



Report on COP27 and its Implications for Human Security

Marta Nešković

Research Associate, Institute for Political Studies, Belgrade;
Associate Fellow, World Academy of Art & Science

Abstract

As a Youth Delegate of the Republic of Serbia, from the Institute for Political Studies, in Belgrade, Serbia, and a representative of the World Academy of Art and Science (WAAS), the author summarizes in this report the most capturing sessions she attended during the 27th Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC) – COP27, which took place in Sharm El Sheikh, Egypt, on November 6–18, 2022. This report presents the existing efforts by governments, international organizations, educational institutes and academies, and civil society organizations to address the climate change problem from the perspective of human security.

1. Introduction

The Conference started on the morning of November 6th with the opening plenary sessions of COP 27/CMP 17*/CMA 4[†] followed by the openings of the Subsidiary Bodies meetings (SBSTA 57[‡] and SBI 57[§]). The Sharm El Sheikh Climate Implementation Summit (CIS) convened the First Part of the High-Level Segment on November 6–8, during which the Heads of States or Governments and Vice-Presidents of the Parties delivered speeches. The CIS Roundtables were organized on the following topics: Just Transition, Food Security, Innovative Finance for Climate and Development, Investing in the Future of Energy, Water Security and Climate Change, and the Sustainability of Vulnerable Communities. The Resumed High-Level Segment, convened on November 15–16, included the speeches of the Parties whose Heads of States or Governments had not spoken in the First Part as well as of the representatives of the registered groups who were asked to deliver statements. The high-level ministerial dialogues were held throughout the two weeks and included the following topics: New Collective Quantified Goal on Climate Finance, Pre-2030 Ambition, and the Fifth Biennial Assessment and Overview on Climate Finance. Throughout the Conference, negotiations on the main issues of this year's agenda, with focus on Adaptation, and Loss and Damage, were taking place within different open and closed meetings. The decisions taken at the Conference can be found on the official website.[¶] Starting on November 9, the featured

* Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol.

† Conference of the Parties serving as the meeting of the Parties to the Paris Agreement.

‡ Subsidiary Body for Scientific and Technological Advice.

§ Subsidiary Body for Implementation.

¶ <https://unfccc.int/cop27/auv>

events were organized under the thematic days in the following order: Finance, Science, Youth and Future Generations, Decarbonization, Adaptation and Agriculture, Gender, Water, Energy, Action for Climate Empowerment and Civil Society, Biodiversity, and Solutions. Apart from the high-level events and the meetings of the Parties and Subsidiary Bodies, the Conference included side events, exhibits, and pavilions with sessions running from 8 am to 10 pm.

This article will review the sessions that addressed the issues and advancements in science and education related to climate change as one of the greatest challenges to human security, with specific focus on expert solutions and intergenerational cooperation.

2. Finance

- *The Global Financial Solutions Summit* was held at the UN Climate Change Global Innovation Hub (UGIH). The two-hour long session *Innovative Green Bonds and National Sustainability Development Budgets* was moderated by Tal Ronen [President and Co-Founder of the Yehuda Kahane (YK) Center] and included presentations by Massamba Thioye (Project Executive at UGIH), Yehuda Kahane* (WAAS Fellow, and Co-Founder and Chair of the YK Center), Moshe Bareket (Outgoing Supervisor of Israel's Capital Market, Insurance, and Saving Authority), Ketan Patel (WAAS Trustee and Chairman of Force for Good), and Stefan Brunnhuber (WAAS Trustee and Full Member of the Club of Rome). Jeffrey Sachs [Former Director of the Earth Institute at the Columbia University and President of the UN Sustainable Development Solutions Network (SDSN)] gave the final remarks while Phoebe Koundouri (WAAS Trustee and Co-Chair of SDSN Europe) moderated the discussion with the audience, which included comments from Lord John Browne, Mike Hayes, and René Karsenti.

