union, indicating near-universal participation.

This year, Azerbaijan has been designated as the host country for the 29th Conference of the Parties (COP29), slated to take place in Baku in November. Both the COP 28 Presidency and the incoming COP 29 Presidency are committed to ensuring a transparent and inclusive process leading up to the event in Baku.

Climate action remains a pressing global issue, with efforts focused on implementing the commitments made under the Paris Agreement. Nations are working to limit global warming to well below 2 degrees Celsius above pre-industrial levels, with efforts to limit it to 1.5 degrees Celsius. Transitioning to renewable energy sources such as solar,
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Climate action remains a pressing global issue, with efforts focused on implementing the commitments made under the Paris Agreement. Nations are working to limit global warming to well below 2 degrees Celsius above pre-industrial levels, with efforts to limit it to 1.5 degrees Celsius. Transitioning to renewable energy sources such as solar, wind, and hydroelectric power is gaining traction to reduce reliance on fossil fuels and lower greenhouse gas emissions. Many countries are adopting carbon pricing mechanisms like carbon taxes or cap-and-trade systems to incentivize emission reductions across various sectors of the economy. Building resilience to climate change impacts and adapting to changes underway is critical, including improving infrastructure to withstand extreme weather events and implementing adaptive agricultural practices. Protecting and restoring ecosystems play a crucial role in mitigating climate change and enhancing resilience. Preserving biodiversity helps maintain natural carbon sinks such as forests and wetlands.

A growing movement of youth activists and public awareness campaigns advocate for stronger climate action, pressuring governments and businesses to prioritize sustainability. Addressing climate change requires concerted efforts at the local, national, and international levels, involving governments, businesses, civil society, and individuals alike.

Nizami Ganjavi International Center took a crucial role in COP29, emphasizing its commitment to climate action. The Center devoted its high-level meetings specifically for COP discussions, focusing on Roadmap from COP28 to COP29, Climate Justice, Climate Finance, State of Climate Politics, role of AI, impact of Climate Change on Health and so on.

Moreover, the Center conducted several online and in person high-level meetings with heads of UN agencies and world leaders, such as the Administrator of the UNDP, Achim Steiner; Director-General of the International Organization for Migration, Amy E. Pope; Special Adviser to the Secretary-General on Climate Action and Assistant Secretary-General for the Climate Action Team, Selwin Charles Hart; and Director-General of the World Health Organization, Tedros Adhanom Ghebreyesus; Executive director of the International Energy Agency, Fatih Birol; Secretary-General of the United Nations Conference on Trade and Development (UNCTAD), Rebeca Grynspan for discussing collaborative efforts to enhance climate resilience and adaptation strategies. The initiatives of the Center regarding the COP29 and climate justice will persist further in the following months.
The recent meetings held in May and June, delved into critical discussions surrounding the intersection of geopolitics and climate change. Need for addressing the climate issues amidst ongoing global conflicts has been underscored, imperative for collective action and financing mechanisms to achieve national determined contributions (NDCs) has been emphasized during those meetings. COP29 emerged as a pivotal platform to establish new goals and enhance access to capital, particularly for developing nations, in the realm of renewable energy infrastructure. Urgency of addressing climate-related displacement, highlighting the vulnerability of over 200 million people to climate impacts and advocating for innovative financing and adaptation strategies have been emphasized by the speakers. The meetings underlined the need for concerted global action, political commitment, and financial support to address the multifaceted challenges posed by climate change.

Among the participants were Co-Chairs of the NGIC, former President of Latvia Vaira Vike-Freiberga and former Vice-President of the World Bank Ismail Serageldin; former President of Finland Tarja Halonen; Managing Director of the CGIAR Ismahane Elouafii; Former Executive Director of the United Nations Human Settlements Programme (UN-Habitat) Maimunah Mohd Sharif; former President of Malawi Joyce Banda; Deputy Director General, International Atomic Energy Agency Najat Mokhtar; former President of Bulgaria Rosen Plevneliev; President of the 77th Session of the UN General Assembly Csaba Korosi; former Deputy Prime Minister of Georgia 2010-2012, Minister of Foreign Affairs Eka Tskhnelashvili; Board of Directors, Fortescue Metals and Fortescue Future Industries, Chair of the Board, The Global Fund to End Modern Slavery Jean Badenschneider who contributed insights and perspectives on the pressing issues and discussed climate-related displacement, and the imperative for global action to meet climate targets.
Global Policy Analysis

I believe that beyond the conventional projects and programs that increase the human and social capital of the poor, that promote gender equality, that address all the needs of the SDGs, we need to provide action on the ground for three aspects of the development challenge of climate change (SDG 13), namely: Mitigation, Adaptation and Resilience.

Mitigation has largely been discussed as the energy transition, but to which I would like to add the transformation of the Food and agricultural sector from being part of the problem to becoming part of the solution, through its latent capacity for massive Carbon Capture and Sequestration (CCS).

But on the whole, the scale of the investments required for such a transformation has been variously estimated at between $2 - 5.7 trillion dollars per year for several decades... even within a slightly more narrow estimate such as by International Food Policy Research Institute (IFPRI) which states: Many of the cost estimates for the SDGs and climate change objectives for developing countries (without China) suggest the need of additional financing of $3 trillion-$4 trillion annually, and up to $680 billion annually for food systems only².

But even if we have access to the money (more on that later) we would deploy these funds to finance what projects and programs?

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¹ This paper draws on Remarks delivered by Ismail Serageldin at a conference on "the Fraternal Economy of Integral and Sustainable Development" held on 4-5 March 2024 at The Pontifical Academy in Rome. (The Transcript was edited 5 April 2024).

There are enormous difficulties in identifying specific project ideas to advance Mitigation, Adaptation and Resilience in most of the poor countries, then preparing these projects to the degree that they could be appraised, FUNDED and implemented.

Who will do that?
The UN agencies (UNDP, UNESCO, WHO...etc..) can play a major role in assisting the governments in identifying and preparing projects, as can the MDBs.

Also, note the proposal by the International Science Council (ISC) to create 20 "Science Hubs" around the world, under the UN and working with institutions in the poor countries, to mediate the best of the international scientific knowhow, into the design of national actions promoting the SDGs³. A program reminiscent to what the CGIAR did for Agriculture. This will also be helpful in promoting open science and dealing with IPR and copyright issues.

ODA and variations cannot provide all the funding required:

So we need a massive program of $2-5 trillion annually to help the world rise to the challenge of climate change as well as finance the SDGs.

Against these huge needs, we note that total Official Development Assistance (ODA) from the OECD countries amounts to about $200 billion annually, and that is for all sectors, not just climate related ODA. The various multilateral Green Funds deploy another $30 billion or so. The MDBs, Including the World Bank are mostly giving loans that could add another $50 billion or so.

Jeffrey Sachs promoted ideas for climate Justice, whereby contributions from the rich countries are structured in ways that take into account their contributions to the creation of the problem through GHG emissions over many decades. Indeed in his presentation at the Alexandria Pre-COP28 meeting in September 2023, he pointed out a fascinating proposal that would tax the rich in proportion to the amount of GHGs that they put up in the atmosphere over the previous 50 years at a small rate, and tax them at a higher rate for the new emissions (until we reach net zero emissions, hopefully by 2050). Such a scheme could yield over $188 billion annually which could be the source of financing for the "Loss and Damage Fund" agreed at COP27 and reaffirmed at COP28, but still not funded.

But it is very unlikely that by adding incrementally through the existing mechanisms of development finance, or adopting new twists that still rely mostly on tax revenue from the High income Countries and loans from multilaterals, that we will reach the requisite $2-5 Trillion required annually.

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³ The International Science Council (ISC), has organized the Global Commission on Science Missions for Sustainability, and the author is one of the commissioners. The Commission has produced several reports, including, “Science Missions for Sustainability: Global Call for Pilot Missions and for Visionary Funders to support the missions”, 2024. See https://council.science/mission-science/#:~:text=The%20ISC%27s%20Science%20Missions%20for%20part%20of%20this%20global%20effort%20%E2%80%9D Accessed 30 April 2024
There is no possibility for the countries of the Global South to generate the requisite resources out of their own limited budgets, when they are also crushed by a debt overhang.

**A new Approach:**

**We need a new approach.** A new approach that would raise the needed 2-5 trillion annually to finance a portfolio of policies and projects that would benefit the Global South in responding to the challenges of Climate Change with proper Mitigation, Adaptation and Resilience interventions, and implement the SDGs.

The limited public funds available should be used to prepare the projects, and then de-risk such projects by (i) international multilateral political and financing guarantees, (ii) project-specific insurance and (iii) hedge facilities for currency variations, so that the investments can become attractive to private sector financing. If such de-risked projects are then assembled (sliced and diced) into portfolios with regional or sectoral characteristics and are actively marketed in a sufficiently liquid fashion to allow investors to buy fractions of what would be portfolios of collateralized debt obligations appropriately mediated by a reformed – repeat reformed – international banking system, the trillions of dollars needed become more approachable. Why? Because the 2024 assets of financial institutions world-wide are more than $460 trillion U.S. dollars.

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[14] The value of assets of financial institutions worldwide increased overall from 2002 to 2022, despite minor fluctuations and a drop in 2022. In 2022, the assets of financial institutions worldwide amounted to 461.2 trillions U.S. dollars, a small decrease compared to the previous year. published by Statista Research Department, Jan 31, 2024 retrieved from https://www.statista.com/statistics/421060/global-financial-institutions-assets/#:~:text=The%20value%20of%20assets%20of,compared%20to%20the20previous%20year. Accessed 02 May 2024
So we need a massive program of $2-5 trillion annually to help the world rise to the challenge of climate change as well as finance the SDGs. Against these huge needs, we note that total Official Development Assistance (ODA) from the OECD countries amounts to about $200 billion annually, and that is for all sectors, not just climate related ODA. The various multilateral Green Funds deploy another $30 billion or so. The MDBs, including the World Bank are mostly giving loans that could add another $50 billion or so.

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Figure: The value of assets of financial institutions worldwide increased overall from 2002 to 2022, and despite minor fluctuations amounted to more than $460 Trillion U.S. dollars. Source: Statista. Research Department, Jan 31, 2024.

The use of the approach suggested here would enable us to use the limited public funds to tap into that enormous amount of private finance that is unwilling to fund the needed projects in the poor countries directly, noting that the amounts we are seeking to mobilize for these investments are about 10% of global annual savings.

Note that many of the programs and projects suggested are inherently difficult to implement in many of the poorest countries, with weak institutions and unstable politics, and thus we should expect a number, say 15%, of them to fail. But the portfolios could be stable if we can count on some 85% of the projects to be successful.

Reducing the debt of the global south through debt swaps and restructuring the debt burden with some debt forgiveness for the poor is a necessary and helpful addition to the massive program described above, as would some mediation of the short-term aspects of the returns to the investors and the long-term return from the investment to the poor country.

Thus giving an expanded mandate to the IFIs will be required, as they will remain important players in funding the SDGs and in dealing with the debt overhang.
A NEW INSTITUTION TO COMPLEMENT THE EXISTING IFIS AND UN AGENCIES:

But the issue of trust in a time where the superpowers are rending the fabric of international cooperation calls for a new institutional approach. So I would like to support the idea of a new Public-Private Sustainable Development (Green) Facility as suggested by Former World Bank VP Hafez Ghanem. It would work with the IFIs in the preparation and formation of the portfolios and it would mediate the sliced and diced portfolios to the private sector. And it could also deal in Carbon Credits which could potentially become an important source of financing climate mitigation, despite the persistent difficulties of ensuring the carbon market’s integrity persist.

As to the governance of this new facility, it can be designed to allow the participation of four groups: (i) The private sector giant hedge funds and investment banks, (ii) the rich countries (including the superpowers) (iii) the middle Income emerging market economies, and (iv) the poor countries (the most likely beneficiaries of a large part of these projects and investments).

Paid-in and callable capital (proportional to the size of the economy or the size of the private sector funds) would still be part of weighing the votes (possibly adding population as a complement to determine the weighted votes of countries).

This would give the Private Sector participating institutions a powerful voice in how the portfolios are created and how they are marketed. However, each of the four groups has distinct votes, and action requires agreement by the majority of each of the four groups. Thus, the poor countries group can veto any policy or proposal if 51% of their votes go against it, whatever the other three groups say.

The problem of time horizon:

There is another problem in that although the projects in the sliced and diced portfolios are economically viable over the longer term, they will not be able to generate sufficient financial revenue in the shorter term to attract the private sector money. Thus, we will need one more contribution from public funds beyond the de-risking of individual programs and projects (as discussed above). This additional contribution would have to help bridge the short-term financial returns and the longer-term economic returns, and it could come from sovereign wealth funds and some large philanthropies.

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31 See the proposal by Hafez Ghanem: in Hafez Ghanem, The World Needs a Green Bank, Policy center for the New South, PB - 06/23, February 2023
33 Another possibility that has been suggested by some experts would be to enable the IMF to create more SDRs but not allocate them solely in proportion to the size of the economies in order to benefit the countries of the poor global south and possibly use that capital to bridge the time horizon differences between the short term return on financial investments and the longer term economic returns of these investments.
Envoi:

So, we need to rethink funding structures, deployment vehicles, and finance mechanisms to maximize the effectiveness of public funds used to ensure that they support and accelerate private sector engagement. A possible new “Green Bank” may be required, but we would still need to seek new or expanded roles for the International Financial Institutions (IFIs). By the International Financial Institutions, we mean the IMF, the World Bank and the Multilateral Banks. The redesign of how these IFIs can interact with the private sector could unlock some of those many trillions, by taking or significantly reducing the perceived project and currency risks that currently hold back private and national-level finance. Also, there has been talk of using “debt swaps” in cases where structuring innovative debt swaps can help governments that have limited access to traditional grants or debt relief.

Envoi:

From the preceding discussion, we believe that finding the requisite financing to respond to the challenge of Climate Change and nudge the world back onto the path of sustainable development is feasible. We can address emissions mitigation, adaptation to the consequences of climate change already underway, and promotion of resilience, especially for the world’s poorest and most vulnerable populations.

But it will take more than the a focus on the “energy transition” and we must also include a major transformation of the whole Food and Agriculture Sector, to reduce waste, and making it part of the solution by its capacity to reduce GHG emissions. After all, it was always nature’s system for Carbon Capture and Sequestration (CCS).

