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| ITU logo | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATION STANDARDIZATION SECTOR**STUDY PERIOD 2017-2020 | TSAG-TD986 |
| **TSAG** |
| **Original: English** |
| **Question(s):** | N/A | E-Meeting, 11-18 January 2021 |
| **TD(Ref.:** [SG5-LS188](http://handle.itu.int/11.1002/ls/sp16-sg5-oLS-00188.docx)) |
| **Source:** | ITU-T Study Group 5 |
| **Title:** | LS on updated action plans for implementation of WTSA-16 Resolutions 72 and 73 (Rev. Hammamet, 2016) and Resolution 79 (Dubai, 2012) (human exposure to EMF, environment and climate change, and e-waste) [from ITU-T SG5] |
| **Purpose:** | Information |
| **LIAISON STATEMENT** |
| **For action to:** | - |
| **For comment to:** | - |
| **For information to:** | TSAG |
| **Approval:** | ITU-T Study Group 5 management team (15 December 2020 by correspondence) |
| **Deadline:** | N/A |
| **Contact:** | Shuguang Qi Acting Chairman ITU-T SG5 | Tel: +86 10 82053589-8858E-mail: qishuguang@caict.ac.cn  |
| **Contact:** | Fryderyk LewickiChairman of WP1/5 | Tel: +48 71 321 09 24E-mail: fryderyk.lewicki@orange.com  |
| **Contact:** | Paolo GemmaChairman of WP2/5 | Tel: +39 02 3999 4947Fax: +39 01119743499Email: paolo.gemma@huawei.com  |

A new liaison statement has been received from SG5.

This liaison statement follows and the original file can be downloaded from the ITU ftp server at <http://handle.itu.int/11.1002/ls/sp16-sg5-oLS-00188.docx>.

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| ITU logo | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATIONSTANDARDIZATION SECTOR**STUDY PERIOD 2017-2020 | **SG5-LS188** |
| **STUDY GROUP 5** |
| **Original: English** |
| **Question(s):** | All/5 |  |
| **Ref: SG5-TD1511-R3** |
| **Source:** | ITU-T Study Group 5 |
| **Title:** | LS on updated action plans for implementation of WTSA-16 Resolutions 72 and 73 (Rev. Hammamet, 2016) and Resolution 79 (Dubai, 2012) (human exposure to EMF, environment and climate change, and e-waste)  |
| **LIAISON STATEMENT** |
| **For action to:** | - |
| **For comment to:** | - |
| **For information to:** | TSAG |
| **Approval:** | ITU-T Study Group 5 management team (15 December 2020 by correspondence) |
| **Deadline:** | N/A |
| **Contact:** | Shuguang Qi Acting Chairman ITU-T SG5 | Tel: +86 10 82053589-8858E-mail: qishuguang@caict.ac.cn  |
| **Contact:** | Fryderyk LewickiChairman of WP1/5 | Tel: +48 71 321 09 24E-mail: fryderyk.lewicki@orange.com  |
| **Contact:** | Paolo GemmaChairman of WP2/5 | Tel: +39 02 3999 4947Fax: +39 01119743499Email: paolo.gemma@huawei.com |

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| --- | --- |
| **Keywords:** | Measurement and assessment, human exposure to electromagnetic fields, EMF, Information and Communication Technologies, ICTs, Environment, climate change, Circular Economy, E-waste. |
| **Abstract:** | WTSA Resolutions 72 and 73 (Rev. Hammamet, 2016) and Resolution 79 (Dubai, 2012) address, respectively, measurement and assessment concerns related to human exposure to electromagnetic fields; ICTs with regard to the environment and climate change; and the handling and controlling e-waste from telecommunications and ICTs equipment. This draft action plan has been prepared based on extracts from these three Resolutions. |

ITU-T Study Group 5 would like to share with TSAG the updated action plans for the implementation of WTSA Resolution 72 (Rev.Hammamet, 2016) “Measurement and assessment concerns related to human exposure to electromagnetic fields”, WTSA Resolution 73 (Rev. Hammamet, 2016) “Information and communication technologies, environment and climate change” and WTSA Resolution 79 (Dubai, 2012) “The role of telecommunications/information and communication technologies in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it”.

The action plans summarize activities undertaken by ITU-T SG5 in response to the above-mentioned Resolutions, as of 31 October 2020.

Please see below the three action plans outlined in Annexes 1, 2 and 3.

ITU-T SG5 looks forward to collaborating closely with TSAG.

**ANNEX I**

**Action plan for implementation of WTSA Resolution 72 (Rev. Hammamet, 2016):
Measurement and assessment concerns related to human exposure to electromagnetic fields**