The speakers presented diverse but compatible financial solutions to tackle the unprecedented challenges to human security. The aim was to catalyze the economic paradigm change that can bring the global society to net zero emissions of greenhouse gases by 2050.

S. Brunnhuber explained that the global society is currently at a gap of about five to ten trillion US dollars per year in reaching the Sustainable Development Goals (SDGs), which means that the monetary and financial system has the crucial role in addressing these global issues. In J. Sachs's view, the problem in addressing these issues does not lie in the financial capacity or the lack of technological solutions, but in political power and decision making in regard to mobilizing the necessary funds. Efficient and effective power structures are needed that should redress the financial structures. K. Patel pointed out the fact that two-thirds of the global capital are owned by individuals and that the private sector is not willing to invest in green energy sources because the risk and return are not matching. Thus, transforming capitalism is essential for redistribution of capital to the most urgent global issues. J. Sachs further stated that the low- and medium-income

* A more elaborate presentation of YK Center's research was given at the Israeli pavilion session, which the author has reported on in the next few pages of this article.

countries (82% of the world) do not have the possibility to develop sustainably with the support of multilateral development banks because the interest rates are too high. These countries should be able to borrow green bonds at an interest rate of 4%, rather than 10% or more. The securities and guarantees provided by the governments and insurance companies are crucial for mobilizing private investment. They need to aid in leveraging the risks of investment in green energy sources. S. Brunnhuber added that the regulators and central bankers need to play their parts. P. Koundouri, together with her colleagues from SDSN, has been working on monetizing ecosystem services and natural capital for ensuring holistic sustainable finance, with an evaluation model that includes environmental and social factors. They have developed a three-step methodology to integrate sustainable finance in government accounts and value chain of business products. Sustainable financing, according to her, can be profitable.

The discussion concluded that global society is not lacking capital or technological solutions but the means to redistribute the funds in the direction of sustainable development. Governments, multilateral development banks, insurance companies, regulators, and central banks all have their roles to play in mobilizing optimal public-private partnerships for financing projects of value to human security. Also, as P. Koundouri underlined, a transparent quantification of externalities and risk measurement is necessary to create the critical mass of awareness among citizens, businesses, and financial institutions.

- The session at the Israeli Pavilion on *Innovative Financial Models for SDGs and Climate Action* included the presentations, *A National Sustainability Budget*, by Y. Kahane and M. Bareket, *Energiya Global Capital*, by Yossi Abramovich, *Nature Growth Incubator*, by Oren Heiman, and *Clean Money Forum*, by Oren Kaplun.

M. Bareket presented his work, co-authored with Y. Kahane, that focused on the financial solutions aiming to accelerate the adaptation of the SDGs on a national level. One of the main ideas is that non-monetary value should be combined with other economic models in order to quantify the positive and negative externalities of each particular economic activity with regard to its impact on society and environment. The quantification of externalities would result in taxation of negative effects and support of positive effects by subsidies. This would facilitate an appropriate balance between public and private investment. Government has a crucial role to play in providing incentives, monitored by regulators, which would allow money to flow from long term savings institutions, such as pension and insurance funds, toward financing of the SDGs. O. Heiman spoke about Nature Growth Incubator, which is a global agricultural technology (*agtech*) innovation center close to Tel Aviv, which uses Israeli based science and is supported by grants from the Israeli Government, and from Europe and USA, to create 80 globally disruptive *agtech* companies by 2030. In Israel, more than 4% of GDP is allocated to science and technology innovation. This is the largest *agtech* innovation center in the world, which is owned by 15 global leaders. It will grow nutritional and affordable food for the third world countries. O. Kaplun presented his work with the Israel Clean Money Forum on leading the Israeli divestment movement. He explained

that financing the SDGs requires leveraging finance to fight climate crisis, and that what is really missing is the divestment strategies and “the small money” for planning intermediary project preparation.