Ismail Serageldin
Co-Chair, NGIC; Vice-President of the World Bank 1992-2000

Ismail Serageldin, Founding Director of the Bibliotheca Alexandrina (BA), the new Library of Alexandria, inaugurated in 2002, is currently, Emeritus Librarian, and member of the Board of Trustees of the Library of Alexandria. He serves as Chair and Member of a number of advisory committees for academic, research, scientific and international institutions, including as co-Chair of the Nizami Ganjavi International Center (NGIC), and serves as Patron of the International Science Council (ISC). Ismail Serageldin has held many international positions including as Vice President of the World Bank (1993–2000). He also co-chaired the African Union’s high level panel for Biotechnology (2006) and again for Science, Technology and Innovation (STI) in 2012-2013, and was a member of the ICANN Panel for the review of the internet future (2013).

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GLOBAL FINANCIAL REFORMS SHOULD MIRROR AFRICA’S CLIMATE AND DEVELOPMENT REALITIES

When something is not working, it is often a signal to rethink our strategy by either scaling up our efforts or going about it differently.

Nowhere is the urgency of change—one that demands both scaling up efforts and resources, and doing things differently—more palpable, more propulsive than in the global financial architecture.

By virtue of their global reach, influence and financial muscle, multilateral development banks (MDBs)—including the World Bank and IMF whose main shareholders are rich nations led by United States—have historically shaped the direction, speed and scale of financial flows ever since they were created after the Second World War.

A lot has changed over the years since the creation of the MDBs in terms of funding needs amidst more intractable challenges such as climate change, pandemics and debt distress especially in Africa where funding is needed the most. Yet, the MDB financing system—and governance—has ossified, struggling to keep pace.

Almost all corners of the continent have come under one form of natural disaster or another. While Southern Africa countries, including my home country Malawi, are coming out of a devastating drought, East Africa is emerging from deadly floods while heatwaves have brought Sahel and West Africa to a boil. Hundreds of lives have been lost, thousands of households displaced and property and crops annihilated.

Estimates put the economic loss and damage costs in developing countries at between $290 billion and $580 billion per year. Yet, the newly-created loss and damage fund, meant to cover such losses and hosted at the World Bank, has so far garnered just about $661 million in pledges.
The MDBs should reform and evolve with the times and become more flexible, agile and adaptive to reflect the ever changing climate and development needs of the 21st century.

They need to recalibrate their support to low- and middle-income countries to enable reconciliation of climate and development goals by stepping up grants and concessionary financing.

Debt-distressed countries hamstrung by climate and global shocks need relief and debt cancellation as a matter of priority to unlock investment in crucial areas such as education, healthcare and climate action.

Climate cash flows in Africa are only $30 billion on average per year, far below the $277 billion needed annually. This urgently calls for the creation of a global fund for African countries to tap into to avoid being dependent on developed countries’ goodwill.

Existing institutions like the Green Climate Fund, which mainly finances projects aimed at reducing emissions or adaptation, have proved to be too slow and complex to effectively support global south countries.

This week, African leaders gather in Nairobi for the African Development Bank annual meetings, and are expected to make a bolder push for financial reforms in line with the meeting’s theme: Africa’s Transformation, African Development Bank Group, and Reform of the Global Financial Architecture.

Already, there are calls for the IMF to rechannel its Special Drawing Rights (SDRs) through the African Development Bank, in what would exponentially expand climate and development finance for Africa.

Partnerships are the name of the game across sectors, which is why a collaborative global financial architecture would move the dial, big-time.

The World Bank in particular, being a mission-critical global financier, should evolve into becoming more collaborative with regional development finance institutions, by leveraging or co-financing strategic infrastructure projects in the global south—and fire up the green growth engines.
On-going reforms framework over one-off stunts

The cycle of reforms underway—and those in the works—including at the World Bank, coming after much noise from the global south, should be an ongoing process, not a one-off exercise or done over a long period of time as a last resort, forced by circumstances. MDBs should embed a set of proactive frameworks in their approach, not reactive.

In the fiscal year ending in 2023, the World Bank Group increased the funds loaned for climate-related purposes by more than 20%, allocating 41% of all its lending to climate. The IMF’s new Resilience and Sustainability Trust is operational and has provided financing to 18 countries, primarily for adaptation. The IMF is reviewing its Debt-Sustainability Framework for low-income countries so that it incorporates climate considerations. While these efforts are commendable, the speed and scale of such interventions still fall far below what’s needed by the global south, especially Africa. Climate change is every country’s problem. However, Africa is being hit harder than the rest of the world, yet it has contributed the least to the climate crisis.

It is imperative that the global financial machinery moves faster towards bridging the gap between developed and developing nations, ensuring there is no trade-off between climate and development goals.
Joyce Banda was Malawi’s first female president (2012-2014) and Africa’s second. She founded several businesses and organizations, including the Joyce Banda Foundation. She served as Minister of Gender, Child Welfare, and Community Services, Foreign Minister, and Malawi’s first female Vice President. Banda helped establish the African Federation of Women Entrepreneurs and other international groups. Currently, she is a Distinguished Visiting Fellow at the Center for Global Development. Banda was named CNN’s Leading Woman of the Year in Politics (2014) and Africa’s most powerful woman by Forbes the same year.
FROM COP28 TO COP29: BUILDING ON PROGRESS AND ADDRESSING UNRESOLVED CHALLENGES

COP28, held in Dubai, UAE, brought together 97,000 delegates, including over 150 heads of state, negotiators, business leaders, and non-state actors. Despite its complexity, COP28 achieved significant progress in several areas related to climate action. Key highlights include:

1. GLOBAL STOCK TAKE (GST):
The most critical outcome of COP28 was the conclusion of the first-ever Global Stock Take. This mid-term review assessed progress toward the 2015 Paris Agreement goals, aiming to limit temperature increases to below 2°C (and ideally 1.5°C) compared to pre-industrial levels. The final GST text called for nations to “transition away” from fossil fuels, emphasizing the urgency of climate action.

2. CLIMATE JUSTICE:
COP28 made promising progress on climate justice, focusing on equitable solutions for vulnerable communities disproportionately affected by climate change, even though some agenda items remained undecided.

3. ENERGY TRANSITION:
A report by consultants at PwC highlighted the need for a year-on-year decarbonization rate of 17.2% (up from 15.2% last year) to limit global warming to 1.5°C above pre-industrial levels. This rate is significantly higher than the 2.5% achieved over the past year and the global average of 1.4% over the past two decades.

4. AGRICULTURAL RESILIENCE AND FOOD SECURITY:
COP28 addressed agricultural resilience, recognizing the importance of sustainable food systems in climate adaptation and mitigation efforts. COP28 concluded with an agreement signaling the "beginning of the end" for the fossil fuel era. This transition aims for swift, just, and equitable changes, supported by deep emissions cuts and scaled-up finance.
As we move from COP28 to COP29, the presidency holds a crucial role in rebuilding trust and ensuring that nations fulfill their commitments. The transition from promises and pledges to concrete actions will be essential for driving meaningful progress in the fight against climate change and achieving the overarching goals of the Paris Agreement.

**The Urgency of Addressing Unresolved Issues**

COP28 made significant strides in climate action, but the urgency remains. The world must accelerate efforts to meet the Paris Agreement goals and ensure a sustainable future for all. The implications of unresolved issues from climate conferences like COP28 can significantly impact global climate action:

1. **DELAYED PROGRESS:**
   Unresolved issues slow progress toward climate goals, exacerbating climate-related challenges such as extreme weather events, sea-level rise, and ecosystem disruptions.

2. **LACK OF CLARITY:**
   Uncertainty around fossil fuel phase-out timelines and market mechanisms hinders investment decisions. Clear guidelines are necessary for countries and businesses to transition to cleaner energy sources and adopt sustainable practices.

3. **INEQUITABLE BURDEN:**
   Unresolved issues perpetuate inequities, especially for developing countries vulnerable to climate impacts. International cooperation and financial support are crucial for these nations to build climate resilience and adapt.

4. **MISSED OPPORTUNITIES:**
   COP conferences provide platforms for collaboration, knowledge sharing, and innovation. Unresolved issues limit the potential for breakthroughs, technology transfer, and capacity building, hindering collective efforts to combat climate change.

5. **PUBLIC PERCEPTION AND TRUST:**
   Unresolved key issues can erode public trust in climate negotiations, fostering skepticism about the effectiveness of global climate action and discouraging individual and collective efforts to reduce emissions and promote sustainability.

6. **POLICY AMBIGUITY:**
   Policymakers, businesses, and civil society need clear signals from international agreements. Unresolved issues create policy ambiguity, making it challenging to align national policies with global climate objectives.

7. **RISK OF CLIMATE DISASTERS:**
   Delayed action increases risk of Climate Disasters: Delayed action increases the risk of irreversible climate events. These include loss of biodiversity, ecosystem collapse, and irreversible ice sheet melting. Unresolved issues contribute to this risk.

8. **ECONOMIC COSTS:**
   Climate-related damages and adaptation costs escalate when unresolved issues persist. The longer we delay decisive action, the higher the economic burden on societies and governments.

In summary, addressing unresolved issues promptly is crucial for effective global climate action. It requires collaboration, political will, and a commitment to safeguarding our planet for future generations.
AMBITIOUS COMMITMENTS: ALIGNING WITH THE 1.5°C TARGET IN LIGHT OF THE 2023 GLOBAL STOCK TAKE

COP29: A Critical Juncture for Global Climate Action and Trust Building

The upcoming COP29 conference presents an array of critical challenges and opportunities for advancing global climate action. Central to its success will be the pursuit of ambitious commitments from all nations, balancing the equitable distribution of responsibilities, and ensuring robust climate finance mechanisms. Key issues also include addressing loss and damage from climate impacts, advancing Article 6 negotiations on market mechanisms, and facilitating a just transition to a low-carbon economy. Additionally, the conference must navigate complex debates around geoengineering and negative emissions technologies, foster global cooperation, and enhance public awareness and engagement.

Rebuilding trust among nations is paramount, and the presidency of COP29 has a crucial role in transforming promises and pledges into concrete actions. By calling on countries to fulfill their commitments, COP29 can catalyze the transition from rhetoric to reality, driving meaningful progress in the fight against climate change and achieving the overarching goals of the Paris Agreement.

Key Challenges and Objectives for COP29

1. AMBITIOUS COMMITMENTS:
Encouraging countries to make more ambitious commitments in terms of emissions reduction, adaptation, and climate finance is crucial. Achieving the goals of the Paris Agreement requires stronger commitments from both developed and developing nations.

2. EQUITABLE BURDEN SHARING:
Negotiating a fair and equitable distribution of responsibilities among countries is challenging. Balancing the burden of climate action while considering historical emissions, economic capacity, and development needs is essential.

3. CLIMATE FINANCE:
Ensuring adequate and predictable climate finance for developing countries remains a challenge. Mobilizing funds to support climate adaptation, mitigation, and technology transfer is critical for achieving global climate goals.

4. LOSS AND DAMAGE:
Addressing loss and damage caused by climate impacts (such as extreme weather events, sea-level rise, and displacement) is complex. COP29 must find ways to support vulnerable communities and countries affected by climate-related losses.

5. ARTICLE 6 NEGOTIATIONS:
Continuing negotiations under Article 6 of the Paris Agreement is essential. This article deals with market mechanisms, including emissions trading and international cooperation. Finding common ground on issues like carbon markets and double counting is challenging.

6. JUST TRANSITION:
Ensuring a just transition to a low-carbon economy without leaving behind workers and communities heavily reliant on fossil fuels is a delicate balance. COP29 must address social and economic implications of climate policies.
7. GEOENGINEERING AND NEGATIVE EMISSIONS TECHNOLOGIES:
Debates around geoengineering and negative emissions technologies (such as carbon capture and storage) require careful consideration. COP29 needs to assess their risks, benefits, and ethical implications.

8. GLOBAL COOPERATION:
Fostering global cooperation and consensus among diverse countries with varying interests and priorities is always a challenge. COP29 must bridge gaps and build consensus for effective climate action.

9. PUBLIC AWARENESS AND ENGAGEMENT:
A successful COP29 would raise public awareness about climate change and inspire collective action. Success would mean engaging citizens, businesses, and civil society.

3. CONTINUED WORK UNDER ARTICLE 6
Negotiations will continue under Article 6 of the Paris Agreement. Article 6 focuses on market mechanisms, including emissions trading and cooperation between countries to achieve their climate goals.

4. JUST TRANSITION PROGRAM
COP29 will address the concept of a “just transition,” which aims to ensure that the shift to a low-carbon economy is fair and equitable for workers and communities affected by the transition.

COP29 Objectives

1. ENHANCED TRANSPARENCY FRAMEWORK
COP29 will finalize the first enhanced transparency framework. This framework aims to improve the reporting and monitoring of countries’ climate actions, ensuring greater accountability and transparency.

2. NEW COLLECTIVE QUANTIFIED GOAL (NCQG) ON FINANCE
Parties are expected to agree on a new collective quantified goal related to climate finance. This goal will outline financial commitments and contributions from developed countries to support climate action in developing nations.

The Role of COP29 in Advancing Global Climate Governance

COP29 is not just another meeting but a critical juncture where the international community must demonstrate a renewed commitment to addressing the climate crisis. By enhancing global climate governance, COP29 aims to create robust frameworks that will guide nations towards more effective and equitable climate action. Delegates will focus on solidifying the Enhanced Transparency Framework, a mechanism designed to ensure countries provide clear, consistent, and accurate reports on their climate actions. This framework is crucial for fostering accountability and transparency among nations.

Another major agenda item is the establishment of a New Collective Quantified Goal (NCQG) on Finance. This goal will set out the financial contributions from developed countries to support climate initiatives in developing nations.
Furthermore, discussions will continue under Article 6 of the Paris Agreement, which deals with market mechanisms and international cooperation to meet climate targets. These negotiations are essential for creating effective and fair systems for emissions trading and other cooperative approaches.

COP29 will also emphasize the importance of a “just transition,” ensuring that the move towards a low-carbon economy is equitable and inclusive, particularly for workers and communities that may be adversely affected by this transition. This focus aims to balance environmental goals with social and economic considerations, ensuring no one is left behind in the fight against climate change.

**Driving Forward Comprehensive and Equitable Climate Action**

Driving forward the comprehensive and equitable implementation of climate action is another cornerstone of COP29. This means not only setting ambitious targets but also ensuring that these targets are met through concrete actions. It requires a holistic approach that integrates mitigation, adaptation, and resilience-building measures, all of which must be tailored to the unique circumstances and needs of each country.

