

Science and Technological Community (STC) Major Group written statement for the general debate of the 2020 High-level Political Forum/ High-level Segment of ECOSOC

As the world was gearing up for a 2020 'Super Year' to deepen global commitments made to achieving sustainable development, climate change, biodiversity, disaster risk reduction and other major global agreements, the world was hit with the COVID-19 pandemic. This unprecedented crisis has had huge impacts in terms of lives and livelihoods, and that has spurred rapid and massive shifts in how we consume, learn, interact, communicate and work. It is perhaps the most urgent test to date of our ability to learn and adapt quickly, use scientific evidence to understand the systemic nature of sustainable development and planetary health, and build resilience to shocks and disruptions. It is also an opportunity to drive - with renewed urgency - the need for profound transformations to achieve sustainable development along the lines described in the 2019 Global Sustainable Development Report (GSDR).

The COVID-19 crisis has a multiplier effect by aggravating trends that were already deeply troubling: prior to the outbreak no country was on track to accomplish the SDGs, positive trends were decelerating, and some SDGs were currently retrogressing despite positive long-term developments. In 2020, the World Bank estimates that 40 to 60 million people will be pushed into extreme poverty, reversing progress made in poverty reduction over the past three years. It is expected that the economic shock, that will spare no country, will be the worst since the 1930s depression and the already alarming unemployment rates endorse the catastrophic financial prognosis. Besides the economic and social fallouts that threaten the achievement of the SDGs, the growing risks of major planetary disruptions, such as the risk of the Amazon crossing a tipping point that would turn the world's largest rainforest into dry scrubland due to climate change, deforestation and fires, or the growing risk of catastrophic and irreversible disaster implying potentially infinite costs of unmitigated climate change, pose existential threats. A recent survey of international scientists working on global change has identified five global risks that have the potential, through cascading effects, to trigger a global systemic crisis: failure of climate change mitigation and adaptation; extreme weather events; major biodiversity loss and ecosystem collapse; food crises; and water crises. All these existing and emerging disruptive trends have the potential to drastically undermine all attempts for sustainable development and erode the very foundations on which we all depend to live and thrive.

Given these critical circumstances, we urgently need to transform the way we live, interact with the environment, produce and consume; we need to reset our economies on a sustainable footing. Both overcoming the COVID-19 crisis and its effects that intensely shook our interconnected and globalized society, and achieving a sustainable and equitable world will require intentional, profound and systemic societal transformation; a reformist approach will be insufficient, given the deep change in values, norms, practices and institutions that we will need to bring about. Integrated transformation frameworks, such as the one proposed by the GSDR 2019, are a major step towards deep systemic change as each of the six transformations outlined describes a major change in the organization of societal, political and economic activities that would transform resource use,

institutions, technologies and social relations to achieve key SDG outcomes. It furthermore provides an overall framing narrative for the SDGs that reduces the complexity of the 2030 Agenda and supports a coherent approach to implementation that takes full account of the dynamic and integrated nature of the SDGs.

With just ten years to go, countries and regions urgently need to design and implement integrated, context-sensitive and attainable pathways within each of the six domains of transformation identified in the GSDR 2019 to advance towards desirable and sustainable outcomes. These pathways can also become the solution to solving disruptions due to COVID-19 and to prevent future similar crisis. Defining pathways and strategies within each transformation, as well as implementing and monitoring their progress, requires developing tools to design practical and context-specific pathways within each transformation; defining, based on the integrated pathways, time-bound benchmarks critical for understanding how to implement the set of transformations; co-designing the pathways with a broad range of communities and sectors at all levels and scales, which is crucial for identifying perceived trade-offs, ensuring technical feasibility of the long-term pathways and securing broad public support for their implementation; and mobilizing relevant data and monitoring frameworks, along with sharing lessons and best practices amongst all actors.