3. Science and Technology

- The Blue Zone side-event *Uniting global scientific research: Efforts to tackle climate change* gathered party delegates, civil society, and international organizations to bring the latest climate science findings, propose ways to develop successful partnerships in climate research, and discuss the possibilities of collaboration in implementing research results for achieving the SDGs. The session was moderated by Sheela Patel (Leader of the Adaptation Research Alliance). Speakers included: Ayman Ashour (Minister of Higher Education and Scientific Research of Egypt), Jim Skea [Co-Chair of Working Group III of the Intergovernmental Panel for Climate Change (IPCC)], J. Sachs, and Alex Halliday (Founding Dean of the Columbia Climate School at the Columbia University). The main questions in this discussion panel were: how to implement scientific results, and how to get science to better support implementation and policy? J. Sachs explained that in order to decarbonize society, that is, in order to be able to form a plan for decarbonization in all different sectors of society, universities and research centers need to propose to governments concrete plans of action. He underlined that engineers, together with economists, need to be “raised in profile” in their contribution to answering the climate change challenge because they are the key to the translation from scientific theory to implementation. The discussion brought up the importance of private sector scientific contributions in facilitating practical and context specific solutions for climate change suitable for both developing and developed countries. A *sine qua non* condition for private sector contribution is to allow the decision makers access to open-source data platforms. The session was concluded with three keywords that reflect the necessary approach in uniting global scientific research for tackling climate change: pragmatism, education (small investment and massive return), and partnership (across different sectors of society).
- UGIH also hosted *The Council of Engineers for the Energy Transition (CEET) Statement Release*. The session was opened by M. Thioye, who welcomed the speeches of the two Co-Chairs of the Council, Gerd Müller (Director General of UNIDO) and J. Sachs, as well as the contributions from Semida Silveira (Cornell University), Jaideep Sandhu (ENGIE), and Jessika Trancik (Massachusetts Institute of Technology). CEET, as the independent advisory council to the UN Secretary General, consisting of engineers and energy system experts, aims to develop global and region-specific recommendations to accelerate the transition to low-carbon energy systems and help in achieving net zero emissions by 2050. Launched in September 2021, it seeks to bring together financing and engineering, and promote the cutting-edge knowledge needed to accelerate sustainable development in all UN regions. Its engineering team (35 engineers worldwide) works on identifying concrete and practical solutions for decarbonization of economic growth in a way that allows local and regional sustainable development to benefit from global

innovation processes. At the same time, the Council's financial experts work on identifying ways to finance these solutions.

4. Youth and Future Generations

- The official side-event *Passing the Baton: The Intergenerational Policy Dialogue on Adaptation, Resilience, and Loss and Damage* was the first ever youth-led climate forum, organized as a roundtable, which gathered youth representatives, policy makers, climate ministers, and negotiators. The forum was organized pursuant to Article 65 of the Glasgow Climate Pact and paragraph 9b of the Annex of the Glasgow Work Program on Action for Climate Empowerment. The conversation was facilitated by Xuan Zhihan from China, and centered around the outcomes of the 17th Conference of Youth (COY17) and specific policy demands in the Global Youth Statement in regards to resilience, adaptation, and loss and damage. The government representatives were Diana Acconcia (Director of International Affairs and Climate Finance of the EU), Munir Akram (Ambassador and Chair of the G77 and China), Conrod Hunte [Ambassador and Lead Climate Negotiator for the Alliance of Small Island States (AOSIS)], Christopher Nyce (US Lead Negotiator), Ashraf Sobhy (Minister of Youth and Sports of Egypt), and Yasmine Fouad (Minister of Environment of Egypt). They answered questions by the youth representatives from Panama, China, Switzerland, Sierra Leone, Ghana, and India.

The opening remarks were given by Ch. Nyce, C. Hunte, D. Acconcia, and Y. Fouad, who expressed their willingness to support youth initiatives in tackling climate change related issues. D. Acconcia spoke on the EU Climate Pact Project, which aims to promote citizen initiatives in the climate debate, and suggested that youth representatives join this and similar projects as climate ambassadors who would engage their families and local communities in addressing the pressing issue of climate change. C. Hunte spoke about the already existing scholarships that aim to empower youth from small island countries to become leaders in their regions' sustainable development.