One of the key objectives is to foster international cooperation. The complexities of climate change require a unified global response, where knowledge, technology, and resources are shared freely and fairly among all nations. This cooperation is essential for tackling the transboundary nature of climate impacts and for ensuring that both developed and developing countries can contribute meaningfully to global efforts.

**Rebuilding Trust and Fulfilling Commitments**

A significant challenge for COP29 will be rebuilding trust among nations. Trust is the bedrock of any successful international agreement, and it has been eroded in recent years due to unmet promises and insufficient action. Rebuilding this trust hinges on respecting previous commitments, including the much-discussed $100 billion annual climate finance pledge made by developed countries to support developing nations.

Ensuring that this financial support materializes is crucial for enabling vulnerable countries to implement their climate strategies and for demonstrating the sincerity of global efforts. Rebuilding trust also involves countries showing that they are serious about their pledges by making tangible progress towards their Nationally Determined Contributions (NDCs) and by providing transparent, accurate reports on their climate actions through the Enhanced Transparency Framework. This framework is one of the pillars of trust, ensuring that all countries are held accountable and that their efforts are visible and verifiable.
It is crucial to delve into the specifics of climate finance, addressing the current distribution of financial flows, challenges faced, and the strategic actions necessary to enhance climate finance following the outcomes of COP28. Given the urgency underscored by recent developments, COP29 must catalyze significant advancements in climate finance.

**Current State of Climate Finance**

1. MITIGATION DOMINATES CLIMATE FINANCE ALLOCATION:

   According to the Climate Policy Initiative’s “Global Landscape of Climate Finance 2021/2022 Report,” mitigation efforts continued to receive the majority share of climate finance, accounting for 91% of total financial flows. This includes investments in renewable energy, energy efficiency, and other initiatives aimed at reducing greenhouse gas emissions.

2. LIMITED FINANCIAL FLOWS TO VULNERABLE COUNTRIES:

   Despite the urgent need for climate finance in vulnerable countries most affected by climate change, these regions are receiving a minimal share of financial resources. The report highlights that only 4% of climate finance flows are directed towards the most vulnerable countries, such as small island states and least developed nations.

3. CHALLENGES IN ACCESSING CLIMATE FINANCE:

   Various factors contribute to the limited financial flows to vulnerable countries, including challenges in accessing funds, lack of capacity for project implementation, and stringent eligibility criteria set by international funding mechanisms.
Key Outcomes and Goals for COP29

It is crucial to address the equity considerations in climate finance allocation to ensure that the most vulnerable countries receive adequate support to adapt to and mitigate climate change impacts. Efforts to increase funding, simplify access mechanisms, and promote capacity-building are essential to address this imbalance.

By addressing the disparity in climate finance allocation and directing more resources towards vulnerable countries, the global community can enhance the resilience and adaptive capacity of those most affected by climate change.

Need for Increased Investment:

• The United Nations Framework Convention on Climate Change (UNFCCC) emphasizes the need for increased investment in adaptation finance to support vulnerable communities, enhance disaster preparedness, and build resilience to climate risks.

• The Green Climate Fund (GCF) plays a key role in mobilizing climate finance for both adaptation and mitigation actions, focusing on supporting developing countries in their climate efforts.

Addressing the investment gaps in the Agriculture, Forestry, and Other Land Use (AFOLU) sector, as well as the energy sector, is essential to avoid catastrophic consequences of climate change. Here are some key insights supported by data and references.

Adaptation finance is critical for enabling countries and communities to adjust to the adverse impacts of climate change, including sea-level rise, extreme weather events, and ecosystem alterations. These funds are essential for implementing measures that enhance resilience and reduce vulnerability to climate-related hazards.

The Global Commission on Adaptation has projected that an investment of $1.8 trillion in adaptation initiatives by 2030 could yield $7.1 trillion in total benefits. This estimation underscores the significant cost-effectiveness of adaptation actions, which can include infrastructure improvements, early warning systems, and sustainable agricultural practices. By financing adaptation, the global community can mitigate the adverse effects of climate change, protect vulnerable populations, and ensure sustainable development.

Emergency response funding is crucial for addressing the immediate humanitarian needs resulting from climate-related disasters, such as hurricanes, floods, and wildfires. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) reports that funding requirements for global humanitarian response have been increasing steadily, reaching over $35 billion in 2023, with climate-related crises contributing significantly to these needs.

This funding is a critical component of the loss and damage mechanism, which addresses impacts of climate change that cannot be mitigated or adapted to, including both economic and non-economic losses.

For instance, the Global Commission on Adaptation estimates that investing $1.8 trillion in adaptation measures by 2030 could generate $7.1 trillion in benefits, highlighting the significant return on investment in both mitigation and emergency response actions. By providing rapid assistance...
for immediate impacts—such as search and rescue operations, medical care, food and water supplies, and temporary shelter—emergency response funding helps mitigate human suffering and facilitates swift recovery.

As climate change intensifies the frequency and severity of natural disasters, securing sufficient emergency response funding is essential. The loss and damage mechanism, established under the United Nations Framework Convention on Climate Change (UNFCCC), ensures that vulnerable countries receive the financial and technical assistance necessary to address both immediate and long-term consequences of climate events.

**Synergy between Adaptation and Emergency Response:**

- Ensuring a coordinated approach between adaptation finance and emergency response funding is crucial for building long-term resilience while addressing immediate humanitarian needs in the face of climate-related disasters.

- The Sendai Framework for Disaster Risk Reduction highlights the importance of investing in disaster risk reduction to minimize the impacts of emergencies and build sustainable resilience.

**To address these challenges, COP29 must focus on specific, actionable outcomes:**

1. **ENHANCED FINANCIAL COMMITMENTS:**

   - Meeting and Exceeding Targets: Developed countries must fulfill their existing $100 billion annual commitment and agree on a new, more ambitious financial target for post-2025. The new goal should reflect the true scale of climate finance needs, estimated to be in the trillions annually.

   - Long-term Pledges: Encourage multi-year pledges from developed countries to ensure predictability and stability of financial flows.

2. **INCREASED ADAPTATION FINANCE:**

   - Balanced Allocation: Commit to a balanced allocation of climate finance between mitigation and adaptation. A proposed target is to allocate at least 50% of public climate finance to adaptation projects.

   - Adaptation Fund Boost: Increase contributions to the Adaptation Fund and ensure it has streamlined processes for accessing funds, particularly for SIDS and LDCs.

3. **IMPROVING ACCESS TO CLIMATE FINANCE:**

   - Simplifying Processes: Simplify application procedures for accessing climate finance, reducing bureaucratic hurdles and accelerating the disbursement of funds.

   - Capacity Building: Provide technical assistance and capacity-building programs to enhance the ability of developing countries to design, implement, and manage climate finance projects effectively.

4. **REFORMING FINANCIAL INSTITUTIONS:**

   - Multilateral Development Banks (MDBs): Reform MDBs to prioritize climate action in their lending portfolios, including concessional financing for high-impact projects. MDBs should also work towards aligning their operations with the Paris Agreement.

   - Green Climate Fund (GCF): Strengthen the GCF by increasing its capital base and improving its operational efficiency. This includes ensuring faster approval processes and better disbursement rates.
5. Mobilizing Private Sector Investment:

- De-risking Investments: Use public finance to de-risk private investments in climate projects through guarantees, insurance, and blended finance mechanisms.
- Green Bonds and Sustainable Finance: Promote the issuance of green bonds and develop sustainable finance standards to attract institutional investors to climate-related projects.

6. Transparency and Accountability:

- Enhanced Reporting: Establish robust monitoring, reporting, and verification (MRV) systems to ensure transparency in financial flows and accountability for both donors and recipients.
- Peer Review Mechanisms: Implement peer review processes within the UNFCCC framework to assess and enhance countries’ contributions to climate finance.

Conclusion

COP29 represents a crucial opportunity to reset the global climate agenda, strengthen international collaboration, and ensure that climate actions are implemented in a fair and transparent manner. By honoring past commitments, including the $100 billion pledge, and working together towards common goals, nations can rebuild the trust needed to drive forward effective and lasting climate solutions.

As the world faces increasingly urgent climate challenges, COP29 must be a turning point where promises are transformed into tangible actions, ensuring a sustainable and equitable future for all. The conference must address the intricate balance between ambitious climate action and equitable burden-sharing, ensuring that all nations, especially the most vulnerable, are supported in their efforts to mitigate and adapt to climate change.

The urgency of climate action necessitates significant advancements in climate finance. By addressing current challenges and leveraging COP29 to secure enhanced financial commitments, improve access, and reform financial institutions, the international community can make meaningful progress towards meeting the Paris Agreement targets. Adequate and predictable climate finance is not just a financial imperative but a moral one, ensuring that developing countries have the resources needed to combat and adapt to climate change effectively.

The Enhanced Transparency Framework, New Collective Quantified Goal on Finance, and continuing Article 6 negotiations will lay the groundwork for a more accountable, financially supportive, and cooperative global climate strategy. Furthermore, emphasizing a just transition will ensure that the move to a low-carbon economy does not leave behind workers and communities dependent on fossil fuels.
Rebuilding trust is essential. By delivering on financial promises, respecting commitments, and fostering transparent reporting and accountability, COP29 can restore confidence in the global climate governance process. This restored trust will be crucial for the sustained cooperation and ambitious action required to meet the Paris Agreement goals.

In summary, COP29 is not just another climate conference but a critical juncture that will determine the trajectory of global climate action. Success at COP29 will require unprecedented cooperation, political will, and a shared commitment to a sustainable future. The world will be watching, and the outcomes of this conference will resonate for generations to come, shaping the global response to the climate crisis. It is imperative that nations rise to the occasion, turning rhetoric into reality and pledges into progress.

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Over the past few decades, there have been intense, ongoing international negotiations aimed at addressing climate change. From the Montreal Protocol to the Paris Agreement, these pivotal frameworks serve to coordinate collective action among nations to mitigate greenhouse gas (GHG) emissions, adapt to climate impacts, and foster sustainable development for future generations. However, amid ambitious targets and intensified diplomacy, the world continues to grapple with rising global temperatures that if left unchecked, will lead to environmental catastrophe worldwide.

The historical Montreal Protocol (1987) set the precedent for future diplomacy on the issue of climate change. Achieving universal ratification, the treaty required countries to phase out the production of substances that damaged the thinning ozone layer, such as chlorofluorocarbons (CFCs). The Protocol is considered one of the most successful international environmental treaties, having since eliminated nearly 99 percent of ozone-depleting substances. However, developing—let alone achieving the goals of—global climate agreements is a complex and iterative process that reveals the intricate dynamics of international cooperation, political interest, and socioeconomic realities. Addressing the effectiveness and progress of the agreements also requires a nuanced understanding of both their successes and failures. Ratified by 198 parties, the United Nations Framework Convention on Climate Change (UNFCCC) entered into force in 1994 and was the first international global treaty explicitly addressing climate change. Its framework is “agreement by consensus” and leads with the essential principle of ‘common but differentiated responsibilities’ which takes into account countries’ varying emissions quantities and degree of effort to reduce their emissions. The UNFCCC established the Conference of the Parties (COP) to facilitate annual discussions aimed at developing solutions to prevent further climate change damages and stabilize the concentration of greenhouse gases in the atmosphere.

Through the COP, emerged the Kyoto Protocol (2005) and the Paris Agreement (2015). The Kyoto
Protocol was the first legally binding climate agreement that required developed countries to reduce emissions by a 5 percent average below 1990 levels and established a progress monitoring system. This treaty was not satisfactory, leaving major carbon emitters and developing countries like China and India exempt. After initially signing the agreement in 1998, the United States later withdrew in 2001 citing potential economic setbacks. While governments generally agree on the science behind climate change, they differ on claiming responsibility, how to best track emissions-reduction goals, and whether to compensate more impacted countries.

The Paris Agreement (2015) is the most significant global climate accord to date, requiring all countries to set emissions-reduction pledges. Governments set goals for nationally determined contributions (NDCs) to prevent the average global temperature from rising 2°C above preindustrial levels and keeping it below 1.5°C. The Paris Agreement also aims to achieve carbon neutrality, where the amount of emitted greenhouse gases equals the amount removed from the atmosphere. However, most experts agreed the Paris Agreement was only a first step and that initial pledges needed to be more ambitious to limit global temperature rise to 1.5°C.

Experts argue the voluntary nature of international accords like the Copenhagen Accord and the Paris Agreement promotes free riding. In 2017, former President Donald Trump initiated the process to withdraw the United States from the accord, making the United States the only country to do so. President Joe Biden quickly reentered the United States into the agreement during his first months in office, becoming a strong advocate of collective international action on climate change. As the world’s second-largest emitter of greenhouse gases, the United States must be held accountable for its part in mitigating climate change. Iran, Libya, and Yemen are the three other countries that have not formally approved the Paris Agreement.
Since the Paris Agreement negotiations in 2015, a growing number of the 195 participating nations have intensified their climate commitments, notably through commitments to curb emissions and assist countries in adapting to extreme weather events. The absence of U.S. President Joe Biden and Chinese President Xi Jinping, the world’s largest greenhouse gas emitters, at the 2023 COP28 summit held in Dubai, raised concerns for the future of climate diplomacy.

The Russian invasion of Ukraine disrupted the priorities of previously established negotiations. For example, the EU quickly diverted away from Russian gas, pledging to double its instillation of renewable energy this decade while the Biden administration has allowed new oil sources to be purchased in Alaska and the Gulf of Mexico to ensure its self-sufficiency in fossil fuels. Bottom line, world leaders wrestling with skyrocketing energy prices and living costs have been hesitant to cast out the use of fossil fuels. Long term, the invasion of Ukraine has elevated energy security to the forefront of government agendas.

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As we look ahead to COP29 in Baku, Azerbaijan, there is hope for nations to strengthen their climate commitments and pave the way for a more sustainable future. The upcoming 2024 UNFCCC COP29 will be pivotal. The meetings will likely focus on financing new solutions for the role of digitalization in enhancing connectivity in the region against the backdrop of countries resubmitting updated NDCs. Moving forward, world leaders must prioritize both climate action and energy security to ensure a safer and more sustainable planet for future generations.

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Susan M. Elliott
President & CEO, National Committee on American Foreign Policy
I. The urgency of addressing climate change has never been more pronounced. The scientific community agrees that significant reductions in greenhouse gas (GHG) emissions are essential to mitigate the catastrophic impacts of global warming. Emerging technologies, particularly artificial intelligence (AI) and biotechnology, offer promising avenues for reducing emissions. However, these technological solutions come with political challenges and global resistance that need to be navigated. Nevertheless, the potential of these technologies, the political obstacles they face, and how these issues could be addressed at the upcoming COP29 in Baku.

