

THE COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

The Role of Science, Technology and Innovation in
Sustainably Increasing the Share of Renewable Energy



National Youth Model United Nations

Committee Information

The Commission on Science and Technology for Development (CSTD) is a subsidiary body of the Economic and Social Council (ECOSOC). It was established in 1992 as a result of the restructuring and revitalization of the United Nations in the economic, social and related fields.

The Commission met for the first time in April 1993 in New York, USA. Since July 1993, the UNCTAD secretariat has been responsible for the substantive servicing of the Commission. The Commission has subsequently met in Geneva, Switzerland.

The Commission was established to provide the General Assembly and ECOSOC with high-level advice on relevant issues through analysis and appropriate policy recommendations or options in order to enable those organs to guide the future work of the United Nations, develop common policies and agree on appropriate actions.

Mandate related to the follow-up to the World Summit on the Information Society (WSIS)

Since 2006, the Commission has been mandated by ECOSOC to serve as the focal point in the system-wide follow-up to the outcomes of the World Summit on the information Society (WSIS) and advise the Council thereon, including through the elaboration of recommendations to the Council aimed at furthering the implementation of the Summit outcomes.

To that end, the Commission:

- Reviews and assesses progress at the international and regional levels in the implementation of action lines, recommendations and commitments contained in the outcome documents of the Summit;
- Shares best and effective practices and lessons learned and identifies obstacles and constraints encountered, actions and initiatives to overcome them and important measures for further implementation of the Summit outcomes;
- Promotes dialogue and foster partnerships, in coordination with other appropriate United Nations funds, programmes and specialized agencies, to contribute to the attainment of the Summit objectives and the implementation of its outcomes and to use information and communication technologies for development and the achievement of internationally agreed development goals, with the participation of Governments, the private sector, civil society, the United Nations and other international organizations in accordance with their different roles and responsibilities.

The Commission on Science and Technology for Sustainable Development

Mandate related to science and technology for development

The Commission acts as a forum for:

- the examination of science and technology questions and their implications for development; the advancement of understanding on science and technology policies, particularly in respect of developing countries and;
- the formulation of recommendations and guidelines on science and technology matters within the United Nations system.

Frequency of meetings

The Commission meets annually for a period of one week (ECOSOC resolution 2002/37, reaffirmed in Council decision 2003/291 of 24 July 2003).

Membership of the Commission on Science and Technology for Development

The Commission has forty-three Member States elected by ECOSOC for a term of four years. Experts nominated by their respective governments should possess the necessary qualifications and professional or scientific knowledge.

The Commission has:

- Eleven members from African States
- Nine members from Asia-Pacific States
- Eight members from Latin American and Caribbean States
- Five members from Eastern European States
- Ten members from Western European and other States

At each session, the Commission elects a new Bureau (a Chairperson and four Vice-Chairpersons) for the next session. The Bureau assumes responsibilities for the forthcoming activities during the inter-sessional period.

On 16th April 2018 the Council was informed that Hungary would resign from its seat on the Commission effective 31 December 2018. The Council then elected, by acclamation, Serbia to complete the term of office of Hungary (expiring on 31 December 2020).

The Council subsequently elected the following States, for a four-year term beginning 1 January 2019 and expiring on 31 December 2022: Belgium, Botswana, Canada, China, Cuba, Egypt, Ethiopia, Hungary, the Islamic Republic of Iran, Kenya, Latvia, Liberia, Nepal, Romania, Thailand, the United Kingdom and the United States.

The Council also elected Finland, by acclamation, to fill an outstanding vacancy for a term beginning on the date of election and expiring on 31 December 2020. On 24th July 2018 the Council elected Oman and Turkey from the Asia-Pacific States and the Western European and Other States for a term beginning on 1 January 2019 and expiring on 31 December 2022. The Council also postponed the election of one member from the African States and three members from the Latin American and Caribbean States.