The questions asked by the youth representatives were the following. Yally Castillo from Panama, asked about the ways in which the new mechanisms for financing adaptation, and loss and damage proposed by the governments, which have proved to be inefficient so far, should integrate a diversity of the already existing mechanisms based on the local and contextualized knowledge and practices. A participant from the audience, from the International Federation of Red Cross, asked the government representatives how they plan to engage with the already existing local communities' adaptation efforts and ensure that the communities are not just recipients but co-implementers and leaders who make the decisions for their own community. A participant from Ghana addressed the fact that developing countries lack climate finance premiums and are thus less attractive for investing. He inquired about possible ways to make developing countries more accessible for climate financing and to make loss and damage funds available at the time when they are needed (climate disasters do not announce themselves). Chin Chin Lim from Hong Kong, China, who is an urban planner and youth climate advocate, talked about her struggles with implementing high level goals and policies from COPs

and other UNFCCC processes at the local and community level. She explained that there is an important lack of understanding of the local authorities and civil society on the goals set by UNFCCC, which results in their neglect. Her question was: how can we ensure that the high-level policies are translated to the local level and applied through national adaptation plans? A representative from Switzerland said that non-transparency is often an issue that prevents nations from committing to their pledged adaptation funding. She remarked that a lot of time and effort goes into ensuring that the funds go to the right place. She asked the government representatives how they plan to ensure, as quickly as possible, that the provided fundings flow to designated nations, from the national level to the regional level and finally to the local communities. In other words, how will it be ensured that these funds are actually used for implementation at the grassroots level? She added that local communities often have the best understanding of their own vulnerabilities and needs in relation to climate change and can serve in the assessment of adequacy and effectiveness of adaptation. In that sense, she asked whether governments plan to take into account the local knowledge and awareness on the vulnerability of communities and integrate it into the assessment of adaptation needs and national adaptation plans. Srishti Singh, who works at the intersection of adaptation and education in India, calls for more contextualizing and specificity when it comes to local adaptation. She believes that education is one of the stepping stones to building community resilience. S. Singh posed three questions, starting with: how adaptation focused education can be prioritized at all levels to build community resilience and aid in rehabilitating and rebuilding communities, especially when it comes to local youth who have been at the forefront of extreme climate events? Second question was: how the efforts on increasing the capacity of youth and building their experience through adaptation action could contribute to the bottom-up decision-making process? The final question was: what support could the international community provide for creating a policy structure that reaches the youth and, through them, local communities?

Ch. Nyce said that the implementation of local initiatives depends on the local community's capacity to advocate such ambition and that they should first find place within the local government actions. He explained that international help for adaptation is focused through the countries' Nationally Determined Contribution (NDC) plans as well as the adaptation plans. Thus, the local communities should aim to integrate in these plans the actions they consider necessary. He also added that the USA established a program that takes into account locally established resources, management practices and integrates green climate funds into it. He stressed the importance of sharing best practices between countries. D. Acconcia noted that, when it comes to planning adaptation, the EU includes the local level in dialogue and policy making. *Mission for Adaptation* is an EU funded initiative that aims to empower 150 regions in Europe to become climate resilient by 2030. M. Akram explained that the problem with the accessibility to finance and distribution of funds is that there is no global definition of climate finance, that is, it is unclear whether it encompasses only official assistance or grants, concessional finance, commercial loans, and private sector investments too. He added that G77 sees climate finance as concessional and not grant based. Also, G77 and China proposed

the establishment of a financing mechanism under the auspices of UNFCCC, where a certain amount of resources is available immediately in response to loss and damage. As it is now, for a country to receive climate funding, it needs to go through a long application process (120-page form and more than a year long waiting process). Thus, developing countries ask for a streamlining of the application process to allow them to have simplified access to climate funds. Further, climate finance should be an addition to humanitarian funds for disaster relief. Ch. Nyce explained that the USA puts emphasis on financing early warning and disaster response systems. The USA and EU representatives both emphasized their work on catalyzing partnerships between private and public sector in this regard. D. Acconcia explained that, in order to allow adequate financial support from the international community, countries should establish coherent mitigation and adaptation strategies.

