INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

WORLD TELECOMMUNICATION STANDARDIZATION
ASSEMBLY
Dubai, 20-29 November 2012

Resolution 73 – Information and communication technologies, environment and climate change

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

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RESOLUTION 73

Information and communication technologies, environment and climate change

(Johannesburg, 2008, Dubai, 2012)

The World Telecommunication Standardization Assembly (Dubai, 2012),

recalling

a) Resolution 35 (Kyoto, 1994) of the Plenipotentiary Conference, on telecommunication support for the protection of the environment;

b) Resolution 1307 (Geneva, 2009) of the ITU Council, on information and communication technologies (ICTs) and climate change;

c) Resolution 182 (Guadalajara, 2010) of the Plenipotentiary Conference, on the role of telecommunications/ICTs in regard to climate change and the protection of the environment;

d) Resolution 1353 (Geneva, 2012) of the Council, which recognizes that telecommunications and ICTs are essential components for developed and developing countries[1] 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,

considering

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

b) that the United Nations Intergovernmental Panel on Climate Change (IPCC) estimated that global greenhouse gas (GHG) emissions had risen by more than 70 per cent since 1970, having an effect on global warming, changing weather patterns, rising sea-levels, desertification, shrinking ice cover and other long-term effects;

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

d) the work being undertaken following agreements to the Bali, Roadmap, Cancun Agreements and Durban Platform and the importance of reaching international agreement on an effective post-2012 outcome;

e) the role that ICTs and ITU can play in contributing to the implementation of such agreements;

f) the importance of promoting sustainable development and the ways in which ICTs can enable clean development;

g) the initiatives taken in some regions;

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

h) that the e-waste African programme under the Basel Convention (Annexes VIII and IX) is a comprehensive programme initiative aiming to enhance the environmental governance of e-waste and to create favourable social and economic conditions for partnerships and small businesses in the recycling sector in Africa,

considering also

a) the ITU Telecommunication Standardization Sector (ITU-T) Technology Watch Briefing Report No. 3 (2007), which highlighted the issue of climate change and the role of ICTs;

b) in addition to the work in ITU-T, the ITU Radiocommunication Sector (ITU-R) and ITU Telecommunication Development Sector (ITU-D) initiatives in considering climate change and the role of ICTs;

c) that ITU Recommendations that focus on energy-saving systems and applications can play a critical role in the development of ICTs;

d) 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;

e) the report entitled "Strategy for a climate-neutral United Nations", prepared by the Environment Management Group, and the endorsement by the Chief Executives Board (CEB) in October 2007 of the strategy committing the United Nations system to attain climate neutrality;

f) the standards-development activities on ICTs and climate change by, for example, relevant ITU-T study groups in work related to ubiquitous sensor networks (USN), which allow the detection, storage, processing and integration of situational and environmental information gathered from sensor devices connected to telecommunication networks;

g) the outcomes of the Symposia on "ICTs and Climate Change";

h) the activities and outcomes of the Focus Group on ICTs and Climate Change from July 2008 to April 2009;

i) that ITU-T Study Group 5 has led development of relevant standards to facilitate low-carbon ICTs and promote the adoption of low-carbon ICTs in other industries;

j) the responsibilities of ITU-T Study Group 5, as the lead study group for study of the ICT environmental aspects of electromagnetic phenomena and climate change, including design methodologies to reduce environmental effects, such as recycling related to ICT facilities, equipment, etc.;

k) the work in the Joint Coordination Activity on ICT and Climate Change under ITU-T Study Group 5,

considering further

a) the outcome document adopted by Rio+20, entitled "The Future We Want", reflecting the renewed commitment to advancing sustainable development and achieving environmental sustainability;

b) that the outcome document recognizes that ICTs are facilitating the flow of information between governments and the public, highlighting the need to continue working towards improved access to ICT, especially broadband networks and services, and to bridge the digital divide, recognizing the contribution of international cooperation in this regard;

c)   that the Rio+20 conference has called for further mainstreaming of the three dimensions of sustainable development throughout the United Nations system, inviting UN specialized agencies to consider appropriate measures for integrating the social, economic and environmental dimensions across the UN system's operational activities and to support developing countries upon request to achieve sustainable development,

noting

a)   that, in the report of the conclusions from the 2008 Global Standards Symposium (GSS), it was recognized that the ICT industry and its members can set an example by committing to specific programmes, with objectives, that reduce overall GHG emissions (e.g. the power consumption of ICT devices) and to ensuring that the expansion of the global communications network is done in an environmentally-friendly manner;

b)   the outcomes of the conferences of the United Nations Framework Convention on Climate Change (UNFCCC);

c)   the Dynamic Coalition on Internet and Climate Change;