| **ID** | **Directives** | **References (Res. 72)** | **Activities** | **Responsibilities****(as identified in the Resolution)** | **Time plan** | **Status(October 2020)** |
| --- | --- | --- | --- | --- | --- | --- |
| **Level 1** | **Level 2** |
| **1** | **1.1** | **Publish and disseminate technical reports related to human exposure to EMF, as well as developing ITU‑T Recommendations to address these issues** | *Resolves* (i) | Publish and disseminate technical reports related to human exposure to EMF | ITU-T SG5(Q3/5) | Ongoing | Completed work include the following Supplements and technical reports:* K.Suppl.14 to ITU-T K.series
* K.Suppl.19 to ITU-T K.series
* K.Suppl.16 to ITU-T K.series
* K.Suppl.1 to ITU-T K.91
* K.Suppl.4 to ITU-T K.91
* K.Suppl.9
* K.Suppl.13
* K.Suppl.14
* K.Suppl.20
 |
| **1.2** | Develop ITU‑T Recommendations to address concerns related to human exposure to EMF | ITU-T SG5(Q3/5) | Ongoing | Completed work include the following Recommendations: * K.52
* K..52 Amd.1-Appendix V
* K.61
* K.70
* K.70 Amd.1-Appendix I
* K.83
* K.90 Amd.1-Appendix II
* K.90
* K.91
* K.91 Amd.3-Appendix IX
* K. 91 Amd.1-Appendix VIII
* K.91 Amd.1-Appendix IX
* K.100
* K.121 Amd.1-Appendix II
* K.122
* K.145
 |
| **2** | **-** | **Develop, promote and disseminate information and training resources related to human exposure to EMF** | *Resolves* (ii) | Organize training programmes, workshops, forums and seminars for regulators | ITU-T SG5(Q3/5) | Ongoing | The following training programmes have been organized: 2017:* [Workshop “Towards setting the environmental requirements for 5G”](http://www.etsi.org/news-events/events/1217-towards-setting-environmental-requirements-for-5g), Sophia Antipolis, France
* [Workshop on “5G, EMF & Heath”](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/20171205/Pages/default.aspx), Warsaw, Poland

2018:* [Forum & Training on With ICTs everywhere - How safe is EMF?](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201804/Pages/programme10.aspx), Zanzibar, Tanzania.
* [III International Conference, EMF and Future of Telecommunication. Warsaw, Poland](https://pem.itl.waw.pl/media/documents/EMF_Conference_Programme_06122018_c25KEYa.pdf).

2019:* [Forum on “Human Exposure to Electromagnetic Fields (EMFs) in Africa](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/sg5rgafr/20190829/Pages/default.aspx)" at the [1st Digital African Week](https://www.itu.int/en/ITU-T/climatechange/Pages/1st-Digital-African-Week.aspx), Abuja, Nigeria.
* IV International Conference, EMF and Future of Telecommunication. Warsaw, Poland

2020:* ITU Regional Symposium for Europe and CIS on Spectrum Management and Broadcasting. 02 July 2020
* Workshop on safety and environmental concerns around telecommunications installations, Uganda, 11 August 2020
 |
| **3** | **3.1** | **Cooperate and collaborate with other organizations working on human exposure to EMF, and to leverage their work** | *Resolves* (iii) | Assist developing countries in the establishment of standards | ITU-T SG5(Q3/5) | Ongoing | ITU-T SG5 developed a [Supplement on The impact of RF-EMF exposure limits stricter than the ICNIRP or IEEE guidelines on 4G and 5G mobile network deployment](https://www.itu.int/rec/T-REC-K.Sup14-201909-I), which provides an overview of some of the challenges faced by countries, regions and cities that are about to deploy 4G or 5G infrastructures. It provides information on a simulation carried out in Poland of the impact of RF-EMF limits as an example of a wider phenomenon, applicable to several other countries that have set limits stricter than those contained in the ICNIRP or IEEE guidelines. The results of the simulation indicate that, where RF-EMF limits are stricter than ICNIRP or IEEE guidelines, the network capacity buildout (both 4G and 5G) might be severely constrained and prevent growing data traffic demand and the launching of new services on existing mobile networks being addressed. |
| **3.2** | Monitor compliance with these standards, especially on telecommunication installations and terminals | ITU-T SG5(Q3/5) | Ongoing | To be completed |
| **4** | **-** | **Cooperate on human exposure to EMF with ITU‑R and ITU-D** | *Resolves* (iii) | Cooperate with ITU-R SG1 and SG6, and ITU-D SG2 (Q7/2) | ITU-R SG1 and SG6; ITU-T SG5 (Q3/5); ITU-D SG2 (Q7/2) | Ongoing | The following LS has been sent:2017:* [SG5-LS4 - LS on Information about work being carried out under study in ITU-T Q3/5 [to ITU-R and ITU-D SG2]](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18446)
* [SG5-LS40 - LS/r on Information about work that is being carried out which is under study in ITU-T Q3/5; ITU-R and ITU-D](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18789)

2018:* [SG5-LS60 - LS on the work which is under study in ITU-T Q3/5](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=19224)
* [SG5-LS74 - LS/r on work being carried out under study in ITU-T Q3/5](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=20472)
* [SG5-LS82 - LS/r on collaboration in RF EMF, EMC and particle radiation effects](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=21499)

2019:* [SG5-LS116 - LS/r on work being carried out under study in ITU-T Study Group 5 Question 3/5](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22086)
* [SG5-LS120 - LS/r on work being carried out under study in ITU-T Q3/5](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22323)

2020:* [SG5-LS150 - LS/r on work being carried out in ITU-T SG5 on human exposure to EMF from ICTs](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23875)
* [SG5-LS184 - LS/r on work being carried out under study in ITU-T Q3/5](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26215)
 |
| **5** | **-** | **Strengthen coordination and cooperation with WHO on the EMF project** | *Resolves* (iv) | Ensure that any publications relating to human exposure to EMF are circulated to Member States as soon as they are issued | ITU-T SG5 (Q3/5); WHO | Ongoing | ITU-T SG5 keeps updated the website on ITU-T activities on human exposure to electromagnetic fields (EMFs) due to radio systems and mobile equipment.A Representative of WHO participates regularly in ITU-T SG5 meeting and provides updates of the work of WHO on EMF. The following outgoing LS has been sent: 2017:* [SG5-LS22 – LS on ITU-T Study Group 5 lead study group activities.](https://www.itu.int/net/ITU-T/ls/ls.aspx?isn=18430)

