

RESOLUTION 66 (Rev. Kigali, 2022)

Information and communication technology, environment, climate change and circular economy

The World Telecommunication Development Conference (Kigali, 2022),

recalling

- a)* Resolution 182 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the role of telecommunications/information and communication technologies (ICTs) in regard to climate change and the protection of the environment;
- b)* Resolution 1353 adopted by the 2012 session of the ITU Council, which recognizes that telecommunications and ICTs are essential components for developed and developing countries¹ in achieving sustainable development, and instructs the Secretary-General, in collaboration with the Directors of the Bureaux, to identify new activities to be undertaken by ITU to support developing countries in achieving sustainable development through telecommunications and ICTs;
- c)* Resolution 73/247 (2018) of the United Nations General Assembly (UNGA), which recognizes the potential benefits for countries to transform their economies to promote sustainable consumption and production patterns, by engaging with partners to integrate or implement concepts such as circular economy and Industry 4.0 for more sustainable industrial activity and manufacturing systems, according to national plans and priorities;
- d)* Resolution 34 (Rev. Kigali, 2022) of this conference, on the role of telecommunications/information and communication technology in disaster preparedness, early warning, rescue, mitigation, relief and response;
- e)* Resolution 73 (Rev. Geneva, 2022) of the World Telecommunication Standardization Assembly (WTSA), on ICTs, environment, climate change and circular economy, instructing the ITU Telecommunication Standardization Sector (ITU-T) in this area;

¹ These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- f)* Recommendation ITU-D 21 (Dubai, 2014), on ICT and climate change;
- g)* the outcomes of the United Nations Climate Change Conferences, and the main outcomes of the Conference of the Parties to the Basel Convention on the Environmentally Sound Management of E-waste;
- h)* Resolution 79 (Rev. Geneva, 2022) of WTSA, on the role of telecommunications/ICTs in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it;
- i)* the outcomes of ITU-T Study Group 5 on environment, climate change and circular economy, which is responsible for studies on methodologies for evaluating the effects of ICT on climate change and also for studying design methodologies to reduce environmental effects, for example recycling of ICT facilities and equipment;
- j)* UNGA Resolution 70/1, on transforming our world: the 2030 Agenda for Sustainable Development,

considering

- a)* the need to face the emergency derived from climate change through effective actions, the role that ITU can play in achieving sustainable use of ICTs, and the importance of promoting sustainable development and the ways in which ICTs can enable clean development;
- b)* that the consequences of developing countries' lack of preparation in the past have recently come to light, and that without preparation they risk significant adverse impact, including the repercussions of rising sea levels for many coastal areas in developing countries;
- c)* that the concept of SMART (scientific monitoring and reliable telecommunication) cables includes scientific sensors mounted in the repeaters of submarine cables to measure ocean-bottom temperature, pressure and seismic acceleration;

d) that the role of ICTs in tackling the challenge of climate change encompasses a wide array of activities, including, but not limited to: the development of energy-efficient devices, applications and networks; the development of energy-efficient working methods; the implementation of satellite and ground-based remote-sensing platforms for environmental observation, including weather monitoring, as well as innovative undersea sensing technology, including SMART submarine telecommunication cables; and the use of ICTs to warn the public of dangerous weather events and provide communication support for governmental and non-governmental aid providers;

e) that, in processes for extracting raw materials from recycled products, caution must be exercised over the procedures used in order to ensure low environmental pollution levels;

f) the results of work by Study Group 2 of the ITU Telecommunication Development Sector (ITU-D) on ICT and climate change,

considering further

the outcome document adopted by the United Nations Conference on Sustainable Development (Rio+20), entitled "The Future we want", reflecting the renewed commitment to advancing sustainable development and achieving environmental sustainability, and recognizing the important role of ICTs,

noting

a) current and future work on ICTs and climate change, including the work in relevant ITU study groups such as ITU-T Study Group 5 and ITU-D Study Group 2, which focus on the study of climate change, e-waste and human exposure to electromagnetic fields;

b) that it is important to facilitate an environment in which ITU Member States, Sector Members and other stakeholders may cooperate to obtain and effectively use remote-sensing data for the purposes of research in climate change, disaster management and public administration;²

² This includes areas such as water management, air quality, agriculture, fishing, health, energy, environment, ecosystems and pollution control.

c) that there are other international forums that are working on climate-change issues with which ITU should cooperate,

recognizing

a) that ITU, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO) and the World Meteorological Organization (WMO) established the Joint Task Force to investigate the use of submarine telecommunication cables for ocean and climate monitoring and disaster warning (JTF SMART Cable Systems) in late 2012;

b) that the information obtained from SMART cables can be used for:

i) climate-change monitoring (ocean circulation, heat content and sea-level rise);

ii) seismic monitoring (earth structure and related hazards);

iii) near-to-far field tsunami and earthquake early warning, contributing to disaster risk reduction;

iv) warning of hazards to cables, and improved routing of cable systems;

v) quantifying risk to inform sustainable development of coastal and offshore infrastructure,

resolves

1 to give priority to ITU-D activities in this area and to providing the necessary support, while ensuring appropriate coordination among the three ITU Sectors on a full range of issues, including, for example, studies on the impact of non-ionizing radiation;

