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# 1.1 General

The Twelfth Meeting of JCA on ICT and Climate Change dedicated to “Smart Sustainable Cities” was held on 5 February 2013 in Geneva under the Chairmanship of Mr. Ahmed Zeddam and Mr. Dave Faulkner.

A full list of participants is available in Doc. 112.

# 1.2. Agenda and Scope

# The agenda (Doc. 99) was approved without modification.

Mr Zeddam gave a brief report on the results of WTSA-12 and its impact on ITU-T Study Group 5 (ITU-T SG5). He informed participants that the first ITU-T SG5 meeting was currently taking place in Geneva.

Mr. Zeddam reported on progress and decisions agreed at the WTSA-12 for the ITU-T SG5. He was delighted in his second appointment as Chairman of ITU-T SG5 and presented and congratulated the new management team of SG5. In particular, he mentioned the new Chairman and Vice-Chairmen of Working Party 3/5 “ICT and Climate Change”, namely Mr. Paolo Gemma (Chairman), Mr. Jean Manuel Canet (Vice-Chairman), Mr Yong-Woon Kim (Vice-Chairman) and Mr. Franz Zichy (Vice-Chairman). He informed that the WTSA-12 agreed to maintain the current [structure of ITU-T SG5](http://www.itu.int/en/ITU-T/studygroups/2013-2016/05/Pages/structure.aspx), which includes three Working Parties. He informed the meeting that the Rapporteurs of the Questions have also been appointed and a full list is available on the [ITU-T SG5 website](http://www.itu.int/en/ITU-T/studygroups/2013-2016/05/Pages/default.aspx).

Mr. Zeddam announced that a New Question 16 “Leveraging and enhancing the ICT environmental sustainability” (Q16/5), allocated under Working Party 3/5, was approved at WTSA-12. The development of eco-rating programmes is one the work items under study in the New Question 16.

Mr. Zeddam then provided participants with an update of progress made during the on-going ITU-T SG5 meeting:

* Proposal to set up a new Regional Group for the Asia Pacific Region;
* Proposal to create a Focus Group on Smart Sustainable Cities (FG-SSC) under the responsibility of the ITU-T SG5 (to be approved during the Closing Meeting).
* Outline of the activities of the Questions under study (Qs 13-19 at [Questions Under Study](http://www.itu.int/en/ITU-T/studygroups/2013-2016/05/Pages/questions.aspx))

# 2. Presentations and Discussion

**2.1** **Mitigation of Climate Change in Cities through the Use of ICTs (Part 1)**

2.1.1 Mr. Jean Manuel Canet, Rapporteur Q18/5 of ITU-T Study Group 5 (Doc. 109)

Mr. Canet presented the work carried out by the Question 18 of the ITU-T Study Group 5 (Q18/5). Energy-hungry cities worldwide are more and more interested in assessing their energy consumption and GHG emissions, at municipal level and city-wide. More and more cities report on their GHG emissions and set reduction targets.

Mr. Canet explained that the ITU-T SG5 develops methodologies in order to assess the environmental impact of ICT. Three methodologies were published and are available for free on the ITU website: ITU-T L.1400 (Overview and general principles), ITU-T L.1410 (Environmental impact of ICT goods, networks and services) and ITU-T L.1420 (Environmental impact of ICT in organisations). A Recommendation on the Environmental impact of ICT projects is soon expected to get consented during this ITU-T SG5 meeting. A Recommendation on the environmental impact of ICT in cities is currently under development and inputs are welcome. This Recommendation aims at providing general information on how to evaluate the environmental impact of ICT in cities.

2.1.2 Mr. Yoshiaki Ichikawa, International Electrotechnical Commission (IEC) and International Organization for Standardization (ISO) (Doc. 106)

Mr. Ichikawa introduced the progress of a recent work within ISO related to smart cities. The ISO TC 268/SC1 "Smart Community Infrastructures", chaired by Mr. Ichikawa, was established in 2012 to foster standardization in the field of smart community infrastructures.