2018:* [SG5-LS61 – LS on the work under study in ITU-T Q3/5](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=19225)
* [SG5-LS65 - LS on ITU Intersectoral Response to “ICNIRP Public Consultation of the Draft ICNIRP Guidelines on Limiting EMF Exposure (100 kHz to 300 GHz)”](https://www.itu.int/net/ITU-T/ls/ls.aspx?isn=20470)
 |
| **6** | **6.1** | **Support development and dissemination of reports on human exposure to EMF** | *Instructs the Director...* (1) | Develop reports identifying the needs of developing countries on the issue of assessing human exposure to EMF | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | See point 3.1 |
| **6.2** | Submit the reports as soon as possible to ITU-T SG5 for its consideration and action in accordance with its mandate | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | See point 3.1Additionally, at its SG5 meeting held from 19 to 23 October 2020, ITU-T SG5 experts provided inputs to the report on “Background paper on Implementing 5G for Good: Does EMF matter” which is coordinated by the Regional Office for Europe.  |
| **7** | **-** | **Update the ITU-T portal on EMF activities** | *Instructs the Director...* (2) | Updates include, but not limited to, the ITU EMF Guide, links to websites, and flyers | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | The following webpages and portals on EMF activities have been updated: * <https://www.itu.int/en/ITU-T/emf/Pages/default.aspx>
* [ITU-T Recommendations on EMF](https://www.itu.int/en/ITU-T/emf/Pages/recommendations.aspx)
* [EMF Guide & Mobile App](https://www.itu.int/en/ITU-T/emf/Pages/activities.aspx#tab2)
* [EMF Estimator Software](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=9140)
 |
| **8** | **-** | **Hold workshops in developing countries on** **the use of equipment employed in assessing human exposure to RF energy**  | *Instructs the Director...* (3) | Provide presentations and training | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | See point 2 |
| **9** | **-** | **Extend support for developing countries while they establish regional centres equipped for monitoring of EMF levels** | *Instructs the Director...* (4) | Transparently provide data to the general public by using, *inter alia*, the modalities listed in Resolutions 44 (Rev. Hammamet, 2016) and 76 (Rev. Hammamet, 2016), and of Resolution 177 (Rev. Busan, 2014) | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | Recommendation ITU-T K.83 “Monitoring of electromagnetic field levels” was revised in order to include Examples of the existing websites with EMF monitoring results |
| **10** | **-** | **Report to WTSA-20** | *Instructs the Director...* (5) | Report to the next WTSA on measures taken to implement this Resolution | Director TSB(in collaboration with the Directors of BR and BDT) | Final SG5 meeting before WTSA-20 | Completed |

**ANNEX II**

**Action plan for implementation of WTSA Resolution 73 (Rev. Hammamet, 2016):
Information and communication technologies, environment and climate change**

| **ID** | **Directives** | **References (Res. 73)** | **Activities** | **Responsibilities****(as identified in the Resolution)** | **Time plan** | **Status(October 2020)** |
| --- | --- | --- | --- | --- | --- | --- |
| **Level 1** | **Level 2** |
| **1** |  | **Coordinate ITU-T study groups and facilitate collaboration between SDOs to avoid duplications and overlaps** | *Instructs TSAG* (1) | Coordinate the activities of ITU‑T study groups in relation to their review of relevant standardization activities of other standards development organizations (SDOs) and facilitate collaboration between ITU and those SDOs in order to avoid duplication of, or overlap in, international standards, through in particular JCA-ICT&CC | TSAG | Ongoing | The following Recommendations were jointly developed by ITU and ETSI EE/EE2: * [L.1207 “Progressive migration of a telecommunication/information and communication technology site to 400 VDC sources and distribution”](https://www.itu.int/rec/T-REC-L.1207/en)
* [L.1222 “Innovative energy storage technology for stationary use - Part 3: Supercapacitor technology”](https://www.itu.int/rec/T-REC-L.1222/en)
* [L.1210 “Sustainable power-feeding solutions for 5G networks”](https://www.itu.int/rec/T-REC-L.1210/en)
* [L.1221 “Innovative energy storage technology for stationary use - Part 2: Battery”](https://www.itu.int/rec/T-REC-L.1221/en)
* L.1300 series Recommendations

The following Recommendations/informative text were jointly developed by ITU, SBT, GSMA and GeSI: * [L.1470 “Greenhouse gas emissions trajectories for the information and communication technology sector compatible with the UNFCCC Paris Agreement”](https://www.itu.int/rec/T-REC-L.1470-202001-I/en)
* [L.Suppl.37 to ITU-T L.1470 “Guidance to operators of mobile networks, fixed networks and data centres on setting 1.5°C aligned targets compliant with Recommendation ITU-T L.1470”](https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=14318)

Ongoing collaboration with ETSI EE/EE2 on the following items: * L.EE\_slicing on “Energy efficiency and Slicing of IMT2020/5G”
* L.ENV-KPI-5G-ARCH: on “Environmental KPIs/metrics for 5G architectures”
* L.SM\_EN” Smart energy for cities and home applications”
* Draft Recommendations on “Assessment of material efficiency of ICT network goods (circular economy).