Above all, the Artificial Intelligence (AI) has the potential to revolutionize the way we manage and reduce GHG emissions. Machine learning algorithms can optimize energy use in buildings, enhance the efficiency of renewable energy sources, and improve industrial processes to minimize waste. Smart grids powered by AI can balance supply and demand more effectively, integrating renewable energy sources like solar and wind into the power grid more seamlessly.

Also biotechnology offers innovative solutions to reduce emissions through advancements in agriculture and industrial processes. Genetically modified crops that require less nitrogen fertilizer can significantly reduce nitrous oxide emissions, a potent GHG. Additionally, biotechnological innovations can enhance carbon capture and storage (CCS) technologies, making it feasible to trap and store carbon dioxide emissions from power plants and industrial sources more effectively.

There are also many other advanced technologies that can help us slow down the warming of the Earth.
II. However, the main problem is not the technology, but the political and societal resistance to comprehensive and effective climate policy—both on national and international levels.

An important structural problem lies in the fact that climate policy needs to be a global policy. This means that all countries should contribute.

However, politics are structured nationally. State policies primarily focus on their own populations. The transition to a new, environmentally and climate-friendly economy and way of life is expensive in the short term. The argument that the longer this transition is delayed, the more expensive it will become, carries less weight in political discussions than the argument that short-term savings at the expense of climate investments can be spent on other needs, which are also considered urgent. This view is very short-sighted but is widespread.

Another problem is global climate justice. The rich industrialized countries produce most of the GHG, but the impacts of climate change are global. These often affect poor countries, which themselves contribute little to GHG emissions.

Therefore, all states have agreed at previous COPs that the costs of climate policy should be distributed globally and fairly. This means that rich countries should pay more. However, the politics in these countries are reluctant to demand too much from their own populations. Populist politicians exploit this circumstance and, to strengthen their own following, are often denying the reality of climate change and the necessity of climate policy. The politics of global responsibility face a difficult challenge.

In addition, there is a certain resistance from industries that rely heavily on fossil fuels. Moreover, countries with economies deeply intertwined with fossil fuel production may resist global agreements that threaten their economic stability.

III. Global cooperation is crucial for the effective reduction of GHG emissions, yet achieving consensus on technology adoption and implementation is challenging. The COP29 in Baku provides an opportunity to foster collaboration between governments, industries, and civil society. By emphasizing the shared benefits of emission reduction technologies and ensuring that all voices are heard, a more unified approach can be developed.

To address the disparities between developed and developing nations, wealthier countries must commit to substantial support for technology transfer and capacity building. This includes providing financial resources, technical assistance, and training to enable developing countries to adopt and benefit from new technologies. International agreements should incorporate mechanisms for accountability and equitable resource distribution to ensure that all nations can participate in and benefit from global emission reduction efforts.

This requires goodwill from all parties involved, particularly from the industrialized countries, as well as from the new global players who have so far shown little willingness towards climate policy.

The COP29 in Baku offers a platform to address the political and technological challenges associated with reducing GHG emissions through AI and biotechnology. Key topics for discussion should
include mechanisms for financial aid and technology transfer to support developing countries in adopting new technologies. This could involve creating a global fund dedicated to climate technology innovations, strategies for increasing public awareness and understanding of the climate policy, promoting tailored technological solutions to specific sectors, such as agriculture, energy, and manufacturing, to maximize emission reduction potential while addressing sector-specific need, robust monitoring systems to track the results of the climate policy. This includes setting clear targets and timelines for emission reductions and holding countries accountable for their commitments.

The COP29 in Baku represents a critical opportunity for the international community to develop cohesive strategies, build consensus, and establish frameworks that support the effective fight against climate change.

Through collaborative efforts and a commitment to overcoming political and economic barriers, the world can make significant strides towards a sustainable and low-carbon future.
Egilis Levits, President of Latvia (2019–2023), is a lawyer and political scientist. He graduated from Riga Secondary School No. 2 in 1972, then from Munster Latvian Grammar School, and later earned law and philosophy degrees from the University of Hamburg. Levits was instrumental in Latvia’s independence restoration and contributed to the 1990 Declaration on Independence. He served as Latvia’s first post-independence Minister of Justice, Ambassador to Germany, and judge at both the European Court of Human Rights and the European Court of Justice. Levits has authored key legal texts, including the 2014 Constitution Preamble, and regularly advises Latvian and international institutions on legal and political issues.
Many important issues have been tabled for the agenda of COP 29 to be held in Baku in November – from climate justice to the question of how to finance the energy transition in the world’s poorer countries. The Chairman of the meeting should add one more crucial topic to the list – a frank and open discussion of the way the COP process is working.

COP meetings have grown in size. COP28 in Dubai attracted 85,000 delegates, lobbyists and representatives of the media. 29 years ago just 3,900 people attended the first COP meeting in Berlin.

The 2000 per cent increase in size has not been matched by an improvement in performance.

Some important steps forward were taken in Dubai including the latest stage in the stocktake of progress on the Paris Agreement, the development of a framework on Adaptation and a significant agreement on the reduction of methane emissions. But there is a yawning gap between the solemn declarations contained in the final communique of the meeting and the delivery of substantive change.

The last two COPs have formally agreed that there should be a significant transfer of funds to compensate the world’s poorer economies deal with the tangible economic damage as a result of climate change. The oil and gas price surge of 2022 added trillions to the income of oil and gas producers, while adding to challenges facing importers – many of whom already faced serious economic problems. A formal agreement was proclaimed at COP27 and confirmed at COP28 but only $700 m has been pledged and the promise of compensation has not been kept.

After much debate and tense negotiations in the final days of COP 28 almost every country in the world signed up to a statement which included the declaration that there was a need to phase out fossil fuels. Fine words no doubt but unsupported
by any plan to translate words into action. Fossil fuel use continues to grow.

Above all the fundamental purpose of the whole process is not being addressed. 27 years ago when the most important of the early COP meetings was held in Kyoto the world was burning fossil fuels to meet some 85 per cent of its energy needs. Today fossil fuels still account for 82 per cent of primary energy demand and the absolute volumes of oil, natural gas and coal consumed have risen by more than 50 per cent. Unsurprisingly emissions are 54 per cent higher today than in 1997 and continue to rise. COP 29 should start with an acceptance that despite much effort the process is not working.

The result of all this is summed up in this graph produced by Berkeley Earth. Global average temperatures continue to increase and are breaking through the 1.5-degree threshold.

Dialogue is important and it is obviously right that there should be a global conversation on all the many aspects of an important global problem. The absence, however, of any delivery mechanism undermines the credibility of the COP process. What is the value of attending a meeting which talks but does not act? Producing a communique which most nations are able to sign does not in itself change anything, and the watering down of ambitions which is often needed to secure the last signature can undermine the pressure for change.

Baku should mark a change of direction for the COP process. A few specific steps would help.

• The process of dialogue should be continuous rather than concentrated in an annual with a continuing dialogue on three or four key issues - with working groups covering for instance investment, technology and the distribution of the costs. These groups would work throughout the year at the professional and technical level.

• With this structure in place to advanced the detail, the annual meetings should be dedicated to questions of strategy to be discussed by political leaders. Crucially, as with the meetings of the G7 and G20 and most other serious intergovernmental organisations these meetings would not be open to lobbyists. The size of future COPs would fall by at least two thirds - making a significant contribution to reducing the emissions produced by the flights to Dubai of 85,000 people.
• The acceptance that the search for a complete consensus can be the enemy of real progress. Forward momentum should be focused on coalitions of the willing. If some countries opt out the outcome will be suboptimal – but that is better than no progress at all. If Russia or Saudi Arabia choose to opt out of particular initiatives that is regrettable but if 150 countries choose to opt in the net gain is still substantial. This approach is already in place on specific issues but needs to become the standard approach.

• Measurement and a transparent reporting system matter. Progress or its absence should be trackable with a clear set of performance criteria which turn often vaguely worded “commitments” into substance demonstrating exactly where progress is being made and where there are shortfalls.

• To achieve all this the COP requires a permanent institution dedicated to pushing forward the agenda. The Secretariat should be a global body, with a substantial and experienced international board. The new organisation should have the capability to track progress, identify best practice and propose initiatives to remove barriers to action, working with national states and drawing of the work, of the many other bodies with specialist knowledge and experience.

COP 29 in the great city of Baku should be the occasion for reassessment of the progress made and for a renewal of the commitment to find solutions to the climate challenge before it is too late.
Nick Butler is a visiting professor and chair of the King’s Policy Institute at Kings College London. He was group vice president for strategy and policy development at BP from 2002 to 2006 and had previously been BP’s group policy adviser. From 2009 to 2010, he worked for Prime Minister Gordon Brown as senior policy adviser. He is also energy policy adviser at the Cavendish Laboratory in Cambridge, and a senior adviser to Coller Capital, Linton Capital and Corporate Value Associates. From 2007 to 2009, Mr. Butler was chairman of the Cambridge Centre for Energy Studies. He is a non-executive director of Cambridge Econometrics. He is a regular contributor to the Financial Times.
The Africa Climate Summit held in 2023 was meant to bring in renewed hope. In its 60+ years of post-independence history, Africa has contributed around 3% of Green House Emission; accounts for approximately 2.6% of global trade and less than 3% of the world’s GDP in 2021. Home to 1.4BN people with a median age of 16 and heading to 2BN by 2050, the continent continues to suffer from stalling multilateral trade negotiations and the ‘death of the Doha round’ has given rise to unprecedented forms of protectionism, unilateralism, a lack of political leadership to embrace and nurture multilateralism.

Unfair competition, unilateral partitioning of Africa into Economic Partnership Agreements (EPAs), skewed intellectual property rights have resulted in an international trade system that disproportionately favours wealthy economies.

The emerging trade-climate change measures will only further restrict Africa’s participation in global trade markets. So, to tackle the looming climate crisis, the question is as follows: Should Africa still depend on the ‘generosity’ of the global north? Their inability to meet the $100 billion pledge reveals their moral reluctance to acknowledge developed countries’ contribution to climate change.

Yet to transition to a greener future, Africa must access affordable public and private funding, coupled with debt relief. These shifts are central to building capacity for sustained transformative growth and resilience in the face of climate challenges.

Developed countries have resisted fundamental reforms to support the developing world with the climate emergency. Innovative global development finance ecosystems are needed to unlock equitable international financing flows, while preserving the fiscal sovereignty of developing countries to pursue development pathways unique to their circumstances and realities.
Africa’s position is constrained by a lack of affordable, reliable, and sufficient finance, juxtaposed with a debt crisis compounded by climate challenges. Rather than allocating increased funds to adaptation efforts, the majority of it get directed towards mitigation which benefit financier and lenders and thus depriving countries of a voice.

Africa’s economy is vulnerable especially post pandemic. The external debt has exceeded $1 trillion in 2023. It detracts from African governments’ ability to sustain meaningful socio-economic gains. Those with a pessimistic view of Africa tend to label the debt issue as an African problem disconnected from the exploitative policies of developed nations but the true concern lies with the developed nations. They possess significant privileges to issue global reserve currencies leading to highly imbalanced distribution of international liquidity, as well as exorbitant interest rates and capital outflows driven by the monetary policies of affluent economies.

So, whenever faced with liquidity constraints, Africa has no choice but to turn to the World Bank and International Monetary Fund (IMF) to boost foreign exchange reserves. In the international arena, climate financing is becoming more commercial than concessional.

The USA are hindering the recapitalisation of the World Bank for geopolitical considerations with the unfortunate outcome of deepening structural gaps and costly financing for Africa. Thus, Africa is compelled to seek loans from commercial entities with the high cost of borrowing impeding investments.

The issuance and recycling of SDRs issued by the IMF as a means for enhancing available climate finance is drawing global attention. IMF’s re-channeling of idle SDR should be used to help developing countries with much-needed finance.

The Bridgetown Initiative encapsulates many such proposals including the restoration of debt sustainability; long-term debt restructuring with low interest rates; increase official sector-development lending; mobilise more in green private sector investment; reform the trade system to support global green and just transformations.

African countries are paying an unnecessary premium on their cost of capital and not attracting sufficient foreign direct investment (FDI), especially in innovative areas and for global public goods. Africa’s fiscal and tax architecture suffer from vulnerabilities while the global tax system is still built on historic power asymmetries.
Developed countries largely devised international rules, resonating with their own economic interests. Furthermore, the application of Base Erosion and Profit Shifting (BEPS) strategies, the digital economy, and climate-related measures, such as the European Union’s (EU) Carbon Border Adjustment Mechanism (CBAM) undermine multilateral approaches and affect the fiscal sovereignty of African economies.

Voluntary carbon markets, including the Africa Carbon Markets Initiative, Sovereign wealth funds could unlock much-needed finance for undervalued assets and services. Africa’s own development banks, the partnership and investment proposed by the BRICS/New Development Bank, the private sector are also essential sources of long-term financing, and tapping into them could enable Africa’s self-directed growth.

There is a globally recognised need to shift, unlock, scale, and mobilise new forms of ‘fit for purpose’ finance to deliver on climate agreements and sustainable development goals. The priority of priorities for African countries is affordable, predictable, accessible finance at scale.

Finally in building a financial infrastructure that is relevant for all, African countries should not be passive receptors of international reforms and debates.

They must have the authority to lead in the direction they choose; they must have that voice and more importantly the collective interests at local, regional as well as at the international level.

It is only then that Africa will be compensated for the harm that it did not commit because climate justice can only take place when we revive the spirit of Ubuntu. “I am because you are”.
Ameenah Gurib-Fakim, a prominent figure in academia and politics, served as Managing Director of CIDP Research and Innovation and as a Professor at the University of Mauritius. She made history as the first female President of Mauritius from 2015 to 2018. Gurib-Fakim’s contributions extend beyond politics; she chaired the International Council for Scientific Union – Regional Office for Africa and was an Independent Director on the Board of Barclays Bank of Mauritius Ltd. She’s received prestigious awards, including the Order of GCSK and Legion d’Honneur, and has been listed among Forbes’ “Most Powerful Women in the World” and topped the Forbes List of Top 100 Women in Africa in 2017 and 2019.
Reading about the recent average temperatures measuring done by the EU Copernicus system inevitably raises eye brows. Last year measurements showed the level was just below the Paris Agreement’s preferred increase of 1.5C above the preindustrial world and this year’s temperatures will probably be already above the threshold. As if it was not enough, even if all the current (fragile as shown by examples in the developed countries) climate policies are implemented the world is still on track to see the 2.7C increase by the end of the century. While knowing that, due to the different political dynamics some plans are still delayed. Absurdly enough, one may ask if the climate change is in fact too slow then? Is the human kind only upon major disasters able to come together and set the new course in an effective way?