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

recognizing

a)   that ICTs can make a substantial contribution to mitigating and adapting to the effects of climate change;

b)   that ICTs play a vital role in tackling environmental challenges such as climate change, e-waste, deforestation, lack of access to energy, energy consumption and biodiversity, by supporting basic scientific research, which has helped to bring the issue of climate change into the public domain and to raise awareness of future challenges;

c)   that a future high-bandwidth, lower-carbon information society offers a platform for economic, social and cultural development that is sustainable;

d)   that the adverse effects of climate change may be uneven in their impact and may fall disproportionately on the most vulnerable countries, mainly the developing countries, given their limited capacity to adapt;

e)   that ICTs contribute approximately 2-2.5 per cent of GHG emissions, which may grow as ICTs become more widely available;

f)   that ICTs can, however, be a major mitigating factor in efforts to moderate climate change and to limit and ultimately reduce GHG emissions and energy consumption through, for example, the development and introduction of energy-efficient devices, applications and networks;

g)   that the use of ICTs as a key component of energy-efficient work methods could include the reduction of emissions through, for example, paperless meetings, virtual conferencing, teleworking, etc., which in turn would be beneficial in terms of reducing the need to travel;

h)   that, as an actual case study, the Virtual International Symposium on ICTs and Climate Change was co-organized by ITU and Korea Communications Commission (KCC);

i)   that ICTs are essential for climate monitoring, data gathering and rapid information transfer relating to risks of climate change, and that adequate telecommunication networks are essential in ensuring that communications reach people and the appropriate relief organizations;

j) that ICTs, through the development of smart grids, can enable wider access to electricity, better management of energy distribution, in particular in developing countries, and full exploitation of renewable sources;

k) that, since the energy consumption of the Internet, data centres and always-on connected devices will continue to grow, cloud computing is a critical enabling technology that can lead to energy efficiencies and accelerate the transition for countries and companies to a low-carbon economy;

l) that climate change endangers the quality and availability of water and food, by causing severe storms, heatwaves, droughts and floods, while worsening the quality of air;

m) that better water management using ICTs improves the overall efficiency of water use, leading to significant savings and more sustainable use of water resources;

n) that the widespread use of electrical and electronic equipment (EEE) has raised public awareness of its positive effects, such as reduction of the digital divide, but also of the negative environmental and health effects associated with inefficient waste management of end-of-life electrical and electronic equipment (WEEE or e-waste),

resolves

1 to continue and further develop the ITU-T work programme initially launched in December 2007 on ICTs and climate change, as a high priority, in order to contribute to the wider global efforts to moderate climate change, as part of the United Nations processes;

2 to take into account the progress already made in the international symposia on ICTs, environment and climate change, held in various parts of the world[2] by distributing their outcomes as widely as possible;

3 to continue to maintain and update the ITU-T Global Portal on ICTs, Environment and climate change, extending its features by developing an electronic and interactive forum to share information and to disseminate ideas, standards and best practices on the relationships between ICTs and environmental sustainability, experiences and practices for disclosure, labelling schemes and recycling facilities;

4 to promote the adoption of Recommendations for enhancing the use of ICTs to serve as a potent and cross-cutting tool to assess and reduce GHG emissions, optimize energy and water consumption, minimize e-waste and improve its management across economic and social activities;

5 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-efficient[3] 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;

6 to work towards the reductions in emissions of GHGs arising from the use of ICTs that are necessary to meet the goals of UNFCCC;

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[2] Kyoto, Japan, 15-16 April 2008; London, United Kingdom, 17-18 June 2008; Quito, Ecuador, 8-10 July 2009; Seoul Virtual Symposium, 23 September 2009; Cairo, Egypt, 2-3 November 2010; Accra, Ghana, 7-8 July 2011; Seoul, Republic of Korea, 19 September 2011; and Montreal, Canada, on 29-31 May 2012.