- The International Renewable Energy Agency organized the session *Youth Leadership for Energy Transition* as an interactive intergenerational workshop exploring the role of youth in accelerating energy transition and achieving inclusive climate-safe future. The participants were divided into groups and were asked to explore and share their experience on: (1) education and capacity building priorities, (2) engaging youth in decision making, and (3) youth innovation and entrepreneurship. The results of the discussions were presented by session moderators aiming to showcase the ways to translate commitments into action and implementation. Among the initiatives presented were those organized by the Student Energy, the pioneer youth research institution in the field, and the Youth Sustainable Energy Hub, which prepares specialized capacity building workshops and provides mentorship opportunities. Participants from UNICEF presented their recent work on making global energy issues comprehensible to children through a simplified-language booklet on energy.
- The United Arab Emirates (UAE) Pavilion hosted a session where Masdar Clean Energy presented its *Youth for Sustainability Initiative*. This initiative, aligned with the SDGs and the UAE's national strategy, offers a series of programs focused on students and young entrepreneurs, including the Sustainability Ambassadors and Future Sustainability Leaders Programs. These international programs are open to youth worldwide and start with the *Abu Dhabi Sustainability Week*. UAE, which will be the host of COP28, supports the inclusion of youth in addressing the SDGs by engaging them in the work of both the Ministry of Culture and Youth, and the Ministry of Climate Change and Environment. The latter ministry is attentive to inclusiveness of youth and women. In it, women hold 33% of leadership positions, 46% of technical positions, and 27% of executive positions, while more than half of the mentioned positions are occupied by women below 35 years of age.

5. Education for Sustainability

- The Climate Education Hub (CEH) hosted the launching of the *Climate Education Coalition*. The session was moderated by Jan Michal Dabrowski (Consultant to the Earth Day and Co-Founder of the Climate Education Team of the Fridays for Future Movement).

The opening remarks were given by Ariadne Papatheodorou (UN Youth Representative) and Valeria Napoli (EU Commission). The session comprised the contributions of Amanullah Porag (Mock COP), Kazi Zubair Hossain (World Organization of Scout Movement), Temilade Salami (Echochampions), Opeyemi Elujulo (Care About Climate), and Micah “Bigwind” Carpenter-Lott (SustainUs). The Coalition, which has already gathered more than a hundred youth organizations and activists, aims to strengthen the collaborative actions towards integrating climate education into a compulsory curriculum of educational institutions worldwide. They state that integrating the topic of climate education in the COP28 negotiations would be a step towards achieving that goal. The memorandum on the establishment of the Coalition explains that the members should jointly plan strategy, coordinate campaigns that aim at building awareness on climate change, and promote the importance of climate education with the members of civil society, state politicians, UN officials, entrepreneurs, and the press worldwide.

- The University of Cambridge organized the session *Supporting Businesses on their Net Zero Journey with Comprehensive Climate Education* at CEH. The session was moderated by Eliot Whittington [Director of the Centre for Policy and Industrial Transformation at the Cambridge Institute for Sustainability Leadership (CISL)]. This Cambridge University department has focused on education of business individuals and communities on sustainability for 30 years. The session explored the role of business in the transition to net zero emissions. The discussion focused on small and medium enterprises (SMEs), which make 90% of world businesses. The first part of the session was moderated by Beverley Cornaby (Program Director at CISL), who invited John Reves [Vice President of Business Engagement at the World Business Council for Sustainable Development (WBCSD)] and Antoine Sire (Head of Company Engagement at BNP Paribas) to share their views on opportunities for sustainability education in business and its possible contribution to the overall decarbonization journey.