- L.Mat\_frame: Part 1: General for server and data storage equipment”- L.ME\_DD: Part 2: server and data storage product secure data deletion functionality.”- L.ME\_AF: Part 3: Server and data storage product availability of firmware and of security updates to firmware”- L.ME\_RM: Part 4: Server and data storage product critical raw materials”- L.ME\_DIS: Part 5: Server and data storage product disassembly and disassembly instructionOngoing collaboration within the Circular Economy PartnershipNote: The JCA-ICT&CC concluded in 2015 |
| **2** | **-** | **Ensure that study groups review of existing and future ITU-T Recommendations in light of environment protection and climate change** | *Instructs TSAG* (2) | Ensure that study groups carry out a review of both the appropriate existing ITU‑T Recommendations and all future Recommendations in order to assess their implications and the application of best practices in the light of the protection of environment and climate change | TSAG | Ongoing | ITU-T SG5 takes into consideration the progress on the technologies and revise the Recommendations that are under SG5 responsibilities to meet the current requirements |
| **3** | **-** | **Consider possible changes to working procedures in order to meet the objective of this Resolution** | *Instructs TSAG* (3) | 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 | TSAG | Ongoing | ITU-T SG5 meetings are carried out as paperless meetings  |
| **4** | **-** | **Cooperate with SG5 to develop appropriate Recommendations on ICTs, the environment and climate change issues** | *Instructs all ITU-T SGs* (1) | Cooperate with 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 | All ITU study groups | Ongoing | See list of ITU-T Recommendations on Environment, Climate Change and Circular Economy at: <https://www.itu.int/net/ITU-T/lists/standards.aspx?Group=5&Domain=28>  |
| **5** | **5.1** | **Identify and promote new applications for ICTs regarding environmental sustainability** | *Instructs all ITU-T SGs*(2, 3, 4, 5) | Identify best practices and opportunities, and actions, for new applications using ICTs to foster environmental sustainability | All ITU study groups | Ongoing | Ongoing work items being developed within SG5: * Supplement L.enablement “GHG emissions reductions enabled by actual implementation of ICT projects” and
* Supplement L.Decarbonisation “Decarbonisation strategies to implement Recommendation ITU-T L.1470 trajectories”

Ongoing work items being developed within [the Focus Group on Environmental Efficiency for Artificial Intelligence and other Emerging Technologies (](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Pages/default.aspx)FG-AI4EE):* Technical Report on “Connecting Environmental Efficiency of Digital Technologies to the Sustainable Development Goals”
* Technical report on “Visions of Best Practices on Artificial Intelligence and Blockchain in 2025”.
 |
| **5.2** | Identify and promote best practices towards implementing environmentally friendly policies and practices, and to share use cases and key success factors | All ITU study groups | Ongoing | ITU-T SG5 has developed:* ITU-T L.1304 “Procurement Criteria for Sustainable Data Centres”
* ITU-T L.1371 “A methodology for assessing and scoring the sustainability performance of office buildings”
* ITU-T L.Suppl.40 to ITU-T L.1371 “Scoring tool to assess the sustainability performance of office buildings”
* ITU-T L.1470 “Greenhouse gas emissions trajectories for the information and communication technology sector compatible with the UNFCCC Paris Agreement”
* ITU-T L.Suppl.37 "Guidance to operators of mobile networks, fixed networks and data centres on setting 1.5°C aligned targets compliant with Recommendation ITU-T L.1470"
* ITU-T L.Suppl.38 “Guidance to ICT manufacturers on setting 1.5°C aligned targets compliant with Recommendation ITU-T L.1470”

Ongoing work item being developed within SG5 * Supplement L.enablement “GHG emissions reductions enabled by actual implementation of ICT projects” and
* Supplement L.Decarbonisation “Decarbonisation strategies to implement Recommendation ITU-T L.1470 trajectories

Ongoing work items being developed within [the Focus Group on Environmental Efficiency for Artificial Intelligence and other Emerging Technologies (](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Pages/default.aspx)FG-AI4EE):* Technical Report on “Best Practice Catalogue on Environmental Efficient Artificial Intelligence and Blockchain Application”
* Deliverable on “Requirements of AI and other Emerging Technologies to Ensure Environmental Efficiency”.
 |
| **5.3** | Identify initiatives which support consistently successful and sustainable approaches that will result in cost effective application | All ITU study groups | Ongoing | ITU-T SG5 participates in the following initiatives and partnerships:* E-waste coalition
* Circular Economy Partnership
* Solving the e-waste problem (StEP)
* PACE
* Proyecto Residuos Electrónicos América Latina -PREAL
* [Focus Group on Environmental Efficiency for Artificial Intelligence and other Emerging Technologies (](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Pages/default.aspx)FG-AI4EE)
 |
| **5.4** | Identify and promote successful new energy-efficient technologies using renewable energy or alternative energy sources that are proven to work for both urban and rural telecommunication sites | All ITU study groups | Ongoing | ITU-T has developed Recommendation on Green ICTs available here: <https://www.itu.int/net/ITU-T/lists/standards.aspx?Group=5&Domain=28> ITU-T SG5 has developed Recommendations:* ITU-T L.1380 “Smart energy solution for telecom sites”
* ITU-T L.1381 “Smart energy solutions for data centres”
* ITU-T L.1382 “Smart energy solutions for telecommunication rooms”
* ITU-T L.1325 “Green ICT solutions for telecom network facilities”