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

7   to work towards a reduction of the adverse environmental impact of environmentally unfriendly materials used in ICT products;

8   to bridge the standardization gap by providing technical assistance to countries to develop their national green ICT action plans, and develop a reporting mechanism in order to support countries in implementing their Plan;

9   to set up e-learning programmes on Recommendations related to ICT, the environment and climate change,

instructs the Telecommunication Standardization Advisory Group

1   to coordinate the activities of ITU-T study groups in relation to their review of relevant standardization activities of other standards developing organizations (SDOs) and facilitate collaboration between ITU and those SDOs in order to avoid duplication of, or overlap in, international standards, through in particular the JCA on ICT and Climate Change;

2   to ensure that study groups carry out a review of both the appropriate existing ITU-T Recommendations and all future Recommendations to assess their implications and the application of best practices in the light of the protection of environment and climate change;

3   to consider further possible changes to working procedures in order to meet the objective of this resolution, including extending the use of electronic working methods to reduce the climate-change impact, such as paperless meetings, virtual conferencing, teleworking, etc.,

instructs all ITU-T study groups

1   to cooperate with ITU-T Study Group 5 to develop appropriate Recommendations on ICTs, the environment and climate-change issues within the mandate and competency of ITU-T, including telecommunication networks used for monitoring and adapting to climate change, for example disaster preparedness, signalling and quality of service issues, taking into account any economic impact on all countries and in particular on developing countries;

2   to identify best practices and opportunities for new applications using ICTs to foster environmental sustainability, and to identify appropriate actions;

3   to liaise with the relevant ITU-R and ITU-D study groups and promote liaison with other standards development organizations and forums in order to avoid duplication of work, optimize the use of resources and accelerate the availability of global standards,

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

1   to report on progress on the application of this resolution annually to the ITU Council and to the 2016 world telecommunication standardization assembly;

2   to keep up to date calendar of events relevant to ICTs, the environment and climate change based on proposals by TSAG and in close collaboration with the other two Sectors;

3   to launch pilot projects, aimed at bridging the standardization gap, on environmental sustainability issues, in particular in developing countries;

4   to support the development of reports on ICTs, the environment and climate change, taking into consideration relevant studies, in particular the ongoing work of ITU-T Study Group 5, including issues related to, *inter alia*, green data centres, smart buildings, green ICT procurement, cloud computing, energy efficiency, smart transportation, smart logistics, smart grids, water management, adaptation to climate change and disaster preparedness, and how the ICT sector

contributes to annual reductions in GHG emissions, and submit the reports as soon as possible to ITU-T Study Group 5 for its consideration;

5   to organize workshops and seminars for developing countries, to raise awareness and identify their particular needs and challenges on environment and climate change issues;

6   to report on progress of the ITU/WMO/UNESCO IOC Joint Task Force to investigate the potential of using submarine telecommunication cables for ocean and climate monitoring and disaster warning;

7   to promote the ITU-T Global Portal on ICTs, environment and climate change and its use as an electronic forum for exchange and dissemination of ideas, experience and best practices on ICTs, the environment and climate change;

8   to report to TSAG on the progress regarding *invites the Secretary-General* below,

invites the Secretary-General

to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts for the effective addressing of climate change,

invites Member States, Sector Members and Associates

1   to continue to contribute actively to ITU-T Study Group 5 and other ITU-T study groups on ICTs, the environment and climate change;

2   to continue or initiate public and private programmes that include ICTs, the environment and climate change, giving due consideration to relevant ITU-T Recommendations and relevant work;

3   to share best practices and raise awareness of the benefits associated with the use of green ICTs in accordance with ITU Recommendations related to the matter;

4   to promote the integration of ICT, climate, environment and energy policies in order to improve environmental performance and enhance energy efficiency and resource management;

5   to integrate the use of ICT into national adaptation plans to make use of ICTs as an enabling tool to address the effects of climate change;

6   to liaise with their national counterparts 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 UNFCCC.