Furthermore, operationalizing such transformation frameworks will require transformative alliances between researchers, governments, business, civil society, and other actors, to ensure that chosen pathways enable those who typically have less power to be meaningful actors in the visioning and process of change. Creating enduring transformative change will require, simultaneously, concerted top-down strategies, such as changes in the rules that govern the global economy and redistributive measures such as labour and market regulations, progressive tax regimes, universal health and education access, as well as bottom-up experiments and collective actions including community-based management of land, forests, fisheries or waste, which are needed to achieve and sustain impact. Furthermore, different combinations of state-led, market-led, technology-led and citizen-led strategies towards sustainability transformations will need to be adapted to national and regional settings to reflect the diverse nature of economies, societies and political systems.

Science is an important lever for transformation to accelerate progress towards the SDGs given its fundamental role in comprehending and balancing the links between the social, economic and environmental dimensions of sustainable development. The COVID-19 pandemic demonstrated the need for rigorous and responsible scientific research to inform policy and collective action and the value of open scientific collaboration, with experts worldwide coming together to find solutions to the current pandemic. Scientific knowledge allows us to understand the fundamental relationships between people and nature, to assess and implement solutions to today's complex challenges, and to identify new and emerging threats and opportunities. It is essential to countering the dangerous spread of misinformation that undermines our ability to act decisively and in solidarity. Hence, individual governments and the global community should commit to advancing science as a global public good by promoting science and its effective use in decision-making, supporting the

development of scientific capacities in all parts of the world, advocating open science policies and practices.

To enable science to guide the societal transformations indispensable to achieve the 2030 Agenda and the SGs, funding communities need to support innovative research modes and international research that transcend the disciplinary boundaries and co-design and co-produce context-specific transformational pathways to attain the SDGs with practitioners, policy-makers and other stakeholders. This requires unprecedented levels of funding in research and development aimed at orienting scientific knowledge towards the global goals, as well as rebalancing the priorities of research institutions towards this end. Moreover, the role and importance of technology to achieve the 2030 Agenda need to be reconsidered and technical change needs to be reoriented in order to more meaningfully contribute to the implementation of the SDGs in a transformative way. Governments have a number of levers available to them to reorient STI to support the SDGs, for instance through setting criteria on foreign direct investment, embedding SDG requirements in public procurement, national research funding, funding of non-profit and government agencies, supporting social enterprise funding for the development of technologies that have social and environmental benefits, regulations for sustainable consumption and production.

In response to the COVID-19 crisis, science and technology communities, both in the public and private sector, have been mobilized worldwide to provide expertise and advice to governments at all levels on how to best respond to the COVID-19 crisis, investigate its underlying causes and impacts, as well as develop diagnoses, therapeutics and vaccines. The pandemic has brought to the fore the difficult, though essential, relationship between science and policy interface and demonstrated once again the need to strengthen the science-policy interface at all levels and scales especially when dealing with pressing and complex global sustainability issues with multiple unknowns such as climate change. This is needed to ensure that science-based solutions are made available to underpin required transformations towards a more sustainable and equitable future. They must moreover be accompanied by institutionalized mechanisms to efficiently translate robust scientific knowledge into actionable evidence to inform decision making and to identify policy needs that require scientific inputs to advance the SDGs. In this context, building science, technology and innovation (STI) roadmaps at subnational, national and global levels is a crucial element to support the implementation, delivery and evaluation of the SDGs by identifying knowledge and capacity gaps and orienting national systems towards delivering for the SDGs. These aspects related to the science-policy interface need to be complemented by enhancing public trust in science to ensure that recommendations and policies based on scientific evidence are widely accepted within societies.

The COVID-19 threat is a warning that we must rethink the very foundations of our societies and move away from the existing system where inequalities in terms of vulnerability and environmental impact are structurally embedded particularly given the unprecedented climate and environmental emergency that our world faces. Furthermore, the emergence of planetary risks that are complex and require strong international collaboration, and the increasing likelihood of crossing tipping

points with catastrophic consequences, require a major overhaul of international institutions and new collaborations in order to address these systemic risks. This includes a profound reflection on how scientific inputs and advice are solicited and integrated into deliberation and decision-making at the international level. How would the UN system effectively mobilize science inputs for decision-making in the case of a global emergency?