Ongoing work items being developed within [the Focus Group on Environmental Efficiency for Artificial Intelligence and other Emerging Technologies (](https://www.itu.int/en/ITU-T/focusgroups/ai4ee/Pages/default.aspx)FG-AI4EE):* Technical Report on “Guidelines on the Environmental Efficiency of 5G Usage in Smart Water Management”
* Technical Report on “Guidelines on the Environmental Efficiency of Machine Learning Processes in Supply Chain Management”.
* Application of AI technology in improving energy efficiency of IDC infrastructure.
* Establishment of 5G energy efficiency assessment model based on AI and big data analysis.
* Technical Report on “Computer Processing, Data management and Energy perspective”.
* Smart Energy Saving of 5G Base Station
 |
| **6** | **-** | **Cooperate and collaborate with ITU-R, ITU-D and other SDOs**  | *Instructs all ITU-T SGs* (6) | Liaise with the relevant ITU-R and ITU-D study groups and promote liaison with other SDOs and forums in order to avoid duplication of work, optimize the use of resources and accelerate the availability of global standards | All ITU study groups | Ongoing | The following LS has been sent to other SGs and ITU sectors for the purpose of coordination:2017:* [SG5-LS4](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18446)
* [SG5-LS6](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18448)
* [SG5-LS8](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18416)
* [SG5-LS17](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18421)
* [SG5-LS22](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18430)
* [SG5-LS27](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18425)
* [SG5-LS50](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18790)

2018:* [SG5-LS65](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=20470)
* [SG5-LS66](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=21497)
* [SG5-LS67](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=20471)
* [SG5-LS70](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=20484)
* [SG5-LS75](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=21557)
* [SG5-LS83](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=20480)
* [SG5-LS85](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=21482)

2019:* [SG5-LS94](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22059)
* [SG5-LS99](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22070)
* [SG5-LS100](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22071)
* [SG5-LS101](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22065)
* [SG5-LS102](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22072)
* [SG5-LS116](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22086)
* [SG5-LS118](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22321)
* [SG5-LS120](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22323)
* [SG5-LS124](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22328)

2020:* [SG5-LS138](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23863)
* [SG5-LS141](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23866)
* [SG5-LS142](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23867)
* [SG5-LS144](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23869)
* [SG5-LS145](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23870)
* [SG5-LS148](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23873)
* [SG5-LS150](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23875)
* [SG5-LS152](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23877)

The following LS has been sent to other SDO and forums (such as ETSI TC EE, WMO, IEC TC77, IEC CISPR, IEC ACEC, IEC TC 100, 3GPP SA, CEN/CLC/JTC10, ICNIRP, SBTi, ETNO ETF, IEEE SA, ISO TC 111, CCSA for the purpose of coordination and collaboration:2017:* [SG5-LS11](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18380)
* [SG5-LS12](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18451)
* [SG5-LS36](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18817)
* [SG5-LS47](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18827)
* [SG5-LS21](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18455)

2018:* [SG5-LS54](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=19029)
* [SG5-LS61](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=19225)
* [SG5-LS79](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=21506)
* [SG5-LS86](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=21495)

2019:* [SG5-LS107](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22084)
* [SG5-LS108](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22085)
* [SG5-LS109](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22078)
* [SG5-LS110](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22058)
* [SG5-LS111](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22079)
* [SG5-LS121](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22324)
* [SG5-LS122](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22325)
* [SG5-LS126](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22331)
* [SG5-LS127](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22332)
* [SG5-LS128](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22333)
* [SG5-LS129](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22334)
* [SG5-LS130](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22335)
* [SG5-LS131](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22336)

2020* [SG5-LS136](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23816)
* [SG5-LS137](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23817)
* [SG5-LS153](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23878)
* [SG5-LS154](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23879)
* [SG5-LS155](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23880)
* [SG5-LS156](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23881)
* [SG5-LS161](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26176)
* [SG5-LS164](https://www.itu.int/net/itu-t/ls/ols.aspx?from=3928&after=2020-10-23&before=2020-10-23)
* [SG5-LS167](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26182)
* [SG5-LS174](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26189)
* [SG5-LS180](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26212)
* [SG5-LS181](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26213)
* [SG5-LS182](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26214)
* [SG5-LS186](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26217)

