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| **RESOLUTION GSC-15/08: (Plenary) ICT and the Environment (Revised)** |

The 15th Global Standards Collaboration meeting (Beijing, 30 August – 2 September 2010)

**Recognizing:**

1. that the impact of Information and Communications Technologies (ICTs) on the environment is far-reaching, with both positive and negative effects;
2. that among the positive impacts of ICTs are their use in improving environmental monitoring, reducing energy consumption and alleviating air pollution; however, included among the negative effects, related to the ongoing growth of the Internet and rapidly increasing rates of digital adoption, are the creation, deployment and proper disposal of ICTs;
3. that key environmental challenges facing society include energy consumption and measures to enhance efficiency, recycling harmonization, as well as climate change;
4. that the ICT industry supports sustainable solutions in which its environmental responsibility, societal obligations, and economic viability must be considered on balance; and
5. that climate change is a concern for all of humanity and requires efforts on the part of all sectors of society, including the ICT sector.

**Considering:**

1. that in Kyoto, in December 1997, the world took concrete steps to mitigate global warming with an international agreement to limit and reduce greenhouse gas(GHG) emissions; and the UN Framework Conventional on Climate Change (UNFCCC) will hold its next meeting, COP-16, in Cancun, Mexico from 29 November to 10 December, 2010;
2. that the United Nations Intergovernmental Panel on Climate Change (IPCC) estimated GHG emission had risen by more than 70% since 1970; and this is having a global effect in warming the planet, causing changing weather patterns, rising sea-levels, desertification, shrinking ice cover and other worrying long-term effects. It also foresees a further rise in average global temperatures of between 1.4 and 5.8° Centigrade by 2100;
3. that the ITU Symposia on ICTs and Climate Change (ICT&CC) were held in Kyoto, Japan, 15-16 April 2008, in London on 17-18 June, 2008, in Quito, Ecuador on 8-10 July, 2009, and the first virtual symposium in Seoul, Korea on 23 September 2009;
4. that the World Telecommunication Standardization Assembly adopted Resolution 73 (Johannesburg, 2008) entitled *Information and communication technologies and climate change*, which highlighted the need to increase awareness and promote information sharing on the role of ICTs in combating climate change, in particular by promoting the use of more energy-efficient 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. that the ITU World Telecommunication Policy Forum (Lisbon, 2009) adopted an Opinion entitled *ICT and the Environment*, which underlined the importance of work associated with climate change in its many facets including the global problems of the distribution of food, as well as the need for study on environmentally safe disposal and recycling of discarded ICT equipment;
6. that ITU-T Study Group 5, in May 2009, evolved its scope to address the Environment and Climate Change, established Working Party 3 and was assigned lead of a Joint Coordination Activity (JCA) to address environmental sustainability issues stemming from the ITU Focus Group on ICT and Climate Change deliverables;
7. that the need for continuing studies on the impact of ICT and the environment, the safe disposal and recycling of discarded ICT equipment and environmentally sound management of e-waste were highlighted in Council Resolution 1307 (Geneva, 2009) and Resolution [COM3/6] (Hyderabad, 2010) of the World Telecommunication Development Conference;
8. that Universal Power Adapter standardization to reduce the electronic wastes caused by the inability to reuse a power adapter has been undertaken by ITU-T Study Group 5 on new Recommendation L.1000 (L.adaptor): “Universal power adapter and charger solution for mobile terminals and other ICT devices”, by IEC on Micro USB battery charger interface and also by IEEE Standards Association. In addition, PSOs are also active in this area;
9. that power feeding systems using High Voltage Alternating and Direct Current (HVAC and HVDC) could result in a high system effectiveness, and could lower energy consumption;
10. that the standardization of Smart Grid and Cloud Computing, which are expected to contribute to reducing energy consumption, has started in the PSOs/Fora as well as the ITU-T;
11. that the use of ICTs can be a key component of energy-efficient standardization work methods could include the reduction of emissions through paperless meetings, virtual conferencing and tele-working, which in turn would be beneficial in terms of reducing the need to travel;
12. that ICTs can assist in mitigating climate change including through the reduction of GHG emissions in other industry sectors, the introduction and development of energy efficient devices, applications and networks, as well as their environmentally sound disposal;
13. that the ICT sector contributes in the range of 2-4% to the production of global CO2 emissions;
14. that standardization of the methodologies for the analysis, evaluation and quantification of the GHG reductions that may be achieved through the use of ICTs are important;
15. that active standardization work in ITU (both in T and R Sectors) and PSOs include studies on a host of solutions to include RFID and electronic sensors, which can help reduce consumption of energies by, for example, switching on lights only when necessary, or by adjusting heating requirements in buildings, and enabling retailers to reduce the need for warehousing or outlets which consume energy and materials;
16. that ITU-R, playing a vital role in the global management of the radio-frequency spectrum, and the national regulators will provide the necessary radio-frequency spectrum for climate monitoring, disaster prediction, detection and relief;
17. that ITU-R and PSOs are studying, not only on increasing service quality and the efficient use of the radio spectrum, but also on energy saving such as a reduction in the number of transmitters and of their transmitted power resulting from the transfer from analogue to digital techniques;
18. that new digital television transmitters consume almost 1/10 the energy of existing analogue versions and require 1/4-1/6 of spectrum per TV program;
19. that cooperative Intelligent Transport Systems (ITS) currently being standardized by PSOs provide an important tool to improve traffic management and traffic efficiency which will strongly contribute to reduced vehicle fuel consumption. ITS has therefore a high priority on the political environmental agenda;
20. that the ITU-T APSC TELEMOV provide global forums for the PSOs and others to discuss ITS standards issues;
21. that the implementation of Next Generation Networks (NGN) may result in significant energy savings;
22. that enhanced collaboration and cooperation is encouraged on existing and planned “Green” initiatives and activities being undertaken by the PSOs, including ATIS, ETSI, TIA, and others,

**Resolves:**

1. to encourage ongoing cooperation and collaboration among national, regional and international activities that relate to standardization in the field of ICT and the Environment, including issues relating to energy consumption and measures to enhance efficiency, recycling, as well as climate change;
2. to support “ICT and the Environment” as a High Interest Subject of GSC;
3. to encourage PSOs to share their views and experiences with all groups dealing with ICTs and the environment, e.g. the ITU-T SG5 “Environment and Climate Change” and JCA on ICTs and Climate Change, for the development of methodologies, power feeding and recycling;
4. to bring a spirit of collaboration and mutual support to the development of ICTs by taking the environmental aspects into consideration; and in particular addressing:

- awareness of the changing environment, impacts of ICTs and the need for sustainable solutions,

- energy-saving definitions, reference models, gap analysis, measurement methods, quantification methods, and requirements in a harmonized way,

- development of ICT standardization that can have a positive impact on the environment,

- electronic working methods and its tools,

- use of ICTs (e.g. USN, RFIDs etc.) for monitoring and measuring climate change,

- the study of environmentally safe disposal and recycling of discarded ICT equipment.

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