The Napoleonic wars brought the Vienna Congress arrangements, the WWI the illfated leage of Nations and the WWII now sclerotic UN system. If history invoked intends to answer the previous question then the response is obviously not clear.

All the mentioned post conflict arrangements started to show cracks relatively soon after, despite being in place for the relatively long time as it was the case in the 19th century or the UN system.

Reflecting on the Rio 20+ when the decision to replace Millennium Development Goals with the new Sustainable Development Goals and UNGA meeting in 2015 when UN 2030 Agenda was endorsed brings back good memories. I had the pleasure of heading the Montenegrin delegation to Rio, and was also present in NYC UNGA meting when the SDGs were formally adopted.

Compared to the state of the world today one can probably convincingly say that those were happier times when optimism flourished. Having said that, I believe that the day SDGs were adopted was also the day a minority really thought that all the defined goals would be achieved by 2030. Complex agenda consisting of 17 goals, 169 targets and 248 indicators means very complex work in first mainstreaming this approach and making it part of the national
strategic orientation. Now, almost a decade through, it is clear that we're lagging behind and it is not only due to the pandemic. Additionally, climate change impact and the green transition, although making part of the UN 2030 agenda seems to be continuing its own life through the ICCP COPs. However, we need to understand that no SDG can really be globally accomplished if we fail in reducing the impact of the climate change. On the contrary, very sensitive issues like migration will only exacerbate. The preservation of the biodiversity of the marine and ocean life could become truly beyond our ability. The fact that more and more mitigation and adaptation are talked about suggests that we seem to have started changing global focus. If only it were so simple.

Broadly speaking, historically, the processes of the application of new knowledge to solve problems (so not only technological advancement) and economic development went more or less spontaneously, one dragging the other from time to time. It is, in fact, for the first time that by setting the global goals and calculating the so called global GHG budget of remaining affordable net emissions we intend to quicken up these processes. Thus, we need to be aware that such an approach inevitably suffers from the famous knowledge problem and risks producing multiple unintended consequences. Many mainstream development economists in particular, talk about market failures but tend not to talk as much about government failures. Don’t we already feel the heat of the geostrategic tensions, emergence of the new industrial policies, the reshaping of the political spectrum and so on? One may, of course, argue that all those do not correlate directly, but the complexity of the human civilization also points into the other direction.

Coming from a country that endured very complicated process of transition from the socialist system to the market pluralist economy, some of the lessons although scholarly seeming may carry certain aspects of the understanding of the green transition process. In the 90ties most of the debate among the policy makers was about the pace of the reforms - shock therapy vs gradualist approach. Later the focus started to shift towards the interaction between the formal and informal rules. The process cannot be successful if rule of law or private property for example are ignored. The more those formal rules and the prevailing culture collide the longer and the more costly process it ends up.

The same, in a way, refers to the green transition. It is not only about the new rules, it is about making them truly legitimate in the global society. In addition, the crucial aspect that tends to be disregarded is the power of the so-called entrepreneurial process of discovery. It should not be inhibited as it enables the most productive solutions the climate and energy challenge require to get shaped. The discovery process is not necessarily only related to the economic but also to the legal, political, institutional and social domains. Unfortunately, policies intended to disrupt global trade in various forms do not help, as usual and well-known practices of the rent seeking and overinvestment in particular fields emerge. Another extremely important aspect is related to the education in order to help various cultures get on with the green transition.

Therefore, for the successful implementation of the SDG and in particular climate agenda it would be important to sustain policies that help bring the
change about rather than exhaust each other in the constant bitter political and technical struggles over an exact end result and over which an immediate compromise is almost impossible to reach. The new generation of youngsters seems to be more climate aware, and they are the most important card to play.
Igor Luksic, a Montenegrin politician, served as Prime Minister of Montenegro from 2010 to 2012 and as Minister of Foreign Affairs from 2012 to 2016. Elected to Parliament in 2001, he held several key governmental positions, including Finance Minister, Deputy Prime Minister, and Deputy Minister of Foreign Affairs of Serbia and Montenegro. A pro-business reformist, Luksic advocated privatization and entrepreneurship to modernize Montenegro’s economy. He ran for UN Secretary General in 2016, promoting a more effective UN and a stronger voice for youth. With nearly 18 years in public service, he was dedicated to political and economic reforms based on the rule of law and a business-friendly environment.
Mankind has made tremendous progress in the development of technologies, particularly in Artificial Intelligence (AI). This rapid advancement brings both excitement and concern. Our worries are legitimate—historically, technological progress has never been used solely for solving human problems. Technologies are simply tools, and it is humans who decide how to use them. Too often, people have used technological advances for selfish purposes, which cannot generate trust and friendship.

Technologies alone cannot solve global warming, environmental pollution, or the problem of billions of tonnes of solid waste poisoning land and water. They cannot address social and economic inequity, migration issues, or global insecurity, which threaten humanity’s existence. All the problems we face today are generated by our behaviour, approaches, and decisions. The solution lies in changing our behaviours, setting new priorities, and making better decisions.

The solution to humanity’s big problems, including those threatening our existence, lies within us. It lies in our humanity, our ability to rethink our attitudes towards each other, and our willingness to accept and respect our differences. After the end of World War II, instead of building lasting peace, we have focused too much on the gruelling competition of armament. This competition has steadily undermined mutual trust, treating each other as threats. The more advanced our technology, the more destructive our weapons became, and the greater the threats.

It is time to recognise that arms competition has not led to sustainable peace-building but has trapped us in a cycle that can destroy our world. Sustainable peace cannot be built by increasing the possibilities of defeating each other in armed conflict. It is impossible to build lasting partnerships by generating threats. The question we must answer today is whether we are capable of building a global balance based on values like humanity and responsibility, rather than the values of current political philosophy.
Do we have enough humanity and wisdom to invest more time and resources in building a mutually respectful global dialogue and increasing mutual trust, rather than in developing disruptive technologies? Are we ready to evolve politically to focus less on competing for power and more on building sustainable peace?

Global destabilisation and the deterioration of international dialogue make it clear that the old adage "You can get much further with a kind word and a gun than you can with a kind word alone" is outdated. It is time to accept that we are equal as individuals and as countries, and to embrace our differences. By doing so, we won't need guns to find a unifying compromise and step into the future together, peacefully. Good words will be enough.

Political competition is often between politicians, not peoples. Teachers, doctors, mathematicians, engineers, farmers, and pensioners from different countries can get along perfectly well. Conflicts are usually initiated by political leaders, but the cost is always borne by the people. We need to look at democracy in all its depth. Democracy is not just a model of government; it is a culture of humanity and responsibility. When these values are overshadowed by selfishness, democracy loses its meaning.

We don't have perfect democracies, but we have countries where there is more or less democracy. We need to learn from each other, be less judgmental, and appreciate our positive qualities. Politicians need to communicate more with the people, listening to their priorities and aligning political goals with those of ordinary citizens.

Global issues like warming, environmental pollution, and solid waste management can become opportunities for global cooperation. These issues can be transformed into collaborative projects that
generate shared satisfaction and pride. Through these projects, we will gain experience in constructive communication and common problem-solving, which is crucial now.

We have the financial resources and technology to pursue this path. In 2023, global military spending reached $2443 billion, with NATO members alone spending $1341 billion. Military spending is driven by the language of power, which is inherently aggressive and does not bring peace. Instead, it generates concern and mistrust, often leading to conflict.

We can start with a global agreement to reduce military spending by 10-15%. This reduction could fund projects addressing global warming and environmental pollution, amounting to over $200 billion annually. This impressive figure could build global dialogue and cooperation. Most importantly, it is available, and it is up to us—our humanity and responsibility—to turn it into a new beginning. A beginning where we build a more beautiful world and a more secure peace together.
Chiril Gaburici, an economist, began his career in telecommunications, eventually becoming CEO of Moldcell and Azercell. In 2015, he served as Moldova’s Prime Minister, focusing on anti-corruption and financial reform. Afterwards, he founded and leads several companies. He later served as Minister of Economy and Infrastructure. Currently, he heads the Board of Directors at Bemol Company, a major filling station network.
Finally, on May 21, 2024, after a lengthy procedure that began in 2019, the Council of the European Union adopted the Artificial Intelligence Act, the long-awaited law that is the first in the world to legislatively regulate the principles of the operation and use of artificial intelligence. This very comprehensive legal text, not easy to read and understand for those not involved in artificial intelligence, has delighted many. Undoubtedly, it is a great achievement that, for the first time, artificial intelligence has been regulated at a legislative level for the entire vast area of the European Union. Its content includes: "(a) harmonised rules for the placing on the market, the putting into service, and the use of AI systems in the Union; (b) prohibitions of certain AI practices; (c) specific requirements for high-risk AI systems and obligations for operators of such systems; (d) harmonised transparency rules for certain AI systems; (e) harmonised rules for the placing on the market of general-purpose AI models; (f) rules on market monitoring, market surveillance governance and enforcement; (g) measures to support innovation, with a particular focus on SMEs, including start-ups."

Expectedly, the AI Act reflects the hopes and fears humanity has concerning AI, a tool that, even now in its relatively early stage, significantly changes our world. However, there are those who are somewhat disappointed with the new European law. Namely, the AI Act does not apply to AI products related to defense and national security, which allows various forms of abuse and violations of human rights to go unnoticed. Nevertheless, after the adoption of the AI Act, nothing will be the same. Certainly, oversight of AI products will likely be rigorous, except for systems and products related to defense and national security to which the AI Act does not apply. The safety control of AI products will be conducted at the EU level through the European AI Office and at the national level through appropriate agencies. Four levels of AI...
system risk have been established: 1. Unacceptable risk, 2. High risk, 3. Limited risk, and 4. Minimal risk. Systems/products classified as Unacceptable risk are excluded from the AI market. The most rigorous controls and procedures are provided for “high-risk” products that can endanger human life and health, such as AI systems in the transportation industry or robot-assisted surgery, but also systems and products that affect fundamental human rights, such as the administration of justice or democratic processes, and particularly important elements of social status (e.g., university entrance exams). An important principle is that the final decision in sensitive activities must be made by a human. The AI Act includes a list of prohibited practices and astronomical financial penalties for those who do not comply: 35 million euros or 7 percent of annual revenue, whichever is greater. However, the issue of individual criminal responsibility remains open. This issue will be subject to changes in national criminal legislation, and legislators will face challenges not only in substantial criminal law but also in the regulation of criminal procedure, including evidence. The problems are all the more interesting as AI will certainly participate in trials for crimes connected to AI. In the context of AI in the judicial system, it is much more important information than pure curiosity that AI has passed the bar exam! "CodeX—the Stanford Center for Legal Informatics and the legal technology company Casetext recently announced what they called a watershed moment." Research collaborators had deployed GPT-4, the latest generation Large Language Model (LLM), to take—and pass—the Uniform Bar Exam (UBE). GPT-4 didn’t just squeak by. It passed the multiple-choice portion of the exam and both components of the written portion, exceeding not only all prior LLM’s scores but also the average score of real-life bar exam takers, scoring in the 90th percentile."
Hope and Good Wishes:
Example of Medicine, Biology, and Pharmacy

Although AI promises unprecedented progress in almost all areas, from construction, mechanics, computer sciences, space exploration, to the food industry, many people, especially the sick, have the highest expectations from AI in the field of medicine, biology, and pharmacy, as well as environmental protection. The current, albeit initial, results are impressive. “ALPHAFOLD, DeepMind’s artificial intelligence, managed to decipher the 3D structure of about 200 million proteins in a little over a year, which means almost all proteins of all known organisms on Earth. This feat will have enormous significance for research in biology and medicine, as after this, determining the shape of any protein will become as simple as searching for it in Google.” The application of AI to biology and pharmacy has led to a significant shortening of the duration of drug development and their greater effectiveness, especially when it comes to expensive drugs for rare diseases. Shorter and more successful phases of drug creation and testing lead to lower prices. Additionally, conducted research shows greater success of AI research compared to “classical” methods. An interesting phenomenon is that the largest pharmaceutical companies are entering partnerships with smaller biotech companies for more efficient research. However, the literature warns that the use of AI in biological research also carries serious dangers. “New research emphasizes how easily AI models can be trained for malicious purposes as well as good, specifically in this case to imagine the designs for hypothetical bioweapon agents. A trial run with an existing AI identified 40,000 such bioweapon chemicals in the space of only six hours. In other words, while AI can be incredibly powerful – and much, much faster than humans – when it comes to spotting chemical combinations and drug compounds to improve our health, the same power can be used to dream up potentially very dangerous and deadly substances.” Although the possibilities of misuse or fatal errors are evident, in the field of medicine, biology, and pharmacy, there is a prevailing hope that AI will significantly contribute to improving human health.

A Tool for a Better World or Its Master

Humanity’s hopes that AI will be a powerful tool for a better world and the advancement of humanity are confronted with the fear of AI abuses, its destructive applications, the dehumanization of creative processes. Certainly, it is important to keep in mind the social consequences that will occur when AI replaces certain professions in the labor market. For now, this is of most concern to artists, especially musicians. On one hand, AI offers musicians unprecedented production possibilities. But the question arises as to what will happen to creativity. Will AI replace authors? Another question is whether music “composed” by AI is an original work or just a derivative of the matrices and compositions written by human composers. Some copyright societies have already prohibited the use of compositions by authors whose repertoires they protect for "composing" by AI.
And ultimately, the fear is focused on the most terrifying future scenario, one in which AI rules the world, and the human species, if it exists at all, is a servant to a new form of “life”: robots or humanoids equipped with AI that surpasses human capabilities. Certainly, the fear is real and justified, but humanity actually has no choice. AI is here, it is developing, and there is no way to prevent the process of introducing AI into various spheres of human life. For this reason, future regulations, both national and international, will undoubtedly be aimed at safeguards and limiting risks to individuals and humanity as a whole. Laws and ethical codes must ensure that AI is not the master, but the servant of humanity.