The list of liaison Rapporteurs to other organizations is available [here](https://www.itu.int/net4/ITU-T/lists/representatives.aspx?Group=5&Period=16). |
| **7** |  | **Report to ITU Council and WTSA‑20** | *Instructs the Director...* (1) | Report on progress on the application of this resolution annually to the Council and to the next world telecommunication standardization assembly | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | Completed |
| **8** |  | **Keep up to date the calendar of events relevant to ICTs** | *Instructs the Director...* (2) | Keep up to date the 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 | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | ITU Climate Change webpage is available at: <https://www.itu.int/en/action/environment-and-climate-change/Pages/default.aspx> The calendar has been updated as contained in <https://www.itu.int/en/ITU-T/climatechange/Pages/events.aspx>  |
| **9** |  | **Launch pilot BSG projects on environmental sustainability issues** | *Instructs the Director...* (3) | Launch pilot projects, aimed at bridging the standardization gap, on environmental sustainability issues, in particular in developing countries | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | ITU-T SG5 has participated in the ITU Regional Standardization Forum on Emerging Economic, Regulatory and Policy Trends In a Fast-Changing Digital World on 17 December 2018.ITU-T SG5 has organized the following events:* [Session on "Using international standards to build smart sustainable cities and tackle climate change, e-waste and nature loss"](https://www.itu.int/en/ITU-T/climatechange/Pages/20201015.aspx), Virtual, 15 October 2020.
* [Webinar: Explore a circular vision for the ICT sector](https://www.itu.int/en/ITU-T/climatechange/Documents/Events/Webinar_explore_a_circular_vision_%20for_the_ICT_sector.pdf), Virtual, 14 and 16 April 2020
* [Webinar: Using international standards to tackle the e-waste challenge](https://www.itu.int/en/ITU-T/climatechange/Documents/Events/Webinar_%20using_%20international_%20standards_to_tackle_the_e-waste_challenge.pdf), Virtual, 1 and 2 April 2020.
* 9th Green Standards Week: [Forum on "Frontier Technologies to Tackle Climate Change and Achieve a Circular Economy"](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201910/Pages/programme-04.aspx)1 October 2019, Valencia, Spain
* 1st Digital African Week: [ITU Training on "E-waste Management and Circular Economy"](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/sg5rgafr/201903/Pages/default.aspx)30 August 2019 (morning only), Abuja, Nigeria
* [Smart Environment Panel on GHG emissions trajectories for the ICT sector](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/event-20190515.aspx), 15 May 2019 (11h30-13h00), Geneva, Switzerland
* [13th Symposium on ICT, Environment and Climate Change](https://www.itu.int/en/ITU-T/climatechange/symposia/201905/Pages/default.aspx), 13 May 2019, Geneva, Switzerland
* [Information session on ITU-T Study Group 5 Activities on Environment, Climate Change and Circular Economy](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/Information-Session-20181203-ITU-T-SG5-Activities.aspx), 3 December 2018, Wuxi, China
* [12th ITU Symposium on ICT, Environment and Climate Change](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201804/Pages/Programme09.aspx), 9 April 2018, Zanzibar, Tanzania
* [Forum on "The gender dimension in ICT and Environment through innovation and entrepreneurship"](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201704/Pages/programme-20170404.aspx) 4 April 2017 (morning only), Manizales, Colombia

Additionally, ITU-T SG5 experts have participated in a series of events to promote the activities on Environment, Climate Change and Circular Economy such as:* New Infrastructure, New Site Power, ICT Energy Summit on 10 and 11 September 2020 in Guiyang China (and virtually)
* Digital Powe Online Summit 2020 for Latin America on 18 June 2020
 |
| **10** |  | **Support the development of reports on ICTs, the environment and climate change** | *Instructs the Director...* (4) | Support the development of reports on ICTs, the environment and climate change, taking into consideration relevant studies, in particular the ongoing work of Study Group 5, including issues related to, inter alia, circular economy, 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 Study Group 5 for its consideration | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | The following reports have been developed: * [Guidance for ICT companies setting science-based targets](https://www.itu.int/en/mediacentre/Documents/Documents/GSMA_IP_SBT-report_WEB-SINGLE.pdf) (2020)
* [Frontier technologies to protect the environment and climate change](https://www.itu.int/en/action/environment-and-climate-change/Pages/latest-reports-and-publications.aspx) (2020)
* [Turning digital technologies innovation into climate actions](https://www.itu.int/en/publications/Documents/tsb/2019-Turning-digital-technology-innovation-into-climate-action/mobile/index.html) (2019)
 |
| **11** | **11.1** | **Organize awareness-raising events regarding** **environment and climate-change issues, particularly for developing countries** | *Instructs the Director...* (5) | Organize forums, workshops and seminars for developing countries in order to raise awareness and identify their particular needs and challenges in regard to environment and climate-change issues | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | The following events were organized: 2017:* [The 7th Green Standards Week “Circular Economy and Smart Sustainable Cities”](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201704/Pages/default.aspx) from 3 to 5 April 2017 in Manizales, Colombia
* [Forum on "The gender dimension in ICT and Environment through innovation and entrepreneurship"](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201704/Pages/programme-20170404.aspx) on 4 April 2017, Manizales, Colombia
* [ITU-ETSI workshop Towards Setting Environmental Requirements for 5G](http://www.etsi.org/news-events/events/1217-towards-setting-environmental-requirements-for-5g) on 23 November 2017, Sophia Antipolis, France

2018:* [The 8th Green Standards Week “Linking circular economy and industry 4.0” from 9 to 12 April 2018 in Zanzibar, Tanzania.](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201804/Pages/default.aspx)
* [12th ITU Symposium on ICT, Environment and Climate Change](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201804/Pages/Programme09.aspx), 9 April 2018, Zanzibar, Tanzania
* [Information session on ITU-T Study Group 5 Activities on Environment, Climate Change and Circular Economy](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/Information-Session-20181203-ITU-T-SG5-Activities.aspx) on 3 December 2018, Wuxi, China