2 to continue and further develop ITU-D activities on ICTs, environment, climate change and circular economy in order to contribute to the wider global efforts to mitigate and adapt to climate change;

3 to include, as a priority, assistance to developing countries in strengthening their human and institutional capacity in tackling ICTs and climate change, as well as in areas such as climate-change adaptation, as a key element of disaster-management planning;

4 to increase awareness and promote information-sharing on the role of ICTs in enhancing environmental sustainability, in particular by promoting the use of more energy-efficient³ devices and networks and more efficient working methods, as well as ICTs that can be used to replace or displace higher energy consuming technologies/uses;

5 to promote the development and application of renewable energy systems where appropriate, to support ICT operations and in particular continuity and resilience during disasters;

6 to set up e-learning programmes related to ICT, environment, climate change and the circular economy, including on relevant ITU Recommendations, within available resources,

instructs the Director of the Telecommunication Development Bureau, in collaboration with the Directors of the other Bureaux

1 to formulate a plan of action for the role of ITU-D in this regard, taking into account the role of the other two Sectors;

2 to ensure that the plan of action is implemented under the relevant objective of the Kigali Action Plan dealing with ICTs, environment, climate change and circular economy, taking into account the needs of developing countries, and cooperating closely with the study groups of the other two Sectors and with ITU-D Study Group 2 in its implementation of the relevant Questions;

3 to promote liaison with other relevant organizations in order to avoid duplication of work and optimize the use of resources;

4 to organize, in close collaboration with the Directors of the Radiocommunication Bureau and the Telecommunication Standardization Bureau and with other competent bodies, workshops, seminars and training courses in developing countries at the regional level for the purpose of raising awareness and identifying key issues;

5 to report on progress on the implementation of this resolution annually at the meeting of the Telecommunication Development Advisory Group;

³ With respect to efficiency, promotion of efficient use of materials used in ICT devices and network elements should also be a consideration in ITU-D activity.

6 to ensure, within the available budget of the Union, in implementing the Kigali Action Plan, that appropriate resources are allocated for initiatives related to ICTs and climate change;

7 to develop pilot projects aimed at bridging the standardization gap on environmental sustainability issues, in particular in developing countries, and gauge the needs of the developing countries in the field of ICTs, environment, climate change and circular economy, within available resources;

8 to support the development of reports on ICTs, environment, climate change and circular economy, taking into consideration relevant studies in ITU-D study groups, and to assist affected countries with utilizing relevant applications for disaster preparedness, mitigation and response, and management of telecommunication/ICT waste;

9 to assist developing countries in undertaking proper assessment of the magnitude of e-waste and pilot projects, to achieve environmentally sound management of e-waste through e-waste collection, dismantling, refurbishment and recycling, as well as a lifecycle approach to electronic products, considering the work carried out by ITU-T Study Group 5;

10 to assist developing countries in initiating projects that achieve the sustainable and smart management of water resources through the use of ICTs;

11 to assist developing countries in initiating projects on disaster prediction, detection, monitoring, response and relief;

12 to support the ITU study groups in examining the benefits of undersea sensing technologies and in studying the technical, financial, legal and regulatory issues, including the standardization and specification of sensors and cables undertaken in ITU-T that could foster their adoption, in particular in relation to near-to-far field tsunami and earthquake early warning and in seismic monitoring;

13 to continue collaboration with relevant stakeholders to increase ITU members' awareness/knowledge of undersea sensing technologies and to exchange up-to-date information that allows the reuse and repair of telecommunication/ICT equipment for sustainable use of ICTs;

14 to consider possible changes to working methods in order to meet the objectives of this resolution, such as extending the use of electronic means, virtual conferencing, teleworking, etc.,

invites Member States, Sector Members and Associates

1 to continue to contribute actively to the ITU-D work programme on ICTs, environment, climate change and circular economy;

2 to continue or initiate public and private programmes that include ICTs and climate change, giving due consideration to relevant ITU initiatives;

3 to take necessary measures to reduce the effects of climate change by developing and using more energy-efficient ICT devices, applications and networks;

4 to continue supporting the work of the ITU Radiocommunication Sector in remote sensing (active and passive) for environmental observation⁴ in accordance with relevant resolutions adopted by radiocommunication assemblies and world radiocommunication conferences;

5 to integrate the use of ICTs as an enabling tool to address and combat the effects of climate change in national adaptation and mitigation plans;

6 to incorporate environmental indicators, conditions and standards in their national ICT plans;

⁴ Environmental observation can be used to forecast weather and warn the public in the case of natural disasters, and to gather information on dynamic environmental processes and systems.

7 to liaise with their relevant national entities responsible for environmental issues in order to support and contribute to the wider United Nations process on climate change, by providing information and developing common proposals related to the role of telecommunications/ICTs in mitigating and adapting to the effects of climate change, so that they can be taken into consideration within the United Nations Framework Convention on Climate Change (UNFCCC).