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Ivo Josipovic
President of the Republic of Croatia 2010-2015

Ivo Josipović served as President of Croatia from 2010 to 2015, promoting reconciliation in Southeast Europe, human rights, and anti-corruption efforts. Prior to his presidency, he was a university professor specializing in International Criminal Law and Criminal Procedure, a member of Parliament, and a composer. He has published books and papers on international criminal law and human rights. At the Music Academy, he taught harmony and composed works performed by prominent artists. Josipović also directed the Music Biennale Zagreb and was secretary general of the Croatian Composers’ Union.
The current situation of the planet with permanent and devastating climatic catastrophes puts us in front of the dilemma of analyzing the concern for the results of the different Conferences of the Parties organized by the United Nations in different places of the world and with relevance and call, as well as very great expectations on the results that arise from them.

The holding of COP29 in the Republic of Azerbaijan should mark a course to be followed by the international community, which, however, to date, has not been very successful in the previous editions of the COP in showing tangible results of what governments are doing to stop the advance of global warming or climate changes that are already causing impacts on a large part of the planet, proof of this are the few advances and even some setbacks, caused by economic crises or situations such as the Covid 19 pandemic, which focused attention on other issues.

Statements are usually encouraging, but practices are far from being so, leaving us in debt about concrete actions, especially by the major economic powers. Above all, we are concerned about the level of commitment shown by the different governments over the years.

As the prominent environmentalist Rajendra Kumar Pachauri, the founding leader of the IPCC said: "No one on this planet is going to remain untouched by the impacts of climate change". These inequalities are present in all latitudes, in rich and poor countries, in riverside villages, or in those located in the high mountains.

Faced with the little impact that national governments and even supranational bodies have on actions to change what already seems to be an irreversible situation, I propose that the next COP 29 emphasize the actions of local governments: municipalities, governors’ offices, departments, prefectures, etc., since these types of governments have a direct, measurable and felt action by their respective communities, they can be more effective in defining their actions for the preservation of the environment and the quality of life of the populations.
Local governments are the ones that take the initiatives that have a tangible impact on the lives of their citizens, and their authorities can also show a greater sensitivity to the neighbors of their territorial constituencies. In this sense, partnerships between cities and other local governments can be more successful and should be encouraged.

The next COP 29 should, therefore, dedicate privileged spaces to local governments, place them at the center of their actions, and allocate greater resources to their work, which can focus on such neuralgic issues as garbage and wastewater treatment and the extreme vehicular pollution in large urban conglomerates.

Let us remember that much of the pollution is produced by the extreme urbanization of our planet, pollution from garbage, light pollution, noise, and many other concepts that undoubtedly contribute to the fact that the planet can no longer bear any more.

The COP to be hosted by Baku, the capital city of Azerbaijan, may set a very important precedent by taking as one of its central and fundamental themes, the work and collaboration of cities in mitigating the effects of climate change.

We hope for tangible results that satisfy the aspirations of many citizens concerned about the future of the earth and the life of human beings on it, especially the youngest members of the new generations, who will be the ones to face climate inequalities, the scarcity of resources such as water or farmable land, the disappearance of species and the permanent problems that will arise and that in some cases we can already see, which will make it much more difficult for human beings to remain on our beautiful planet.
Climate change, as a global challenge and threat, makes sustainable green economic development a priority objective of modern economic and energy policy. Energy development should provide economic growth and employment by offering clean and affordable energy to consumers.

Let us not forget that the United Nations World Commission on Environment and Development, in its report ‘Our Common Future’, defined sustainable development as an approach to growth and human development that aims ‘to meet the needs of the present without compromising the ability of future generations to meet their own needs’. This points to the need for a more rational approach to the energy transition that is inevitable. Efforts to achieve an energy transition need to keep in focus both compliance with high environmental standards and requirements and the social dimension of the energy system transformation process.

Efforts must be directed towards achieving a reasonable energy mix that combines the development of renewable energy with the use of nuclear power and conventional energy sources, contributing to the security and reliability of the energy system.

The development of new technologies, and renewable energy in particular, is an undeniable priority. Tackling climate change, as far as possible, undoubtedly implies promoting renewable energies, thus reducing the negative impact of energy activities on the environment and the climate, opening up new innovative industries and jobs. However, there is a need for a balanced and coordinated policy, where the promotion of renewable energies should be in accordance with the specific characteristics of national energy systems, as well as in the context of the debate on energy security.

Nuclear energy has a significant place in the European energy system as one of the instruments for achieving the priorities of sustainability and economic competitiveness. Nuclear power, subject to modern standards and requirements for
safety, efficiency and reliability, contributes to a significantly cleaner energy mix, while providing secure energy (as opposed to unpredictable energy from renewables).

Achieving a fair energy transition also implies achieving a higher quality transition to a low carbon economy. Efforts to promote research in the energy sector need to continue, as well as a targeted policy on the introduction of innovative low-carbon technologies and products.

Attention should be paid to the social implications of any technological solution. The energy transition must not be at the expense of social justice. It is the responsibility of public institutions to seek and propose mechanisms to reduce the costs to society in the process of transition to a green economy.

In this context, the efforts of the Republic of Azerbaijan to formulate and implement policies on the global stage aimed at climate change adaptation and mitigation, including for the most vulnerable parts of global society, should be highly appreciated.
The ninth edition of the Global Policy Analysis (GPA) journal dedicated to climate change is a very significant and timely contribution of the Nizami Ganjavi International Center (NGIC) to the upcoming Meeting of the UN Conference on Climate Change (COP29) that will be held in Baku in November this year.

I value the decision to entrust COP29 to Azerbaijan in two ways. First, it is a great recognition of Azerbaijan and its state policy led by President Ilham Aliyev in implementing the Paris Agreement. Second, it is an expression of confidence that COP29 will determine clear activities to improve the implementation of this agreement.

The crucial role of climate finance and the need for active participation of the private sector, as a key topic of COP 29, should be discussed at all levels toward the climate transition of all processes, operations and business models.

Despite the pan-planetary commitment to UN Agenda 2030, we are still amid a triple planetary climate change crisis, biodiversity loss and pollution. This crisis knows no boundaries and has cross-generational impacts. At the same time, we are experiencing a decline in the global macroeconomic outlook, compounded by an uneven distribution of wealth and short-term, non-inclusive decision-making, growing poverty, inequality, social fragility and political polarization.

Despite the Paris Agreement calls for achieving a balance between anthropogenic emissions and the removal of gases with greenhouse effects (GHG) in the second part of the 21st century, due to its voluntary character, there is an absence of quick responses to limit global temperature rise to 1.5°C. Still, the key responses to climate change challenges remain to be provided.

Namely, the policies of the Paris Agreement signatories as of late 2022 could result in a 2.7°C rise by
2100. However, if efficient and quick responses follow from more than one hundred countries that have set or are considering net-zero targets, warming could be limited to 1.8°C.

The Paris Agreement is not enough to hold the changes we experience in every corner of the Earth regarding the average temperature increase, seasonal shifts, and an increasing frequency of extreme weather events. That is why we must continue shaping the efforts of the international community to reach a global agreement on a universal carbon price or to propose new agreements that apply to specific emissions or sectors to complement the Paris Agreement.

In the meantime, more efficient and synchronized implementation of adaptation and mitigation measures is needed than ever. We need to continuously learn from significant achievements but also mistakes. Progress will happen not globally but in smaller groups and sectors. Adaptation action should follow a country-driven, gender-responsive, participatory, and fully transparent approach, considering vulnerable groups, communities, and ecosystems.

The UAEA Framework for Global Climate Resilience, marking a major milestone for adaptation under the Paris Agreement, along with the Nairobi Work Programme, as the UNFCCC Knowledge-to-Action Hub for Climate Adaptation and Resilience, and the Lima Adaptation Knowledge Initiative should guide our results-based actions. The preparation and implementation of the National Adaptation Plans must result in the building of climate-resilient communities.

Europe is the world’s fastest-warming continent, with climate change worsening drought, wildfires and fatal heatwaves. Having set legally binding targets to reduce net greenhouse gas emissions by 55% by 2030, from 1990 levels, the 27-country EU is now struggling with how to meet them. Certain analyses of Eurostat data show that the EU member states released 3.4 billion tons of all greenhouse gas emissions last year, 5.1% less than in 2022. Power emissions fell fastest. For comparison, the world’s total carbon dioxide emissions from burning fossil fuels increased to around 37 billion tons in 2023.

The Group of Twenty (G20), representing countries responsible for 80% of the world’s GHG pollution, has pledged to stop financing new coal-fired power plants abroad and agreed to triple renewable energy capacity by the end of this decade. However, G20 governments have thus far failed to set a deadline to phase out fossil fuels.

In the context of Building Resilient Communities, we should be reminded of the importance of the Loss and Damage Fund established at COP 27 to address the inequality of climate change by providing financial assistance to poorer countries.

The U.S. and the EU introduced a Global Methane Pledge at COP26, aiming to cut 30% of methane emissions from 2020 to 2030. At COP 28, oil companies announced they would cut their methane emissions from wells and drilling by more than 80% by the decade’s end.
As the President of Montenegro, I signed the Paris Agreement and accepted at the UN for Montenegro implement it. I also participated in the annual UNFCCC Conferences on Climate Change in Morocco and Germany. I am obliged to say shortly on the Paris Agreement implementation taking place in in Montenegro.

My country, Montenegro, submitted its revised nationally determined contribution in June 2021, which sets at least a 35% reduction in total national GHG emissions by 2030 compared to the 1990 baseline. Our focus also remains on setting the basis for a climate-resilient society. Montenegro is prone to hydro-meteorological hazards, including floods, drought, heavy rainfall or snowfall, windstorms, heat waves, landslides, and forest fires. The projections of average annual temperature show that the average annual temperature range is expected from +1.5 to +2 °C. While there is an ongoing process aimed at the preparation of the National Adaptation Plan, the basis for the coastal economy and ecosystems was set in the Coastal Area Management Programme, which resulted in the preparation of the National Integrated Coastal Zone Management (NS ICZM) and the harmonization of the Coastal Area Spatial Plan with the sustainability criteria. By building on the measures defined in the NS ICZM, the adaptation plan has been finalized for the local area of Boka Kotorska Bay, the UNESCO heritage.

Closing the gaps and sharing the adaptation knowledge need to be guided by the best available science and, as appropriate, traditional and local knowledge systems. We must remain committed to synchronized mitigation and adaptation actions to build climate-resilient communities.

As the first Prime Minister of Montenegro, he later became Speaker of the Parliament and Acting President in 2002, before being elected President in 2003. He supported Montenegro’s independence referendum and signed the 2006 Framework Document for Montenegro’s accession to NATO’s Partnership for Peace.
A JUST TRANSITION SOONER THAN LATER: THE ESTIMATE OF CLIMATE CHANGE UNCERTAINTIES AND THE ENVIRONMENTAL SUSTAINABILITY

We find ourselves in almost all situations between the extremes of complexity: between the zone of certainty beyond all doubt and the zone of incomprehensible uncertainty, the sources of which are nothing but chance. Certainty breeds superiority while uncertainty breeds insecurity. We want the future not to be an illusion or an absolute unknown. We want to extend the present of an order that we understand and is within reach, into the future.

The environment and climate of Earth are changing and these changes reflect both profound human influences on the Earth system and natural variability. Scientific progress in understanding contemporary changes has great importance in constraining future changes that may have far-reaching consequences for society. For public understanding, policy development, and climate assessments, present climatic changes and trends need to be calculated. In this context, quantified observational uncertainties are required that reflect the degree to which the observing system is resiliently stable.

Climate optimists believe that nature’s resilience is (almost) unbreakable and, as a consequence, the damages inflicted to the natural environment by human activities are limited. Their optimism is based on their impression that these damages are gradual and very often are also invisible. It is by no means clear that the dioxide gas accumulation and the greenhouse effect will follow, as of now, a gradually increasing path. The moment of truth, unpredictable, can appear in the form of a drastic change, when a critical threshold is reached and then, a dramatic and more dangerous change happens. That means that moving slowly towards a de-carbonated global economy could be much less a rational path, than an adventure into an unknown world, a post-climate change era. Thus, ensuring the resilience of whole-system decarbonization and specifically the energy transition in the face of instability, unpredictability, and unprecedented change is not about tomorrow, it’s about our task today. A transformative approach recognizes that the just transition is not a passage to a predefined future, but a set of transformative
processes aimed at avoiding chaotic post-climate change world. Concerned about the effects of climate change, we must remember that every action in a global system depends for its success on cooperative behavior. Cooperation is not a solution: it is the only solution. Moreover, I believe that the attitude favorable to cooperation is part of our innate prudence in the face of the unforeseen. Prudence creates a reserve of action. For example, there are still dramatic gaps between the reality of unpredictable climate dynamics and people’s expectations and confidence. That gap could be even more dangerous if in the dynamics of climate change we are moving towards a critical threshold or multiple ones. Such moments of crisis arrive too often on uncharted territory pointing to the (sudden) insufficiency of our average behavior and the necessity of an exceptional one.

A declaration on the just transition was made at the 2018 meeting of the Conference of the Parties to the UN Framework Convention on Climate Change (COP24), and countries signed up to a set of just transition principles at the 2021 meeting, COP26. At COP28 in 2023, countries established a work programme on the implementation of just transition pathways through international cooperation. It focuses on minimizing the unintended socioeconomic consequences of climate actions. There is potential for net zero and the just transition to come into conflict, not least because of their different roots. Net zero is grounded in climate science, while the just transition is based on workers’ rights. Yet another factor of conflict comes with the uncertainties of climate change. This complexity makes it difficult, among many different problems, to discern whether turbulences in energy markets aid or impede the green transition. Climate change is a problem where complexity economics can have a big influence. We’re going through transitions in our energy systems and food systems that are going to happen very quickly and are going to profoundly change the way we do things. While these are happening, we will be far from equilibrium, and standard economic approaches will be of limited value. The goal is to make a more just transition as rapidly as possible. Climate change should be a great business opportunity rather than a worrying issue of great concern. A lot of the information generated by climate change scientists and presented to governments is done in the form of prediction, rather than risk assessment. Prediction focuses first on what’s most likely to happen, and second on if it has an impact on our way of living. Risk assessment is directed to the same questions, but the other way around. First, what’s the worst that could happen in relation to the continuity of our present, and second how likely is it to happen. COP 29 should tackle this problem.
It is vital to seek a comprehensive estimate of the uncertainty of each line of evidence that accounts for the risk of unexpected errors or influences on the evidence. Significant progress needs to be made in order to provide the users of climate data records in many natural (hydrological and meteorological - such as floods, droughts, tornadoes and hurricanes, forests, arable and non-arable land, etc.) or social (economy, finance, insurance, etc.) systems and phenomena with the certainty they need regarding uncertainty.