J. Reves elaborated on the importance of long-term training and continuing education when it comes to being equipped for transition to sustainability. He enrolled in a two-year Master’s course at CISL alongside his job at WBCSD in order to help bring the needed transformation to the organization. When trying to address some critical issues in the field of sustainability, a company needs to support not only its sustainability teams but also all other employees (marketing, finance, legal, supply chain, *etc.*) in developing their “green” knowledge and skills necessary to deliver on this ambition. Thus, WBCSD created courses that offer introductory elements and accommodate safe spaces for mutual learning between companies based on their work experience. In this way, they get to acquire new knowledge but also to develop new ways of addressing the real challenges they face in their transition towards sustainability. Thus, a company obtains the opportunity to open-up its problems and get support from other companies through mutual learning.

A. Sire spoke about a three-way effort of BNP Paribas to contribute to sustainable development. Firstly, the company provides training to all employees through short programs on climate change and sustainable transformation. Secondly, in partnership

with CISL, they train the employees (more than a 1,000 so far) by helping them to acquire specialized skills necessary to accompany their clients on the journey to sustainability. Thirdly, they train all the managers to embark all their colleagues on this journey and facilitate the transition of the bankers from non-sustainable to sustainable economy. When BNP Paribas decided to reduce the financing of upstream oil and gas industry sector between 2020 and 2025 by 25%, they needed to create a team with specialized skills to accompany the clients. The transition to sustainable banking means that they need the employees who can advise clients on, for example, sustainable savings. The company also created a low carbon transition group of 250 senior bankers, who work on sustainable transition of large corporations.

The panelists were asked to address the issue of climate skepticism. A. Sire explained that, in his view, there are two levels of climate sceptics. Most of the sceptics who believe that human action has nothing to do with climate change left the company in 2017 when BNP Paribas stopped working with the oil and natural gas companies that primarily did business with oil shale or tar sands and stopped financing the projects that were involved in their transportation or export. The more discreet sceptics understand that people have an important part in climate change, but do not admit that it has anything to do with their clients and their businesses. This kind of skepticism can be addressed through training. The situation changes once they understand that addressing climate issues is important for their company and the training empowers them to be part of the discussions with clients on sustainability. The most effective part of the training is the one involving client examples. Finally, what really encourages the bankers in this process is the positive response from the clients who can value the company's investments in sustainable development. The company established the Sustainability Academy, which provides sustainability trainings including the one organized by CISL. It is managed as an online platform through which members of the company can participate in the trainings and share experiences and best practices.

Jie Zhou runs the Accelerator Program of CISL, which provides incubation, mentorship, and support to SMEs and startups. She pointed out that the area in which it is nested is the Golden Triangle of England (Cambridge-Oxford-London), which is the intellectual powerhouse stimulating economic growth. The Cambridge innovation ecosystem comprises institutions focused on three main areas: space and infrastructure (Cambridge Science Parks, Cambridge Business Park, The Bradfield Centre, Idea Space, *etc.*), skill and talent (University of Cambridge, Microsoft, AstraZeneca, *etc.*), and support and service (Cambridge Innovation Capital, DeepTech Labs, IQ Capital, *etc.*). Nevertheless, this area lacks sustainability innovation that is itself convergent of different disciplines, including technologies and arts. Thus, CISL launched an incubator space called the Canopy Accelerator, which offers a sustainable workspace for impact focused and purpose driven startups and SMEs to mingle, collaborate, and thrive. The Accelerator provides the community and workspace, and runs a series of events and trainings. It is membership based and aims to bring together start-ups, SMEs, entrepreneurs, corporates, Cambridge Innovation Cluster, CISL Network, and finance

experts for sustainability innovation. Since 2020, the Accelerator team has been running cohorts focused on issues such as building environment on net zero emissions, women in sustainability innovation, and circular economy disruptors.

