RESOLUTION ITU-R 60-3

Reduction of energy consumption for environmental protection and mitigating climate change by use of ICT/radiocommunication technologies and systems

(2012-2015-2019-2023)

The ITU Radiocommunication Assembly,

considering

a)   that the issue of climate change is rapidly emerging as a global concern and requires global collaboration;

b)   that climate change is one of the major factors causing emergency situations and natural disasters afflicting humankind;

c)   that the United Nations Intergovernmental Panel on Climate Change (IPCC) estimated that global greenhouse gas (GHG) emissions have risen significantly, having an effect on global warming, changing weather patterns, rising sea levels, desertification, shrinking ice cover and other long-term effects;

d)   that information and communication technologies (ICTs), which include radiocommunication technology, contribute approximately 2-2.5 per cent of GHG emissions, which may grow as ICTs become more widely available;

e)   that ICT/radiocommunication systems can make a substantial contribution to mitigating and adapting to the effects of climate change;

f)   that wireless technologies and systems are effective tools for monitoring the environment and predicting natural disasters and climate change;

g)   that ITU, at the United Nations Conference on Climate Change in Bali, Indonesia, on 3-14 December 2007, highlighted the role of ICTs as both a contributor to climate change, and an important element in tackling the challenge;

h)   that ITU-R Reports and Recommendations that address potential energy-saving mechanisms applicable to different radiocommunication services can contribute to the development of systems and applications that operate in these services;

i)   that network infrastructure sharing may reduce energy consumption,

further considering

a)　　　that the ITU Plenipotentiary Conference approved Resolution 182 (Rev. Bucharest, 2022), on the role of telecommunications/ICTs in regard to climate change and the protection of the environment, which instructs ITU to continue applying ICTs to address the causes and effects of climate change and strengthen collaboration with other organizations working in the field, and encourages the Union to raise public and policy-maker awareness of the critical role of ICTs in addressing climate change;

b)　　　that Question ITU-R 147/6 addresses what direct and indirect impact the technologies and features used for broadcasting have on energy consumption;

c)　　　that the ITU-T work programme developed on the basis of Resolution 73 (Rev. Geneva, 2022) of the World Telecommunication Standardization Assembly (WTSA) does not contain specific studies focusing on energy consumption related to radio-transmission technology or planning characteristics of radio networks;

d)　　　ITU-D Question 3/1, on the use of telecommunications/ICTs for disaster risk reduction and management, resources, and active and passive space-based sensing systems as they apply to disaster and emergency relief situations;

e)　　　that ITU-D Question 6/2 examines the links between ICTs, climate change, GHG emission reduction and development, as these fields become increasingly interlocked due to the magnifying effect of climate change on existing development challenges and vulnerabilities;

f)　　　that ITU-D Question 6/2 also addresses the role of Earth observation in climate change, as this radio technique is essential for monitoring the state of the Earth in terms of climate and its evolution,

taking into account

a)　　　Resolutions **673 (Rev.WRC-12)**, on the importance of Earth observation radiocommunication applications, and **646 (Rev.WRC-19)**, on public protection and disaster relief, adopted by the World Radiocommunication Conference;

b)　　　Resolution ITU-R 55, on ITU studies of disaster prediction, detection, mitigation and relief, adopted by the Radiocommunication Assembly;

c)　　　Resolution 66 (Rev. Kigali, 2022), on information and communication technology, environment, climate change and circular economy, adopted by the World Telecommunication Development Conference;

d)　　　Resolution 73 (Rev. Geneva, 2022), on information and communication technologies, environment, climate change and circular economy, adopted by the World Telecommunication Standardization Assembly,

noting

a) the leadership of ITU-R, in collaboration with the ITU membership, in identifying the necessary radio-frequency spectrum for climate monitoring and disaster prediction, detection and relief, including the establishment of cooperative arrangements with the World Meteorological Organization (WMO) in the field of remote-sensing applications;

b) Recommendation ITU-R RS.1859, "Use of remote sensing systems for data collection to be used in the event of natural disasters and similar emergencies", and Recommendation ITU-R RS.1883 "Use of remote sensing systems in the study of climate change and the effects thereof";

c) Report ITU-R BT.2521, "Practical examples of actions to realize energy aware broadcasting";

d) Report ITU-R BT.2385, "Reducing the environmental impact of terrestrial broadcasting systems";

e) Report ITU-R RS.2178, "The essential role and global importance of radio spectrum use for Earth observations and for related applications";

f) Volume 4 – Intelligent Transport Systems – of the ITU-R Handbook on Land Mobile (including Wireless Access), which describes the use of radio technologies for minimizing transportation distances and cost, with a positive effect on the environment, and the use of cars as an environment-monitoring tool to measure air temperature, humidity and precipitation, with data sent through wireless links for weather forecasting and climate control;

g) that ITU-R provides an opportunity to share technical information about evolution of new methods and technologies to reduce energy consumption within a radio system or by the use of a radio system,

resolves

1 that ITU-R Study Groups develop Recommendations, Reports or Handbooks on:

– best practices in place to reduce energy consumption within ICT systems, equipment or applications operating in a radiocommunication service;

– possible development and use of radio systems or applications which can support reduction of energy consumption in non-radiocommunication sectors;

– effective systems for monitoring the environment and monitoring and predicting climate change, and ensuring reliable operation of such systems;

2 that ITU-R Study Groups, when developing new ITU-R Recommendations, Handbooks, or Reports or reviewing existing Recommendations or Reports, take into account, as appropriate, energy consumption as well as best practices to conserve energy;

3	to maintain close cooperation and to regularly liaise with ITU-T, ITU-D and the General Secretariat, and to take into account the results of the work carried out in these Sectors and avoid duplication,

instructs the Director of the Radiocommunication Bureau

1	to take the necessary measures, in conformity with Resolution ITU-R 9, to further strengthen collaboration among ITU-R, ISO, IEC, the International Special Committee on Radio Interference (CISPR) and other bodies as appropriate, with a view to cooperating in identifying and fostering implementation of all appropriate measures to reduce power consumption in radiocommunication devices and to utilize radiocommunications/ICTs in monitoring and mitigation of the effects of climate change, *inter alia*, in order to contribute to a global reduction of energy consumption;

2	to report annually to the Radiocommunication Advisory Group and to the next Radiocommunication Assembly on the results of studies in the application of this Resolution,

invites Member States, Sector Members and Associates

1	to contribute actively to ITU-R's work in the field of radiocommunications and climate change, taking due account of relevant ITU initiatives;

2	to continue to support ITU-R's work in the field of remote sensing (active and passive) for monitoring of the environment,

invites standardization, scientific and industrial organizations

to contribute actively to the work of the Study Groups related to their activities specified in *resolves* 1 and 2.