The proposed standards will focus on technical aspects of community infrastructures including energy, water, transportation, waste and ICT that support the operations and activities of communities. The aim of this work is to help solve societal problems using technology, explained Mr. Ichikawa. Standardization can help to achieve this goal, fostering harmonized solutions for smart cities.

In his presentation, Mr. Ichikawa gave an overview of the background, the basic concepts, the committee structure, the recent progress and the future plans of this work.

2.1.3 Mr. Vin Sumner, Green Digital Charter (Doc. 101)

Mr. Sumner presented the Green Digital Charter, a project started 5 years ago with the city of Manchester. The presentation of Mr. Sumner first covered the background to what the Green Digital Charter for Cities is, the commitments that Cities make and the take-up of the Charter. Details of the European Commission funded NiCE project were presented, including details of the tools being developed, one of which is for measuring City ICT footprints. Finally Mr. Sumner presented some suggestions as to how to connect ITU with the work of the Green Digital Charter (e.g. the possibility of ITU-T hosting an inventory of carbon footprints of ICT products should be considered).

2.1.4 Mr. Andreas Kamilaris, University of Cyprus, Winner of the 2nd ITU Green ICT Application Challenge (Doc. 104)

Mr. Kamilaris argued that social norms have the potential to motivate people to engage in a more sustainable behaviour. He explained that “Social Electricity” is a novel Facebook application that exploits social norms, aiming to increase the energy awareness of people by means of social comparisons. This application allows people to compare their electricity footprint with their online friends and their neighbourhood/village/city in a country-wide scale, helping them to perceive the amount of electrical energy they consume. Mr. Kamilaris described the core concepts and features of “Social Electricity”, providing some initial findings and observations from the deployment of the application around Cyprus.

2.1.5 Ms. Daniela Torres, Telefónica (Doc. 110)

Ms Torres outlined Telefónica’s Global strategy: Latin America and Europe including strategic thinking about smart and green cities in Telefónica. Resource efficiency in urban development is very important factor to be taken into consideration. A problem for cities to address is the need to build resource efficiency, especially ICT infrastructure.

She outlined the Smart city model of Telefónica which includes 5 main groups of services (smart mobility, city economy, energy & environment, city management, security & e-health). Only two of these are related to environment. An open platform is needed for connectivity.

The challenges for implementation are to: have a vision/roadmap, to accelerate innovation, produce good business cases, use standard methodologies to assess benefits of ICT impact in cities.

**2.2.** **Mitigation of Climate Change in Cities through the Use of ICTs (Part 2)**

2.2.1 Mr. Richard van Det, KPN (Doc. 102)

In his presentation Mr. van Det explained how the idea from the Hack Battle evolved into the Open Data Collective. He also gave the audience advice on how best to become involved in application path interfaces (APIs) based on his experience of the last year.

Mr. van Det argued that Telco’s can have several roles in saving energy. One can be that of facilitator. Telco’s can facilitate software companies with network functionalities and network data. Software companies use these to enhance their applications that help consumers save energy. Can it be done? According to Mr. van Det, “Social energy!” was nominated in the top-10 for the TEDxAmsterdam award, a spin off from the Hack Battle of TNW (April 2012).

From a two-sided business model perspective, continued Mr. van Det, it is essential that Telco’s provide third parties with access to their data and functionalities. KPN does this by exposing API’s. But it is so much more powerful when they can make Mash Ups, combinations of several open databases and APIs. That is why KPN initiated the Open Data Collective in December 2012.

2.2.2 Ms. Kirsten Jack, The Climate Group (Doc. 105)

The Climate Group is an NGO. The Climate Group's membership includes 50 large companies and state/city-level governments from around the world. The aim is to achieve emission reduction and experience economic growth. Howvwer of the $350T expected to be spent on infrastructure only 2% is designated for Smart Cities.

Whilst there are many solutions that use ICT to combat climate change and promote urban green growth, the market for such solutions is not growing at the pace envisaged. This is due to two significant groups of barriers; city processes that prohibit the uptake of ICT innovations, and market failures that prohibit the dissemination of innovative solutions. The presentation of Ms. Jack explored how The Climate Group’s Agile Cities programme is working to understand these barriers, and build institutional capacity and market-focused tools to overcome them.