2019:* [13th Symposium on ICT, Environment and Climate Change](https://www.itu.int/en/ITU-T/climatechange/symposia/201905/Pages/default.aspx) on May13, 2019
* [The Smart Environment Panel on GHG emissions trajectories for the ICT sector](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/event-20190515.aspx) on May 15, 2019
* [HLPF Side Event: "Harnessing Frontier Technologies for Accelerating Climate Actions and the SDGs"](https://www.itu.int/en/ITU-T/climatechange/Pages/20190709.aspx) on 9 July 2019, New York
* [STI Forum Side Event: Frontier Technologies to Protect the Environment and Tackle Climate Change](https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/event-20190514.aspx) on 14 May 2019, New York
* [ITU Telecom World: Session on "Strategies to boost climate action in the ICT sector"](https://telecomworld.itu.int/2019-event/forum/) on 11 September 2019, Budapest, Hungary
* [ITU Telecom World: Session on "Frontier technologies for climate change"](https://telecomworld.itu.int/2019-event/forum/) on 11 September 2019, Budapest, Hungary
* [Forum on Environmental Efficiency for AI and other emerging technologies](https://www.itu.int/en/ITU-T/climatechange/Pages/20191014-forum.aspx) on 11 December 2019, Vienna, Austria
* [Forum on Frontier Technologies to Tackle Climate Change and Achieve a Circular Economy](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201910/Pages/programme-04.aspx) on 1 October 2019, Valencia, Spain
* [Forum on Environmental Efficiency for AI and other Emerging Technologies](https://www.itu.int/en/ITU-T/climatechange/Pages/20191014-forum.aspx) on 11 December 2019, Vienna, Austria
* [Forum on Frontier Technologies to Tackle Climate Change and Achieve a Circular Economy](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201910/Pages/programme-04.aspx) on 1 October 2019, Valencia, Spain
* [Forum on Environmental Efficiency for AI and other Emerging Technologies](https://www.itu.int/en/ITU-T/climatechange/Pages/20191014-forum.aspx) on 11 December 2019, Vienna, Austria

2020:* [Webinar: Explore a circular vision for the ICT sector](http://www.brsmeas.org/Default.aspx?tabid=3574&meetId=43965D8E-C675-EA11-BFFE-005056857856) on 14 and 16 April 2020
* [Webinar: Using international standards to tackle the e-waste challenge](http://www.brsmeas.org/Default.aspx?tabid=3574&meetId=DD2CA984-A16E-EA11-BFF8-005056857856&lang=en) on 1 and 2 April 2020
* Session on ["Using international standards to build smart sustainable cities and tackle climate change, e-waste and nature loss​"](https://www.itu.int/en/ITU-T/climatechange/Pages/20201015.aspx) on 15 October 2020
 |
| **11.2** | *Instructs the Director...* (6) | Develop, promote and disseminate information and training programmes on ICTs, environment and circular economy | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | See point 11.1 * ITU-T Recommendations developed by SG5 were added to the world’s first [Massive Open Online Course (MOOC) on e-waste management](https://learning.climate-kic.org/en/programmes-and-courses/e-waste) under the leadership of the Basel, Rotterdam and Stockholm Conventions (BRS).
 |
| **12** |  | **Report on progress regarding the use of submarine telecommunication cables for ocean and climate monitoring and disaster warning** | *Instructs the Director...* (7) | 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 | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | Please see: <https://www.itu.int/en/ITU-T/climatechange/task-force-sc/Pages/default.aspx> |
| **13** |  | **Promote the ITU T Global Portal on ICTs, environment and climate change** | *Instructs the Director...* (8) | Promote the ITU‑T Global Portal on ICTs, environment and climate change and its use as an electronic forum for the exchange and dissemination of ideas, experience and best practices on ICTs, the environment and climate change | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | The global portals on environment and smart sustainable cities were updated and promoted appropriately as contained in <https://www.itu.int/en/ITU-T/climatechange/resources/Pages/env-and-ssc.aspx>  |
| **14** |  | **Report to TSAG regarding cooperation and collaboration towards the goals of the 2030 Agenda for Sustainable Development** | *Instructs the Director...* (9) | Report to TSAG with regard (*invites the Secretary-General*) to cooperation and collaboration with other entities within the United Nations in formulating future international efforts to address protection of the environment and climate change, contributing to the achievement of the goals of the 2030 Agenda for Sustainable Development | Director TSB(in collaboration with the Directors of BR and BDT) | Ongoing | Completed |

**ANNEX III**

**Action plan for implementation of WTSA Resolution 79 (Dubai, 2012):
The role of telecommunications/information and communication technologies in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it**

| **ID** | **Directives** | **References (Res. 79)** | **Activities** | **Responsibilities****(as identified in the Resolution)** | **Time plan** | **Status(October 2020)** |
| --- | --- | --- | --- | --- | --- | --- |
| **Level 1** | **Level 2** |
| **1** | **-** | **Strengthen the development of ITU activities in regard to handling and controlling e‑waste from ICTs** | *Resolves* (1) | Pursue and strengthen the development of ITU activities in regard to handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it | Director TSB(in collaboration with Director BDT) | Ongoing | ITU has developed a series of Recommendation on the sustainable management of e-waste and on circular economy. Additionally, a series of events have been organized. See point 5 |
| **2** | **-** | **Assist developing countries regarding assessment of e‑waste** | *Resolves* (2) | Assist developing countries to undertake proper assessment of the size of e-waste | Director TSB(in collaboration with Director BDT) | Ongoing | See point 7 |
| **3** | **-** | **Address the handling and controlling of e‑waste** | *Resolves* (5) | Address the handling and controlling of e‑waste and to contribute to global efforts designed to deal with the increasing hazards which arise therefrom | Director TSB(in collaboration with Director BDT) | Ongoing | See point 7 |
| **4** | **-** | **coordinate activities relating to e-waste among the relevant ITU groups** | *Resolves* (5) | Work in collaboration with the relevant stakeholders, including academia and relevant organizations, and to coordinate activities relating to e-waste among the ITU study groups, focus groups and other relevant groups | Director TSB(in collaboration with Director BDT) | Ongoing | The following LSs were sent to relevant ITU groups/stakeholders for the purpose of coordination and collaboration on topics related to e-waste:* [SG5-LS2](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18444)
* [SG5-LS3](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18445)
* [SG5-LS10](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18450)
* [SG5-LS36](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=18817)
* [SG5-LS56](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=19031)
* [SG5-LS57](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=19032)
* [SG5-LS84](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=20473)
* [SG5-LS98](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22069)
* [SG5-LS106](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22074)
* [SG5-LS111](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=22079)
* [SG5-LS136](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23816)
* [SG5-LS154](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=23879)
* [SG5-LS186](https://www.itu.int/net/itu-t/ls/ls.aspx?isn=26217)