Startups and SMEs contribute to more than half of the carbon emissions. Thus CISL, together with the Business for Social Responsibility (BSR) and SME Climate Hub, developed a free online training program called Climate Fit, which aims to help startups and SMEs to decarbonize. In order to make it interactive and practical, they integrated an actionable checklist as well as tangible case studies and organized it into the following seven modules: Climate Strategy and Governance, Climate Action for Your Operations, Reducing Emissions in Your Supply Chain, Design for Net Zero, Financing Net Zero Transition, Engaging Your People and Communities in Your Climate Ambitions, and Telling Your Net Zero Story. After the presentation, J. Zhou initiated the discussion by addressing the necessity of large corporations to engage SMEs in their journeys to sustainability, especially in terms of supply chain.

Michelle Patron, who leads the Global Sustainability Policy at Microsoft, explained that SMEs play an important role in every part of the company's sustainability strategy. This involves three things: "getting the house in order" (carbon free by 2030 and 100% energy from renewable sources by 2025), developing solutions for customers (Microsoft Cloud, for tracking, account, and report carbon emissions), and enabling the world to reach its sustainability goals through markets, skills, and policies (Microsoft Innovation Fund and the partnership with 60 organizations for reliable and interoperable accounting).

Mats Pellbäck Scharp said that large corporations can have a well-developed life cycle assessment and know exactly where their emissions come from, but for effective results, they need to work together with SMEs from their supply chain. In a supply chain with thousands of suppliers (Ericsson has around 24,000 suppliers), digital innovation is crucial for unleashing the potential for positive change. Large corporations can impose requirements on the suppliers (see the Ericsson report *Exponential Roadmap*), but for this to be effective, it needs to go together with adequate free platforms for training such as the one proposed by CISL. Large companies such as Ericsson and Microsoft can engage with local SMEs in developing countries to help local communities develop and adapt the digitalized platforms for sustainable development. One of the conclusions of the session was that, funding only large corporate structures in their transition towards sustainability leaves an important gap in the overall transition. Since SMEs make 90% of world businesses, they need to reach funding for transition as well. The panelists and moderators also agreed on the importance of education in the transformation of both large corporations and SMEs towards sustainability.

6. Sustainability Science

- The international launching of the *Humanities-led BRIDGES Sustainability Science Coalition*, within the UNESCO's international science program Management of Social Transformations (MOST), was organized at the UNESCO Pavilion. The session was hosted by Gabriela Ramos (Assistant Director-General for Social and Human Sciences of

UNESCO) and gathered Steven Hartman (Founding Executive Director of BRIDGES), Luiz Oosterbeek [President of the International Council for Philosophy and Human Sciences (CIPSH)], Darina Saliba (Director of the International Center for Human Sciences – UNESCO Byblos), Peter Gluckman [President of the International Science Council (ISC)], and Michelle Mycoo (Member of the Scientific Advisory Committee of MOST).

BRIDGES, a network of networks, works as a global project-led platform that promotes transdisciplinary approaches to sustainability science, education, and action. It aims to establish potentially transformative collaborations across academic domains and using non-academic knowledge and practices from local and indigenous communities.

The Coalition is a result of the development of UNESCO's initiative on promoting sustainability science as a complementary cooperation between natural and social sciences, humanities, and arts (UNESCO's Guidelines for Sustainability Science in Research and Education, 2017) in collaboration with a number of international institutions (CIPSH, HfE Circumpolar Observatory, ISC, etc.) engaged in addressing issues of sustainable development. It aims to bridge multiple forms of knowledge to study complex socio-ecosystems as a web of meanings and interactions. Sustainability science facilitates developing the understanding of complex socio-ecological systems and implementing knowledge in the design of actions for sustainable development. The integrative power behind sustainability science is humanities-led and enables the understanding of how people interact with the ecosystem and what are the feedback loops within the dynamics of the interaction. It enables contextualized and culturally-specific knowledge and practice to become catalyzers for social transformation towards sustainability.

The institutions anchoring BRIDGES Hubs from the beginning of 2022 are: ASU Julie Ann Wrigley Global Futures Laboratory, University of Wales Trinity Saint David, University of Pretoria/Universiteit van Pretoria, Princeton University, The City University of New York, and The Club of Rome.