2.2.3 Prof. Sekhar Kondepudi, National University of Singapore (Doc. 103)

Prof Kondepudi said that his objective was to be sustainable but without sacrifice the quality of life. A building needs to be looked out as a system. Systems and subsystems need to talk to each other. The glue is ICT infrastructure. This is internet of things for buildings. ICT is at the core of energy efficiency.

He explained that a Smart Sustainable City or Community is a combination of the many different types of buildings in that city coupled with different, customizable user experiences. These buildings and user experiences are a function of the plethora of connected devices which are projected to reach 50 billion over the next 10 years. Prof. Kondepudi discussed the trends, the concept of a “Smart Buildings as a Network with ICT at their core” and potential frameworks which bring all these devices, buildings and user experiences together into an integrated approach for smart and sustainable cities.

2.2.4 Prof. Francesco Asdrubali, Faculty of Engineering, University of Perugia, Italy (Doc. 108)

In his talk, Prof. Asdrubali explained that smart buildings (either Zero-energy building (ZEB) and Net-zero energy building (NZEB) are buildings that make a large use of ICT for control, regulation and monitoring of all the functions and systems. Prof. Asdrubali presented various construction solutions and technologies to obtain a smart building (from innovative, sustainable materials and building elements to high-efficiency machineries and plants, including renewable energy systems). He also addressed the role of Life Cycle Assessment (LCA) procedures applied to smart buildings, with particular attention to the role of ICT. Approximately 20% of GHG emissions of buildings are in the embodiment and 80% in the operation.

2.2.5 Mr. John Smiciklas, Director, Energy and Environment, BOMA (Doc. 107)

Mr. Smiciklas outlined the Environmental certification programme of BOMA Canada which aims to reduce energy consumption and make buildings more sustainable.Aspects include both energy and water. Smart cities will require that all aspects of urban life are planned, built and operated to maximize sustainability. Mr. Smiciklas’ presentation reviewed how a formal environmental building operations certification program is driving sustainability and reducing GHG emissions and the linkages to the implementation of ICT within our built environment.

**3 Announcements of upcoming events**

Ms. Cristina Bueti of ITU-TSB announced these forthcoming events: the ITU/UNEP Training Session on E-Waste, the ITU 8th Symposium on ICTs, the Environment and Climate Change, the first meeting of the Focus Group on Smart Sustainable Cities, the workshop on Human Exposure to Electromagnetic Fields (EMFs) and the 3rd ITU Green Standards Week.

ITU and UNEP are co-organizing a Training Session on E-Waste, which will take place on 19-21 March 2013 in El Salvador.

The ITU 8th Symposium on ICTs, the Environment and Climate Change is scheduled to take place on 6-7 May 2013 in Turin, Italy. The event will be co-organized with the Italian Ministry of Economic Development and hosted by Telecom Italia.

On 8 May 2013, ITU will hold in Turin (Italy) the first meeting of the Focus Group on Smart Sustainable Cities (pending the approval of Study Group5 plenary on to be held on 7 February 2013).

A workshop on Human Exposure to Electromagnetic Fields (EMFs), jointly organized with the Italian Ministry of Economic Development, will take place on 9 May 2013 in Turin, Italy.

Telefónica will host the 3rd edition of the ITU Green Standards Week in Madrid from 16-20 September 2013.

These events will bring together leading specialists in the field, from top policy-makers to engineers, designers, planners, government officials, regulators, standards experts and others. They will represent an opportunity to share views on the role of ICTs to protect the environment and combat climate change. Discussion will focus on raising awareness of the importance and opportunities of using ICT standards to build a green and sustainable future.

Ms. Bueti invited participants to attend these events.

# 4 Any other business

Mr. Zeddam and Mr. Faulkner thanked and congratulated the speakers for their valuable contribution.

Mr Faulkner stressed the importance of registering to the JCA ICT&CC mailing list to participate and to cooperate or suggest topics

# 5 Next Meeting

The Thirteenth Meeting of JCA-ICT&CC will be held in conjunction with the next ITU-T SG5 meeting. The date will be announced on the JCA ICT & CC website.