The Commission on Science and Technology for Sustainable Development

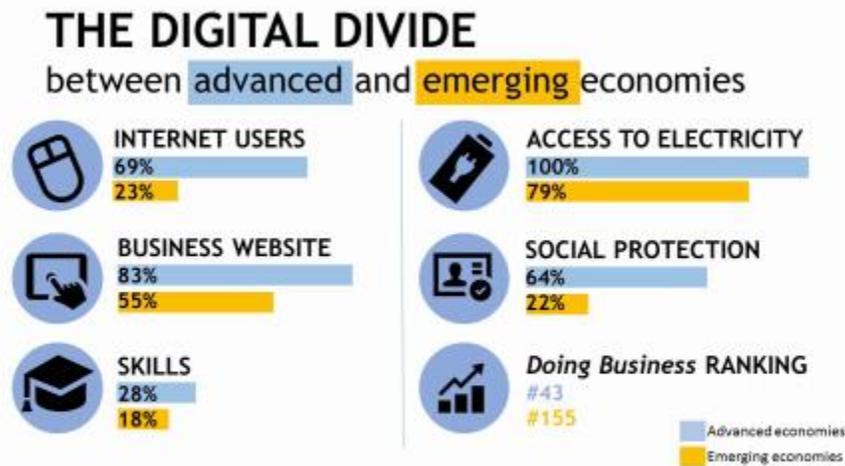
Membership

Region	Country	End of term
Africa	Angola	2018
	Burkina Faso	2020
	Cameroon	2020
	Côte d'Ivoire	2018
	Democratic Republic of Congo	2020
	Kenya	2018
	Mauritania	2018
	Mauritius	2018
	Nigeria	2020
	Uganda	2018
	South Africa	2020
Asia-Pacific	China	2018
	India	2018
	Iran (Islamic Republic of)	2018
	Japan	2020
	Kazakhstan	2020
	Pakistan	2018
	Saudi Arabia	2020
	Thailand	2018
	Turkmenistan	2020
Eastern Europe	Bulgaria	2018
	Hungary	2020
	Latvia	2018
	Poland	2018
	Russian Federation	2020
Latin America and Caribbean	Bolivia (Plurinational State of)	2018
	Brazil	2020

The Commission on Science and Technology for Sustainable Development

	Chile	2020
	Cuba	2018
	Dominican Republic	2018
	El Salvador	2020
	Mexico	2020
	Peru	2018
Western Europe and other states	Austria	2020
	Canada	2018
	Finland	2020
	Germany	2020
	Portugal	2020
	Sweden	2018
	Switzerland	2020
	Turkey	2018
	United Kingdom of Great Britain and Northern Ireland	2018
	United States of America	2018

History of the Topic and Past UN Actions



(Source: World Bank, World Development Report 2016 *Digital Dividends*)

Figure 1: Disparity Between Economies

Energy is central to nearly every major challenge and opportunity the world faces today. Be it for jobs, security, climate change, food production or increasing incomes, access to energy for all is essential. Working towards this goal is especially important as it interlinks with other Sustainable Development Goals. Focusing on universal access to energy, increased energy efficiency and the increased use of renewable energy through new economic and job opportunities is crucial to creating more sustainable and inclusive communities and resilience to environmental issues like climate change.

At the current time, there are approximately 3 billion people who lack access to clean-cooking solutions and are exposed to dangerous levels of air pollution. Additionally, slightly less than 1 billion people are functioning without electricity and 50% of them are found in Sub-Saharan Africa alone. Fortunately, progress has been made in the past decade regarding the use of renewable electricity from water, solar and wind power and the ratio of energy used per unit of GDP is also declining.

The Commission on Science and Technology for Sustainable Development

- 13% of the global population still lacks access to modern electricity.
- 3 billion people rely on wood, coal, charcoal or animal waste for cooking and heating
- Energy is the dominant contributor to climate change, accounting for around 60 per cent of total global greenhouse gas emissions.
- Indoor air pollution from using combustible fuels for household energy caused 4.3 million deaths in 2012, with women and girls accounting for 6 out of every 10 of these.
- The share of renewable energy in final energy consumption has reached 17.5% in 2015.

Figure 2: Impact of the energy crisis

- By 2030, ensure universal access to affordable, reliable and modern energy services
- By 2030, increase substantially the share of renewable energy in the global energy mix
- By 2030, double the global rate of improvement in energy efficiency
- By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support

Figure 3: The SDG regarding renewable energy

To support the SDG7 review, UN DESA has convened an Ad Hoc Technical Group on SDG7, comprised of representatives from governments, UN entities, international organizations and other multi-stakeholders. The technical group has produced 27 policy briefs on SDG7 and interlinkages between energy and other development goals, which will also provide key input for ongoing intergovernmental discussions leading up to the High-Level Political Forum on Sustainable Development.

Commitments to improve access to reliable and affordable energy services, in particular to increase the share of renewable sources of energy in the global energy supply have been repeatedly made by Governments at the international level, most notably at the World Summit on Sustainable Development (WSSD) held in 2002, and the World Summit (2005).

Discussion of the Topic

The 2030 Agenda for Sustainable Development sets ambitious global goals, demanding unprecedented actions and efforts across multiple interconnected social, economic and environmental issues. Science, technology and innovation (STI) must play a central role in the achievement of these goals. The process of creative destruction initiated by technological progress can help to transform economies and improve living standards, by increasing productivity, reducing production costs and prices, and helping to raise real wages.

Harnessing frontier technologies – combined with action to address persistent gaps among developed and developing countries in access and use of existing technologies, and to develop innovations (including non-technological and new forms of social innovation) – could be transformative in achieving the Sustainable Development Goals and producing more prosperous, sustainable, healthy and inclusive societies. They offer the prospect of solutions and opportunities for sustainable development that are better, cheaper, faster, scalable and easy to use. The extent of the developmental impact of technological advances has already been seen in the transformative effects of information and communication technologies (ICTs) in many low-income economies, while the potential to increase the environmental sustainability of development is evident in recent advances in renewable energy. However, new technologies threaten to outpace the ability of societies and policymakers to adapt to the changes they create, giving rise to widespread anxiety and ambivalence or hostility to some technological advances.