When we can’t say what a system is going to do next we are confronting a situation of unpredictability which generates uncertainty and disorder. A system normally functioning represents the routine, an ordered and hierarchized assembly, settled for its scheduled operation. Uncertainty results from changes in the context or in the data usually employed. This means a new state-of-the-art, created by a change produced beyond our reach. Modification of the normal condition is imposed by uncertainty, which forces the decision: either changing in the system, or changing of the system itself. The decisional transformation of the system, not only for the sake of adaptation but, possibly, for qualitative improvement, is either very important, if it means transformation in the system, or decisive, if it transforms the system. A qualitatively new system, transformed from the old one, demonstrates not only what the old one used to demonstrate, but also its own stability. An absolutely new system needs a different consistency. Transformation is transitional for assuring the system’s stability and competitiveness. The change produced by a new uncertainty comes from something having occurred in the past, and yet it is a novelty. Instead, the change induced by decision becomes the – partial or total – future.
Thomas Kuhn concludes that “the significance of crises is the indication they provide that an occasion for retooling has arrived”. The behavioral strategies should ignore exaggeration and histrionics and focus instead on hypothesis testing and sound science. Finally, if we reach a consensus it is not uncritical. We condition the benefit on the truth, not the truth on the benefit. Indeed, truth, i.e. the order, is the source of the useful. The error, i.e. the disorder, is not.

Let us keep in mind that uncertainty is the great enemy of action. That is why our action is meant to build resilience to deal better with unpredictable events. Many issues in logic today are no longer about central notions like truth or proof, but rather about processes of verification, argumentation, communication, or general interaction.

The global economy, like the climate, is less stable than we expect – and that should be also a source of opportunity. In conclusion, we are in fact challenged by randomness and chance. Chance not as part of randomness, but the chance to act now and reduce substantially the space of randomness. Challenged by chance, let’s embrace it. It is the only way to fulfill our expectations.

Petre Roman
Prime Minister of Romania 1989-1991

Petre Roman has been a prominent figure in Romanian politics, notably serving as the country’s first Prime Minister after the fall of communism. He held various positions including Prime Minister, Speaker of the Senate, Minister of State and Foreign Affairs, and founder of the Democratic Party of Romania. Additionally, he has represented Romania in international roles such as Special Rapporteur to the North Atlantic Assembly and Acting President of the Parliamentary Assembly of the Black Sea Economic Cooperation.
In many parts of the world, climate change is reflected in climatic phenomena (heat waves, torrential rain, drought...). In our area, climate change is at the root of the violence that overwhelms us and has cost our Sahelian region thousands of innocent lives.

For almost 40 years, the Niger River, West Africa’s largest river, has been gradually silting up to the point of drying up in some places, impeding the river trade that supports millions of people. Irrigation potential is shrinking, and land once useful for grazing disappears, leaving millions of pastoralists waiting. The pastoralists and the many farmers thus compete for land and end up resorting to violence against each other. As a result, areas of strong disputes between pastoralists and farmers have become priority areas for terrorists, not only in Niger and Burkina Faso but also in Mali.

A country like Mali has lost two-thirds of its forests in the last 30 years. Lake Chad, the largest lake in West Africa, has lost three-quarters of its water to evaporation, leaving millions of people inactive to survive. As a result, they are forced to change production systems and compete with neighboring farmers, causing tensions, some of which lead to violence. It is also no coincidence that one of the areas of influence of terrorist groups is concentrated around Lake Chad at the confluence of Niger, Chad, Nigeria, and Cameroon.

The Sahelian and West African area is the most dynamic demographically in the world. The loss of natural resources, combined with a significant increase in populations, obviously generates conflicts and leads to violence.

Conflicts between communities are long-standing and preceded the emergence of terrorist groups in our lands. These conflicts could not be dealt with by states, on the contrary! In many places, state interventions have exacerbated them. The poor distribution of justice, the corruption of administrations, and socio-political interference have created many frustrations and a clear sense of injustice among communities in our countries. The terrorist movements, which are very familiar with the realities on the ground, have admirably managed to play on these resentments and have thus recovered significant sections of our populations. As a result, violence has become endemic in the Sahel and West Africa.
These structuring realities of our spaces are spreading, and many other countries are threatened on the African continent. From Mozambique to Somalia and the Democratic Republic of the Congo, terrorist violence, exploiting the impoverishment of populations and their frustrations in the face of troubled states, is flourishing and is likely to spread. In the face of it, weapons alone will obviously not suffice.

Addressing the root causes of insecurity and terrorist violence in our countries is imperative if we are to have any chance of success. These root causes are climate change and its disastrous impacts on our natural ecosystems.

The first step towards treating the disease is to consider the urgency of the situation and the need to deal with it appropriately. If there is one area that urgently needs to benefit from funds to compensate for loss and damage, it is our Sahelian region. There, losses and damages amount to hundreds of thousands of lives lost!

These funds could be used in several ways. First, for the restoration of damaged natural heritage. The dredging of the Niger River, attempted several times in Mali but unsuccessfully due to the meager resources involved, would allow an increase in economic exchanges between millions of people, the resumption of cereal and agricultural production, and thus greater food security for the populations of Mali, Niger, and Nigeria. Funds should also be allocated for investments in human development, reconciliation, strengthening the social fabric, and the empowerment of women, who are crucial to our societies. Finally, consideration should be given to improving state performance, which will be crucial to ensuring the sustainability of the actions supported.

In terms of tools, it will be interesting to involve the agencies of the UN system in close cooperation with local, national, and regional organizations to ensure the proper use of resources but also to ensure the relevance of the actions undertaken.

It is urgent to move quickly so as not to lose the last hopes of stability in these areas heavily impacted by armed violence in a background of climate change. It would be very important to reduce bureaucracy and facilitate the accreditation of structures able to raise resources. This will be a success factor in the far-reaching plans to bring these countries out of the agony of restructuring.

Moussa Mara is an expert accountant. He served as the head of Mali’s largest audit firm, and continues to hold other responsibilities in Africa (member of juries, associate professor and member of international accounting structures). Prior to serving as Prime Minister, Moussa Mara held the post of Minister in charge of urban Planning and City Policy in 2013.
As a former policy maker with a background in economics, I am always interested in the way in which global priorities are communicated, become owned and embedded within communities.

The debate on climate change tends to have a polarising effect, whether it is between economically developed countries and the Global South, or between climate activists and deniers.

Until now, the debate has been mostly on the macro level when it comes to benefits, and micro when it comes to the attached downside. As the narrative goes, families need to change their habits in order for the next generations to continue enjoying our planet, but to do that they need to pay higher prices for utilities and risk losing their jobs because of industry relocation brought about by tougher rules.

The fact that the social impact of making the necessary changes agreed at a global level is increasingly taking centre stage is an important development. Nevertheless, until now the logic of just transition is limited mostly to containing the economic impact on the socially vulnerable. A necessary next step is to help families and households key stakeholders and net beneficiaries in the systemic change that is occurring.

In the same way in which there are those who benefit from the Emissions Trading Scheme, there need to be more initiatives that help families benefit directly when taking initiatives that help achieve COP targets.

The various initiatives put into place mainly in Italy, under various permutations, during the past few years is a good basis. They were an essential plan of post-pandemic economic recovery. Families have been given the direct benefit of upgrading their living spaces in an energy efficient manner.
This system can serve as a basis for Climate Finance activations that are built on the verification and certification of resulting carbon credit savings. These can be redeemed or saved up by families, thus leading to a direct benefit.

The popularisation of COP targets, making people relate directly to them in a tangible manner and having them benefit directly, is a key milestone that can help us reach our global targets more efficiently.

With the Baku COP29 promising to be more focused and pragmatic, this would be an ideal platform for such a development.

Joseph Muscat
Prime Minister of Malta 2013-2020

Joseph Muscat graduated with a Bachelor’s in Management and Public Policy, a Bachelor of Arts in Public Policy, and a Master’s in European Studies from the University of Malta. He earned a PhD in Management Research from the University of Bristol in 2007.

Elected to the European Parliament in 2004, Muscat served as Vice-President of the Committee on Economic and Monetary Affairs. He became Leader of the Partit Laburista in 2008 and Prime Minister of Malta in 2013, serving two terms. He led Malta’s EU Presidency in early 2017 and was Commonwealth Chair-in-Office.
In an era defined by environmental crises and pervasive conflict, the Tree of Peace sculpture by Hedva Ser, a UNESCO Goodwill Ambassador for Cultural Diplomacy, transcends its artistic allure to embody a profound commitment to global environmental sustainability. As part of UNESCO’s ambitious “The Road to Peace” initiative, this sculpture serves as both a symbol and a catalyst for biodiversity conservation and climate change mitigation. This article explores the multifaceted roles the Tree of Peace plays in promoting ecological and societal well-being.

SYMBOLIC AND PRACTICAL IMPACT OF THE TREE OF PEACE

The Tree of Peace is not merely an emblem of tranquility; it is a vibrant call to action in the face of global environmental degradation and strife. Representing unity and peace, it crucially underpins the narrative shift toward hope and proactive engagement in sustainable ecological management. The symbolic resonance of the tree emphasizes the essential link between peace and effective environmental stewardship.

THE ROAD TO PEACE: FUSING CONSERVATION WITH SOCIETAL BENEFITS

The Road to Peace initiative leverages the symbolic strength of the Tree of Peace to propel peace through intercultural dialogue and environmental conservation. This program plays a critical role in creating conditions conducive to biodiversity preservation. Areas experiencing peace are more likely to enact and uphold robust environmental policies, thereby enhancing conservation outcomes and stabilizing ecosystems.

BIODIVERSITY PRESERVATION: INSIGHTS FROM DATA AND SCIENCE

Data from the Protected Planet Report 2020 reveals that global protected area coverage has expanded significantly—16.64% of terrestrial and 7.74% of marine environments are now safeguarded. This marks a substantial increase of over 21
The connection between peace, biodiversity, and climate stability is clear: ecological health directly influences global climate resilience. Programs like The Road to Peace align with worldwide efforts to curb carbon emissions and bolster sustainability. Restoring natural habitats, apart from conserving biodiversity, also acts as a carbon sink, thereby aiding in climate change mitigation.

SOCIO-ECONOMIC BENEFITS: EMPLOYMENT AND COMMUNITY ENGAGEMENT

A pivotal component of The Road to Peace is its ability to generate local employment and stimulate socio-economic development. This could be the case especially for groups of women in targeted areas in Africa. Engaging local communities in conservation efforts not only bolsters biodiversity but also supports sustainable livelihoods. This strategy is crucial for the enduring success of environmental policies and in crafting resilient communities equipped to face and adapt to climate change.

CONCLUSION

Hedva Ser’s Tree of Peace under UNESCO’s The Road to Peace initiative stands as a powerful symbol of the interconnectivity of peace, biodiversity conservation, and human prosperity. This comprehensive approach, blending cultural diplomacy with environmental action, demonstrates how fostering peace and understanding can yield tangible benefits for both biodiversity conservation and climate resilience. The initiative not only preserves natural heritage but also ensures community vitality through enhanced education, job creation, and sustainable development initiatives.

Hedva Ser, a renowned contemporary artist, is UNESCO Goodwill Ambassador for Culture Diplomacy since 2017. Her monumental bronze sculptures, notably the “Tree of Peace,” symbolize peace and tolerance worldwide. She spearheads UNESCO’s Road to Peace project and organizes global art exhibitions and cultural diversity initiatives. Ser also created the UNESCO World Book Capital Trophy. In 2017, she inaugurated the Garden of Hope in Krakow. Hedva Ser has been honored by the French government with the prestigious Légion d’Honneur and Officier des Arts et des Lettres for her contributions to art and peace.
1. **Energy transition**

In general, the energy transition is the transformation of the energy sector by introducing major structural changes in the supply and consumption of energy in the energy system. The ongoing energy transition aims to respond to the challenges of climate change. Essentially, energy transition is the move by the global energy sector away from fossil fuels such as coal, natural gas, and oil towards renewable energy sources such as wind and solar energy.

Hydropower is also a renewable energy. However, unlike solar and wind energy, it has some negative ecological impacts. For example, dams and reservoirs occupy a large area of land, sometimes displacing people and destroying natural habitats. Also, dams can reduce river flows, raise water temperatures, degrade water quality, cause sediment build-up, and injure or kill fish, etc. That is why the energy transition is mainly concentrated on solar and wind energy.

The energy transition is not only a traditional issue of the development of a certain sector. When considering the energy transition, it should be borne in mind that development of the energy sector, along with parallel changes in technologies, produces significant economic, social, and political consequences.

Economic, social, and other consequences of the energy transition are, unfortunately, inevitable. The disputes over climate change and global warming seem to be over. Experts' analyses, according to the latest IPCC report, show that the climate change has already led to the following:

- carbon dioxide concentration unmatched for at least 2 million years
- glacial retreat unmatched for 2000+ years
- the last decade is warmer than any period -125,000 years
- sea level is rising faster than in any previous century in 3,000 years, etc.
There is no more time to waste. Energy transition is one of the most important challenges for humanity of our time.

2. Western Balkans Although the energy transition is a global problem and the solution requires the participation of each individual country, it should be noted that the initial positions and opportunities differ by country and region. The independent global energy think tank (EMBER), estimates that the world’s global electricity generation from renewable sources accounts for about 30% of total energy. At the same time, the EU is far ahead, producing 44% of electricity from renewable sources. Moreover, the expansion of solar and wind capacity in the EU is much faster than the world average.

The current share of renewable energy in electricity generation in the Western Balkans is 28%, with the largest contribution of hydropower. Coal is the primary source of total electricity production and accounts for about 70%. This is the starting point for implementing the energy transition in the countries of the Western Balkans. Other important elements are: political will, available financial resources and social sustainability.

Formally, political will exists. As candidates for EU membership, all countries are aware of the EU's energy transition policy. All Western Balkan countries have committed to phase out coal and gradually migrate to solar and wind energy in line with: EU policy, Energy Community Treaty, Paris Climate Agreement, main outcome from COP28, etc. Accordingly, local legislation was prepared, including: strategies, plans, decisions and other legal acts, as well as financial and tax incentives or disincentives. However, not all existing documents are in line with the energy transition strategy. For example, there are still plans to expand coal-fired capacity in all WB countries except Albania (where a gas-fired power plant is planned). This is probably the reason why some authors believe that the energy transition is not practically accepted, but only formally declared by the countries of the Western Balkans¹.

