

# Introduction to IEEE Research Project for Green ICT Standardizations and the relevance to SDN

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December 8, 2014



## The project and relevant supports

- This project has just been approved by IEEE Communication Society (ComSoc) Standardization Program Development Board (CSPDB) conditioned on completing the organization structure of the project.
- This project opens to all people, who are not necessarily IEEE members.
- This project is managed under IEEE Communication Society (ComSoc) Standardization Program Development Board (CSPDB).
- This project is under the full support of IEEE Technical Subcommittee on Green Communications and Computing (TSCGCC).
- The leading members of the project would come from TCGCC.



## Scope of the project

- Study and evaluate the views, societal and economic benefits, opportunities, challenges of Green ICT (information and communication technologies) Standardizations. This project provides an opportunity to exchange views on how to develop a global framework for measuring green ICT.
- Develop some strategy and roadmap that could lead to some concrete directions of Green ICT Standardizations in the near future
- Investigate relevant standardization activities on relevant topics and from relevant organizations, such as ITU, IETF, ETSI, IEC, and so on.
- Possibly organize relevant journal special issues and workshops, and lead some reports or presentations on the relevant progress



## Proposed Deliverables

- Presentations, technical reports, books, papers, and/or other publications
- Conference workshops, journal special issues.



## Related Activities

- ITU-T Study Group "Environment & climate change"
- European Union
- ISO - Smart Community Infrastructures
- United Nations Environment Programme (UNEP)



## Relevance to SDN

- SDN is a programmable approach to designing, building, and managing networks, which decouples network control from forwarding in network devices and offloads its functions to central controller software.
- The SDN controller may provide the common network services, such as routing, dynamic bandwidth management, and QoS to various energy and environmental-specific applications through open APIs. SDN unified control plane allows network abstraction and enables easy and efficient implementation of these relevant applications with required customization and optimization.
- Industry and application systems with different product life cycles, different energy consumption and environmental issues, and potential incompatibilities. People have to deal with variety of green equipment maintenance and upgrades, which are not easy tasks, which SDN may help.



- SDN may provide a global end-to-end view of the network. Hardware virtualization is one of the objectives of SDN and is used to divide the physical network into virtual slices to ease the burden of managing different networks while using resources efficiently, which may achieve green objectives.



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Thank you for your attention!  
Welcome questions!