The dramatically accelerating pace of development and adoption of new technologies in recent decades is likely to continue, driven by (a) the cumulative nature of technological change; (b) the exponential nature of technologies such as microchips, which have doubled in power every two years for half a century; (c) the convergence of technologies into new combinations; (d) dramatic reductions in costs; (e) the emergence of digital “platforms of platforms” – most notably the Internet; and (f) declining entry costs.

Extraordinary advances in biotechnology allow very specific gene editing for human medicine, making personalized treatments possible for certain conditions in combination with artificial intelligence and big data, as well as for genetic modification of plants and animals. Nanotechnology – the manufacture and use of materials at an infinitesimal scale – has important applications in water supply (water purification), energy (battery storage), agriculture (precise management of the release of agrochemicals), ICT (reducing the size of electronic components) and medicine (delivery mechanisms for medication). Renewable energy technologies allow the provision of electricity in remote and isolated rural areas inaccessible to centralized grid systems, while drones could revolutionize the delivery of supplies, enable precision agriculture and replace humans in dangerous tasks. Small-scale customized satellites will soon be affordable for more developing countries, businesses and universities, allowing monitoring of crops and environmental damage.

Addressing the challenges of inclusiveness and sustainability in the context of the 2030 Agenda for Sustainable Development requires (a) broadening the strategic focus of STI policy to integrate societal challenges at its core; (b) internalizing the direct and indirect contributions of innovations to economic, social and environmental aspects of sustainable development; and (c) fostering transformative innovations with the potential to supplant unsustainable practices and systems.

At the other end of the spectrum, new concepts of innovation are emerging that focus on inclusiveness, including pro-poor, inclusive, frugal, grass-roots and social innovation. Policies to support such approaches can help extend the benefits of innovation to previously excluded groups, promote informal innovation by marginalized groups, include local communities in the innovation processes, and promote innovations in social relationships, practices and structures to address social needs and improve well-being.

The Commission on Science and Technology for Sustainable Development

Global collaboration in scientific research has grown considerably over recent decades, opening new opportunities for the combination of the most advanced scientific capabilities, with detailed local knowledge in key areas of sustainable development. The capacities of many developing countries to participate in such collaboration have increased considerably. To direct such networks firmly towards achievement of the Sustainable Development Goals, Governments need to move beyond funding and managing R&D to influencing networks, which requires an understanding of their formation, organization, norms, dynamics, motivations and internal control mechanisms. Key interventions include (a) funding; (b) convening international events on particular aspects of the Sustainable Development Goals; (c) supplementing research grants with targeted support for travel and communications; (d) establishing prizes and awards; (e) establishing national platforms for collaborators on issues related to the Sustainable Development Goals; and (f) framing local problems in such a way as to attract international research attention. Development impact can be enhanced by mapping existing scientific knowledge and current research against local needs, to target research and avoid redundancy, and by the use of gap analysis to develop sufficient absorptive capacity to retain knowledge locally. Changes in financing also offer new opportunities for funding innovation. Policies can usefully support the emergence of venture capital financing, where the basic conditions exist (notably significant high-tech activity and scope for the creation of a critical mass of start-ups), and the development of active angel investment networks, including through support to upgrading of entrepreneurs. While the absence of active stock exchanges is an obstacle to developing venture capital, this can be averted by access to initial public offerings on foreign stock markets or regional exchanges, or by establishing secondary exchanges for small and medium-sized enterprise (SME) listings (thus making the investment in venture capital more liquid and hence more attractive), which can also create additional channels for risk financing.

Conclusion

The world is heading to a large energy crisis unless countries work together and intervene in accomplishing realistic goals set and closing the disparity found in the share of research and development in tech and science for harvesting renewable Energy Sources. This committee will be expected to give respective feasible solutions that will not only solve the immediate problems but evaluate long term impact and solve the energy crisis.

Links to Research

<http://unctad.org/en/Pages/CSTD.aspx>

http://unctad.org/en/PublicationsLibrary/diae2012misc1_en.pdf

http://unctad.org/en/PublicationsLibrary/osgiomisc2017_en.pdf

http://unctad.org/en/PublicationsLibrary/tir2018overview_en.pdf

<https://www.seforall.org/>

<https://www.un.org/development/desa/en/news/sustainable/sdg7conference-summary.html>

<https://www.oecd-ilibrary.org/references-and->

<https://www.un.org/sustainabledevelopment/climate-change-2/>

<https://www.un.org/sustainabledevelopment/blog/2017/04/more-action-needed-to-meet-energy-goals-by-2030-new-report-finds/>

http://unctad.org/Sections/dite_dir/docs/panel2009in_energy_en.pdf