

ECONOMIC AND SOCIAL COUNCIL

Coordination Segment

Session on: Sustainable, resilient and innovative solutions to advance climate action

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[Introduction]

- This is my pleasure to participate in this important event as the Chair of the United Nations Commission on Science and Technology for Development (CSTD) and share some thoughts on sustainable, resilient and innovative solutions to advance climate action. Let me begin by providing you with a preview of the forthcoming 27th CSTD on 15 to 19 April in Geneva, Switzerland. There will be a Ministerial Roundtable intended to contribute to the implementation of the 2023 HLPF's Ministerial Declaration and to the theme of the 2024 ECOSOC and HLPF by discussing the role of science, technology, and innovation in reinforcing the 2030 Agenda and eradicating poverty in times of multiple crises: the effective delivery of sustainable, resilient and innovative solutions. The CSTD will then discuss the two priority themes that the 26th CSTD has selected: a) Data for development; and b) Global cooperation in science, technology and innovation for development. On the second theme, there will be exhibitions at the meeting venue to demonstrate international cooperation initiatives in sharing STI solutions for achieving the SDGs. The Commission will also review progress made in the implementation of the outcomes of the World Summit on the Information Society (WSIS), and discuss the WSIS+20 review, as requested by the ECOSOC in its resolution adopted in June 2023. In addition, there will be a special event on Great Minds Conversation where internationally renowned scientists, technologists, economists and sociologists share their insights on STI for development. Various side events will also be held on various topics, including the Future of AI, the use of satellite data for disaster risk reduction or smart agriculture, the Civil Society's view on WSIS+20 and building developing countries' capabilities in problem-solving scientific research through international cooperation.

[Green windows of opportunity]

- Now turning to this panel on Sustainable, resilient and innovative solutions to advance climate action, let me highlight that we are undergoing the beginning of a green technological revolution, a promising development that offers opportunities for countries to advance climate action, economic diversification and job creation.
- Green technologies, such as solar photovoltaic, wind energy, biogas and biomass, play an important role in accelerating the transition from fossil fuels to renewable energy sources, thereby contributing to combating climate change and promoting greener and greater prosperity across the globe.
- The enormous potential of green technologies is reflected by the rapidly growing market size which is estimated to rise from 0.6 trillion US dollars in 2020 to more than 2 trillion US dollars in 2030, thus more than tripling.
- Seizing these benefits is not automatic and responses to green windows of opportunities in renewable energy technologies are influenced by the technological maturity and tradability within green sectors.
- The more mature technologies may seem simpler and more affordable options since they demand less research and development. Biomass and solar photovoltaics, for example, are well-tested technologies that latecomers can adopt with imported machinery from the outside. However, these markets may be more difficult to enter since the incumbents have developed strong and efficient production processes and are able to trade internationally at more competitive prices.
- Immature technologies such as green hydrogen, on the other hand, present more spaces for newcomers to disrupt the industry, but they tend to be more difficult to operate, demanding greater capabilities and levels of R&D, which developing countries often lack.
- To harness the benefits of green technologies, developing countries must strategically position themselves based on sectoral specificities and orient their efforts to develop the capabilities of firms and the labour force.
- As discussed in one of the priority themes of the CSTD meeting in 2022 and further elaborated by UNCTAD's flagship publication "Technology and Innovation Report 2023", there are many successful examples in the deployment and development of green technologies in developing countries, such as bioethanol in Brazil and solar photovoltaics in China. Their experiences stress the importance of proactively fostering

green energy through policies and incentive mechanisms on both the demand and supply sides.

[Twin transitions: green and digital]

- Apart from green technologies, the use of digital frontier technologies associated with smart manufacturing, often referred to Industry 4.0 technologies, can promote technological and environmental upgrading of the global value chain, thereby driving twin transitions throughout different stages of the production cycle and making production greener and more efficient.
- For instance, smart manufacturing and service technologies, such as advanced robotics, three-dimensional printing, sensors and wireless technologies, can be employed to monitor environmental standards, optimize logistics with reduced carbon emissions, increase operational efficiency with lower energy consumption, as well as enhance the design of more environmentally friendly modes of production.
- In addition, data processing technologies and the use of big data analytics, cloud computing, artificial intelligence and blockchain technology can aid in the reduction of environmental impacts in production processes. For example, artificial intelligence is employed in smart grids to optimize green energy use; and blockchain technology can be used in supply chain management to reduce the number of recalls and their environmental impacts.

[The need for technology diffusion and sharing]

- From green technologies to digital frontier technologies, there is no lack of solutions to advance climate action, but the challenge lies in the diffusion and adoption of these technologies in developing countries.
- So far, developed countries are seizing most of the benefits brought by these technologies. Many of the top technology providers are currently from a handful of developed economies, despite growing pockets of excellence in some developing countries.
- As it happened in the previous waves of technological change, developing countries may not be able to benefit from technological advancement, but rather be left further behind unless proper incentives and mechanisms for technology diffusion and sharing are in place.

[Recommendations]

- In this regard, I would like to conclude by proposing three policy directions to improve access to technologies in developing countries for a greener, more productive and inclusive future.
- First, **strengthening financial support**: Governments could establish innovation and technology funds in collaboration with international donors or multinational development banks to facilitate the acquisition of necessary technologies and the development of local innovation capabilities. Such activities could be complemented by foreign direct investment (FDI). For example, Kenya was able to use FDI to import wind turbine technology.
- Second, **investing in human capital**: To enhance skills in the adoption, adaptation and creation of technologies, governments could support the workforce through, for example, skills development centres. Dedicated training programmes could also be provided to build local specialized scientific, technological, managerial and organizational capabilities. Such efforts should ensure equality and a balance between regions, firms and population groups. For instance, UNCTAD has partnered with Thailand Science Research and Innovation to strengthen women's capacity to use technology based on the Bio-Circular-Green economy model. It promotes knowledge transfer regarding the use of natural resources, sustainable production and consumption, and the circular economy to accelerate a green paradigm shift.
- Third, **building partnerships for innovation**: Developing countries can benefit from participating in international partnerships that facilitate the adoption of technologies. One example is the cooperation programme around satellite data for food security that is benefiting over twenty developing countries under the aegis of the CSTD and the support of China. Technologies emerging from developing countries can be more appropriate to the local conditions and low resource settings of other developing countries. This programme successfully harnesses the power of South-South cooperation and allows participating countries to access much-needed technology, along with training on adapting the system to specific local requirements.

Excellencies, ladies and gentlemen,

- Agency and urgency are pivotal in the fight against climate change.
- Given the time-bounded conditions of green windows of opportunity, developing countries need to act fast and act together to take advantage of the green technological revolution.

- What we need is proactive and well-coordinated policies to build the capacities in deploying and developing innovative solutions to advance climate action.
- Thank you and I look forward to further exchange and discussion.