7. Conclusions

In conclusion, the author presents here an overview of the most important points related to human security that were emphasized in the speeches of political representatives of the UN member states and the UN led commissioners, and in the side-events and pavilion panels she had the chance to attend. First of all, there is a discrepancy in the urgency of addressing the issue of climate change as essential to human security. On the one hand, there are three million people living in the countries that are presently affected by climate conditions. Recent floods in Pakistan and Nigeria have caused immense human loss and suffering as well as tens of billions of US dollars of damage, which these countries cannot finance. Also, a number of countries (especially the small island countries) will disappear with a sea level rise of just one meter and the predictions show that the climate migration will be over a billion by 2050. On the other hand, the countries that are at present not severely affected and have not gone through loss and damage caused by climate change, but are at the same time among the

highest carbon emitters, are going back to coal to “make it through the winter”. Only 29 out of 194 Parties to the Paris Agreement have submitted their NDCs progress report in 2022. This clearly shows that there is a persistent problem that has not been identified or solved during the previous 26 COPs.

“The world needs political leaders who can reconcile national aspirations with global human security.”

The climate events demonstrate that apart from mitigation, questions of adaptation, and loss and damage need to be urgently addressed. After arriving at net zero emissions, the temperature will continue to rise for another two to five years, and the planet will need between two and three decades for the stabilization. During this time, the climate events will persist and people will need to find ways of adapting to the climate conditions.

Arriving at net zero emissions requires a green industrial revolution, with around four to six trillion US dollars per year of global investments. Financial experts promote the sustainable energy investments as deflationary and contributing to the expansion of the job market. Also, taking into account the world GDP and the scientific and technological advancements, experts state that we have solutions in terms of financial resources and technological tools, but we lack global mechanisms for redistribution of funds in the direction of sustainable development. In order to make the carbon emissions substantially lower, the governments of high-emitting countries must find a way to stop fossil fuel subsidies, despite the industry’s pressure on the political establishment. Also, governments must provide clear policies and guarantees in order to establish public-private sector cooperation and facilitate investment flow to developing countries. Further, transparent data infrastructures and open exchange on mechanisms, processes, and best practices in transition towards green energy are essential for addressing the global challenge of providing for human security. The agency guiding appropriate cooperation and coordination of action between public and private sector, multilateral development banks, and international organizations and ensuring the necessary flow of funds must be provided by political leaders and sustained through the support of people. All sectors of society must collaboratively engage in transparent transition towards a sustainable global society that “leaves no one behind”. Finally, taking into account the complex interconnectedness of the SDGs and their essential role in establishing human security for people worldwide would allow a more comprehensive and efficient transition, and transformation of global society and its institutions. Thus, long-term sustainable development planning must evolve through the intergenerational cooperation, empowering both formal and informal educational practices as the key catalyzers of social change.

Youth activists make great efforts to create political pressure in countries that stay unresponsive to the climate crisis. Nevertheless, activism could be more effective if they are focused on the national governments’ elections process. The world needs political leaders who can reconcile national aspirations with global human security. Youth representatives are

slowly being integrated into bureaucratic procedures of national and international governing bodies. Giving voice to a small number of young individuals cannot possibly provide for empowering the global youth for overcoming the challenges of our society. Youth needs to be provided with the opportunity to be part of the knowledge-creation process and craft skills within official governing institutions.

The author left the Conference with echoes of two opposing voices. The voices coming from the Global South are rooted, profound, sharp, evidently sincere, and most of all, reflect the essential capacity of all human beings—the willpower to survive. The speeches from the political representatives of the Global North are considerate, thoughtful, soft, polite, descriptive, well-rehearsed, but mostly vague. As long as the priorities of the highest emitters are tied to political, economic, and military power, the chances of reaching the net zero emissions by 2050 remain slim.

Author Contact information

Email: martaneskovic@outlook.com