The total population in the (non-EU) countries of the Western Balkans of about 17 million makes up less than 3.8% of the EU total population. At the same time, the respective GDP constitutes between 1% and 1.5% of the EU GDP. The figures show that the countries of the Western Balkans are insignificant in terms of population and the poorest countries in Europe in terms of economy. Now it is easy to explain the attitude of the Western Balkan countries towards the energy transition. It consists of two opposites. On the one hand, there is a lack of enthusiasm for accepting the energy transition, but on the other, there is formal support and acceptance of all obligations knowing or believing that many of them will probably not be fulfilled later. The key words here are: weak economies and insufficient funds. Namely, the two major financial consequences of the energy transition are: (a) the prices of electricity will be higher (than the actual) which will increase the general level of prices for goods and services, and (b) many jobs in the energy sector will be lost. Altogether, it will have a negative impact on both the economy and the standard of living of the population.

¹¹ "Energetska tranzicija Zapadnog Balkana – Kako dalje" – Mirza Kusljugic and Damir Miljevic, 08.04.22.
The impact of the energy transition on the standard of living of the population (in other words: voters) is responsible for the behavior of local politicians. In young democracies (all democracies in the Western Balkans are young), politicians will prefer short-term rather than sustainable long-term solutions. This attitude creates an additional burden for the implementation of the energy transition in the Western Balkans.

**Way Forward**

The implementation of the energy transition is inevitable. Continued climate change will become more and more visible. There is no other long-term solution than the energy transition. The question is how to involve the Western Balkans more intensively in the energy transition.

This is possible by introducing two types of measures: financial incentives and disincentives. Example of disincentives is CBAM, a special border duty on carbon intensive products imported to EU. The legislation is adopted in 2023 while the payments will start in 2026. The second group of measures includes the provision of funds either through grants or loans with favorable terms. There are many examples of EU financial support to the Western Balkans.

Even though there are many mechanisms to discourage the use of fossil fuels and encourage the use of solar and wind energy, to accelerate the energy transition in the Western Balkans, it is worth considering increasing both incentive and disincentive measures.
Mirko Cvetkovic, former Prime Minister of Serbia (2008-2012), also served as Minister of Finance during two separate terms. With a PhD in economics from the University of Belgrade, he has a background in academia and consultancy, including roles with the World Bank and the United Nations Development Programme. Cvetkovic’s tenure as Prime Minister was marked by praise for his economic expertise and technocratic approach, earning him the reputation of a technocratic democrat.
Climate change remains a critical challenge for the international community. Historically, multilateral organizations like the United Nations have led global efforts to address shared climate issues. The upcoming COP29 summit, which Azerbaijan will host, will focus on the interdependence of climate action and sustainable development.

The effectiveness of multilateral climate initiatives like COP29 will benefit from utilizing data-driven climate predictions. These climate predictions will enable policymakers to create specific, actionable policies that produce effective and measurable outcomes. The integration of AI into climate research presents a significant opportunity to enhance the formulation of climate policy. AI’s ability to process vast amounts of data, identify patterns, and make complex predictions can improve the precision and effectiveness of climate policy. By integrating AI into climate research, multilateral policymakers can more easily interact with and understand climate data, allowing for the development of more precise and effective policies. This integration promises better-informed policymaking and heightened effectiveness of multilateral climate initiatives.

AI offers three fundamental capabilities to enhance climate policy: data processing, pattern recognition, and predictive modeling.

AI’s ability to process extensive datasets from diverse sources makes it a valuable tool for understanding climate dynamics. For example, an AI algorithm can efficiently process satellite imagery to monitor deforestation rates in Brazil, while simultaneously handling sensor data to track varia-
Global Policy Analysis

AI’s ability to process extensive datasets from diverse sources makes it a valuable tool for understanding climate dynamics. For example, an AI algorithm can efficiently process satellite imagery to monitor deforestation rates in Brazil, while simultaneously handling sensor data to track variations in ocean temperatures in the Pacific Ocean. AI can then process, integrate, and analyze these disparate datasets and produce concise outputs identifying key trends, anomalies, or correlations between them. By transforming vast amounts of raw data into digestible insights, AI enables policymakers to grasp key conclusions that might otherwise be overlooked.

Further, AI’s proficiency in pattern recognition allows for the detection of intricate climate patterns that evade human analysts. AI algorithms excel in identifying subtle correlations and emerging trends, enhancing our understanding of climate variability. For example, AI-based pattern recognition has been utilized to analyze climate model simulations, revealing feedback loops within the Earth’s climate system, such as the amplification of Arctic warming due to ice-albedo feedback. AI’s capacity to identify data patterns beyond human observation enables researchers to make more informed projections of future climate scenarios. Armed with this knowledge, policymakers can develop proactive and effective measures to mitigate climate risks.

Lastly, AI’s predictive modeling capabilities empower researchers to generate sophisticated climate predictions based on historical data and climate model simulations. By harnessing historical data alongside advanced climate model simulations, AI-driven predictive modeling has been utilized to forecast changes in rainfall patterns, sea level rise, and the frequency of extreme weather events. AI-powered predictive modeling can be used for scenario-based analysis. Policymakers can use this technology to explore the implications of potential climate policies scenarios and assess their impacts on environmental trends. AI’s predictive modeling capabilities offer researchers unprecedented precision in forecasting future climate dynamics, facilitating more informed policymaking.
The potential benefits of AI for climate policy are undeniable. However, for multilateral policymakers to fully embrace AI as a valuable tool in the policymaking process, methods to integrate AI tools into the policymaking process must be developed. Given the complexity of AI technology, the expertise of AI technical specialists is essential for creating AI-powered tools. Moreover, for AI to have a tangible impact on climate policy, these tools must present data in a format that is easily digestible, readable, and understandable. Therefore, relying on the development of proprietary AI tools for climate modeling is not a feasible approach for multilateral climate initiatives. Instead, collaboration with private sector organizations and academic institutions, which lead in the AI technological race, is imperative to maximize the potential of this new technology.

For example, IBM has harnessed data from NASA satellites to create a powerful AI ‘Foundation Model’ customized for climate research¹. This model aids in estimating flood extents, mapping urban heat islands, and monitoring reforestation efforts. Future applications include fine-tuning weather predictions and detecting extreme events such as hurricanes and droughts. Multilateral climate initiatives must forge strategic partnerships with private sector front runners in AI technology, such as IBM, and leverage tools such as the Foundation Model to inform climate policymaking.

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¹ https://research.ibm.com/blog/weather-climate-foundation-model
While organizations such as IBM have taken significant strides in the development of AI-powered climate tools, there remains substantial ground to cover in this field. Presently, the bulk of investment in AI technology is directed towards more lucrative applications, diverting attention from climate-focused endeavors. Multilateral climate initiatives should prioritize advocating for increased funding specifically allocated to climate-focused AI tools. The creation of more of these tools undoubtedly holds the potential to bolster the effectiveness of climate policy in the future, addressing critical gaps in data-driven policymaking and enhancing global efforts to combat climate change.

AI is empowering policymakers with the data-driven insights necessary to tackle climate change effectively. Its ability to process vast datasets, identify patterns, and generate sophisticated predictions fills crucial gaps in contemporary multilateral policymaking. By leveraging AI tools, policymakers can make more informed and effective decisions based on robust data rather than expediency. Ultimately, integrating AI into climate policymaking has the potential to position multilateral climate initiatives like COP29 at the cutting edge of innovative and impactful climate action.

**Susan M. Elliott**

President & CEO, National Committee on American Foreign Policy

Ambassador (retired) Susan M. Elliott is President & CEO of the National Committee on American Foreign Policy. She also is a member of the Nizami Ganjavi International Center’s Board of Trustees. During her 27-year diplomatic career, Ambassador Elliott held a variety of leadership positions at the U.S. Department of State.
Introduction: Fossil fuels have been the cornerstone of global energy production since the Industrial Revolution, driving economic growth and transforming societies. However, their environmental impact, particularly their contribution to climate change, has become a critical issue. This special issue delves into the complex relationship between fossil fuels and climate change, exploring historical contexts, current challenges, and future perspectives.

Historical Context and Development: The discovery and exploitation of fossil fuels—coal, oil, and natural gas—revolutionized energy production. Coal was the first to be used extensively during the Industrial Revolution, powering factories, railways, and steamships. By the late 19th century, oil emerged as a critical energy source, particularly with the advent of the internal combustion engine. Natural gas followed, becoming a significant energy source for heating and electricity generation. Fossil fuels facilitated unprecedented economic growth and development. They enabled mass production, global transportation networks, and the proliferation of electricity. However, this reliance on fossil fuels came with environmental costs that were not immediately apparent.

Environmental Impact and Climate Change: The combustion of fossil fuels releases significant amounts of carbon dioxide (CO₂) and other greenhouse gases (GHGs) into the atmosphere. These emissions have been identified as the primary drivers of anthropogenic climate change. The Intergovernmental Panel on Climate Change (IPCC) has documented the link between GHG emissions and global warming, highlighting the urgent need for emission reductions to mitigate climate change.
**Greenhouse Gas Emissions:**

**Coal:** The burning of coal is the largest source of CO₂ emissions globally, accounting for 40% of total CO₂ emissions. Coal combustion also releases other harmful pollutants, including sulphur dioxide (SO₂), nitrogen oxides (NOₓ) which contribute to air pollution and public health issues.

**Oil:** Oil combustion for transportation and industry is responsible for about 33% of global CO₂ emissions. Oil spills and leaks further contribute to environmental degradation, affecting marine and terrestrial ecosystems.

**Natural Gas:** While natural gas burns more cleanly than coal or oil, its production and distribution are associated with methane (CH₄) emissions, which have a global warming potential 28-34 times greater than CO₂ over a 100-year period. Natural Gas accounts for approximately 20% of global CO₂ emissions.

**Climate Change Impacts:**

**Temperature Rise:** Increased GHG concentrations have led to a rise in global average temperatures of approximately 1.1°C above pre-industrial levels as of 2021. This warming is associated with more frequent and severe weather events, including heatwaves, hurricanes, and droughts.

**Sea Level Rise:** Melting polar ice and thermal expansion of seawater due to warming are causing sea levels to rise. Since 1900, global sea levels have risen by about 20 centimetres, threatening coastal communities and ecosystems.

**Ecosystem Disruption:** Changes in temperature and precipitation patterns are altering habitats and affecting biodiversity. The IPCC projects that if global temperatures rise by 1.5°C, about 20-30% of species will be at risk of extinction.

### CURRENT CHALLENGES

1. **Economic Dependence:**

Many economies, especially in developing countries, are heavily reliant on fossil fuels for energy production, economic development, and employment. For instance, countries like Saudi Arabia and Russia derive a significant portion of their GDP from oil and gas exports.

2. **Energy Security:**

Fossil fuels currently provide 84% of the world’s primary energy supply. Their high energy density and reliability make them integral to national energy security strategies. Replacing this energy with intermittent renewable sources such as wind and solar, which together account for about 10% of global energy supply, requires substantial investment in energy storage and grid infrastructure.

3. **Technological and Infrastructural Barriers:**

The existing energy infrastructure is largely built around fossil fuels. Transitioning to a low-carbon economy necessitates extensive technological innovation and infrastructure overhaul. The International Energy Agency (IEA) estimates that achieving net-zero emissions by 2050 will require annual clean energy investment to triple to around $4 trillion by 2030.
4. Political and Policy Hurdles:

Effective climate action requires coordinated policy efforts at the national and international levels. However, political resistance, vested interests, and inconsistent policy frameworks often impede progress. For example, despite international agreements, fossil fuel subsidies remain high, totalling around $5.9 trillion in 2020.

FUTURE PERSPECTIVE AND SOLUTIONS:

1. Decarbonisation of Energy Systems:

Shifting to low-carbon and renewable energy sources is crucial for reducing GHG emissions. Solar and wind energy are expected to be the backbone of this transition, with costs falling by 89% and 70%, respectively, over the past decade. Investment in research and development, along with supportive policies and subsidies, can accelerate the adoption of these technologies.

2. Energy Efficiency and Conservation:

Improving energy efficiency in industries, buildings, and transportation can significantly reduce fossil fuel consumption. For instance, adopting energy-efficient appliances and electric vehicles, and implementing green building standards can lead to significant energy savings. The IEA estimates that energy efficiency could deliver over 40% of the emissions reductions needed to achieve international climate goals.
3. Carbon Capture and Storage (CCS):

CCS technology captures CO$_2$ emissions from fossil fuel combustion and stores them underground to prevent them from entering the atmosphere. This technology holds potential for reducing emissions from existing fossil fuel infrastructure. The Global CCS Institute reports that there are currently 26 commercial CCS facilities in operation worldwide, capturing around 40 million tonnes of CO$_2$ annually.

4. Policy and Governance:

Strong policy frameworks are essential for driving the transition to a low-carbon economy. Carbon pricing mechanisms, such as carbon taxes and cap-and-trade systems, can provide economic incentives for reducing emissions. As of 2021, carbon pricing initiatives cover about 22% of global GHG emissions. International cooperation and agreements, such as the Paris Agreement, play a crucial role in coordinating global climate action.

5. Societal and Behavioural Changes:

Public awareness and behavioural changes are vital for achieving sustainability. Education and advocacy can promote sustainable practices, such as reduced energy consumption, increased use of public transportation, and support for renewable energy initiatives. A 2021 survey by the Pew Research Centre found that 72% of people across 17 advanced economies see climate change as a major threat.
Global Policy Analysis

The interplay between fossil fuels and climate change represents one of the most pressing challenges of our time. While fossil fuels have driven economic progress, their environmental and climatic impacts necessitate a fundamental transformation of our energy systems. Addressing this challenge requires a multi-faceted approach, involving technological innovation, policy interventions, economic restructuring, and societal engagement.

The transition to a sustainable, low-carbon future is both a necessity and an opportunity. It offers the chance to create a more resilient and equitable global economy, improved public health, and protected environment for future generations. This Article aims to contribute to the ongoing discourse on fossil fuels and climate change, providing insights and solutions for a sustainable energy future.

Conclusion

The interplay between fossil fuels and climate change represents one of the most pressing challenges of our time. While fossil fuels have driven economic progress, their environmental and climatic impacts necessitate a fundamental transformation of our energy systems. Addressing this challenge requires a multi-faceted approach, involving technological innovation, policy interventions, economic restructuring, and societal engagement.

The transition to a sustainable, low-carbon future is both a necessity and an opportunity. It offers the chance to create a more resilient and equitable global economy, improved public health, and protected environment for future generations. This Article aims to contribute to the ongoing discourse on fossil fuels and climate change, providing insights and solutions for a sustainable energy future.

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