  |
| **5** | **-** | **Raise awareness of e-waste, particularly in developing countries** | *Resolves* (5) | Organize seminars and workshops to enhance awareness of the hazards of e-waste and the methods of treating it, particularly in developing countries, and gauge the needs of the developing countries, which are the countries that suffer most from the hazards of e-waste | Director TSB(in collaboration with Director BDT) | Ongoing | The following events were organized:2020:* [Session on "Using international standards to build smart sustainable cities and tackle climate change, e-waste and nature loss"](https://www.itu.int/en/ITU-T/climatechange/Pages/20201015.aspx), virtual on 15 October 2020
* [Webinar: Explore a circular vision for the ICT sector](http://www.brsmeas.org/Default.aspx?tabid=3574&meetId=43965D8E-C675-EA11-BFFE-005056857856) on 14 and 16 April 2020
* [Webinar: Using international standards to tackle the e-waste challenge](http://www.brsmeas.org/Default.aspx?tabid=3574&meetId=DD2CA984-A16E-EA11-BFF8-005056857856&lang=en) on 1 and 2 April 2020

2019:* [Forum on Environmental Efficiency for AI and other emerging technologies](https://www.itu.int/en/ITU-T/climatechange/Pages/20191014-forum.aspx) on 11 December 2019, Vienna, Austria
* [Forum on Frontier Technologies to Tackle Climate Change and Achieve a Circular Economy](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201910/Pages/programme-04.aspx) on 1 October 2019, Valencia, Spain
* [The 9th Green Standards Week “Connecting smart sustainable cities with the Sustainable Development Goals”](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201910/pages/default.aspx) from 1 to 4 October 2019 in València, Spain.
* [The First Digital African Week](https://www.itu.int/en/ITU-T/climatechange/Pages/1st-Digital-African-Week.aspx) from 27 to 30 August 2019, Abuja, Nigeria.
* [Thematic Workshop on Connecting the Circular model of E-waste Management to the Sustainable Development Goals](https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/240) on 11 April 2019, ITU headquarter

2018:* [Thematic Workshop on Connecting the Circular model of E-waste Management to the Sustainable Development Goals](https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/240) on 11 April 2019, ITU headquarter

2017:* [Forum on "Environment, climate change and circular economy"](https://www.itu.int/en/ITU-T/Workshops-and-Seminars/gsw/201704/Pages/programme-20170404-05.aspx)4 - 5 April 2017, Manizales, Colombia
 |
| **6** | **-** | **Develop and document best practice for handling and controlling e-waste** | *Instructs ITU‑T SG5, in collaboration with the relevant ITU study groups*(1) | Develop and document examples of best practice for handling and controlling e-waste resulting from telecommunications/ICT and methods of treating and recycling it, for dissemination among ITU Member States and Sector Members | ITU-T SG5(other ITU SGs, FGs, etc.) | Ongoing | See point 7 |
| **7** | **-** | **Develop Recommendations, methodologies and other publications relating e-waste** | *Instructs ITU‑T SG5, in collaboration with the relevant ITU study groups*(2) | Develop Recommendations, methodologies and other publications relating to handling and controlling e‑waste resulting from telecommunications/ICT and methods of treating it, within the relevant study groups, focus groups and other relevant groups in ITU, in order, in particular, to foster awareness of the environmental hazards of e‑waste | ITU-T SG5(other ITU SGs, FGs, etc.) | Ongoing | The following Recommendations were developed: 2017:* ITU-T L.1021 “Extended producer responsibility - Guidelines for sustainable e-waste management”
* ITU-T L.1020 “Circular economy: Guide for operators and suppliers on approaches to migrate towards circular ICT goods and networks”

2018:* ITU-T L.1030 “E-waste management framework for countries”
* ITU-T L.1031 “Guideline on implementing the e-waste reduction target of the Connect 2020 Agenda”
* ITU-T L.1015 “Criteria for evaluation of the environmental impact of mobile phones”

2019:* ITU-T L.1032 “Guidelines and certification schemes for e-waste recyclers”
* ITU-T L.1022 “Circular economy: Definitions and concepts for material efficiency for information and communication technology”

2020:* ITU-T L.1023 “Assessment method for circular scoring”
* Draft ITU-T L.1024 (ex.L.SEEQ) “ Effect for global ICT of the potential of selling services instead of equipment on the waste creation and environmental impacts”
 |
| **8** | **8.1** | **Study the impact and provide guidance regarding used telecommunication/ICT equipment brought into developing countries** | *Instructs ITU‑T SG5, in collaboration with the relevant ITU study groups*(3) | Study the impact of used telecommunication/ICT equipment and products brought into developing countries  | ITU-T SG5(other ITU SGs, FGs, etc.) | Ongoing | ITU is working within the UNIDO/GEF project in the implementation on ITU-T Recommendations in LATAM  |
| **8.2** | Give appropriate guidance to assist developing countries | ITU-T SG5(other ITU SGs, FGs, etc.) | Ongoing |

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