IEEE SA STANDARDS ASSOCIATION

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This document contains supplemental information referenced by the European Rolling Plan for ICT Standardisation.

IEEE Standards Activities Related to ICT Environmental Impact

Overview

Many IEEE standardisation activities directly contribute to assessing and reducing the environmental impact of ICT, such as the electronic product environmental assessment series, energy efficient Ethernet, and a new "Green ICT" series of projects. Also included is a new project for planning a smart city in a sustainable manner.

Relevant Standards Activities

Electronic Product Environmental Assessment

Approved Standards*

- IEEE 1680-2009, IEEE Standard for Environmental Assessment of Electronic Products
- IEEE 1680.1-2018, IEEE Standard for Environmental and Social Responsibility Assessment of Computers and Displays
- IEEE 1680.2-2012, IEEE Standard for Environmental Assessment of Imaging Equipment
- IEEE 1680.2a-2017, IEEE Standard for Environmental Assessment of Imaging Equipment - Amendment 1
- IEEE 1680.3-2012, IEEE Standard for Environmental Assessment of Televisions
- IEEE 1680.3a-2017, IEEE Standard for Environmental Assessment of Televisions - Amendment 1

Current New or Revision Projects*

- IEEE P1680.4, Standard for Environmental Leadership and Corporate Social Responsibility Assessment of Servers
- IEEE P1680.6, Draft Standard for Environmental Assessment of Complex Set Top Boxes

Waste, Pollution

Approved Standards*

- IEEE N42.18-2004 - American National Standard Specification and Performance of On-Site Instrumentation for Continuously Monitoring Radioactivity in Effluents, American National Standard
- IEEE 2413-2019 - IEEE Approved Draft Standard for an Architectural Framework for the Internet of Things (IoT)

Current New or Revision Projects*

- IEEE P982.1 - Standard for Measures of the Software Aspects of Dependability
- IEEE P2413.1 - Standard for a Reference Architecture for Smart City (RASC)

Networking, Power, Energy

Approved Standards*

- IEEE 802.3-2018, which incorporates energy efficient networking
- IEEE 802.3bt-2018 - IEEE Standard for Ethernet Amendment 2: Physical Layer and Management Parameters for Power over Ethernet over 4 pairs
- IEEE 802.3cb-2018 - IEEE Standard for Ethernet - Amendment 1:Physical Layer Specifications and Management Parameters for 2.5 Gb/s and 5 Gb/s Operation over Backplane
- IEEE 802.3cd-2018 - IEEE Standard for Ethernet - Amendment 3: Media Access Control Parameters for 50 Gb/s and Physical Layers and Management Parameters for 50 Gb/s, 100 Gb/s, and 200 Gb/s Operation
- IEEE 1547-2018 - IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces
- IEEE 1547.1-2005 - IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems
- IEEE 1547.1a-2015 - IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems - Amendment 1
- IEEE 1547.2-2008 - IEEE Application Guide for IEEE Std 1547(TM), IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems
- IEEE 1547.3-2007 - IEEE Guide for Monitoring, Information Exchange, and Control of Distributed Resources Interconnected with Electric Power Systems
- IEEE 1547.4-2011 - IEEE Guide for Design, Operation, and Integration of Distributed Resource Island Systems with Electric Power Systems

- IEEE 1547.6-2011 - IEEE Recommended Practice for Interconnecting Distributed Resources with Electric Power Systems Distribution Secondary Networks
- IEEE 1547.7-2013 - IEEE Guide for Conducting Distribution Impact Studies for Distributed Resource Interconnection
- IEEE 1889-2018, Guide for Evaluating and Testing the Electrical Performance of Energy Saving Devices
- IEEE 18880-2015 - ISO/IEC/IEEE Information technology- Ubiquitous green community control network protocol
- IEEE 18881-2016 - ISO/IEC/IEEE International Standard -- Information technology -- Ubiquitous green community control network -- Control and management
- IEEE 18883-2016 - ISO/IEC/IEEE International Standard -- Information technology -- Ubiquitous green community control network – Security
- IEEE 1901-2010 - IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications
- IEEE 1901a-2019 - IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications -- Amendment 1: Enhancement for Internet of Things Applications
- IEEE 1904.1-2017, IEEE Standard for Service Interoperability in Ethernet Passive Optical Networks (SIEPON)
- IEEE 2030-2011 - IEEE Guide for Smart Grid Interoperability of Energy Technology and Information Technology Operation with the Electric Power System (EPS), End-Use Applications, and Loads
- IEEE 2030.1.1-2015 - IEEE Standard Technical Specifications of a DC Quick Charger for Use with Electric Vehicles
- IEEE 2030.2-2015 - IEEE Guide for the Interoperability of Energy Storage Systems Integrated with the Electric Power Infrastructure
- IEEE 2030.2.1-2019 - IEEE Approved Draft Guide for Design, Operation, and Maintenance of Battery Energy Storage Systems, both Stationary and Mobile, and Applications Integrated with Electric Power Systems
- IEEE 2030.5-2018 - IEEE Standard for Smart Energy Profile Application Protocol

Current New or Revision Projects*

- IEEE P802.1Qdj - Standard for Local and Metropolitan Area Networks--Bridges and Bridged Networks Amendment: Configuration Enhancements for Time-Sensitive Networking
- IEEE P1547a - Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces Amendment to IEEE Std 1547-2018 to provide more flexibility for adoption of abnormal operating performance Category III

- IEEE P1547.2 - Application Guide for IEEE Std 1547(TM), IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems
- IEEE P1547.9 - Guide to Using IEEE Standard 1547 for Interconnection of Energy Storage Distributed Energy Resources with Electric Power Systems
- IEEE P1922.1, Standard for a method for calculating anticipated emissions caused by virtual machine migration and placement
- IEEE P1922.2, Standard for a method to calculate near real-time emissions of information and communication technology infrastructure
- IEEE P1923.1, Standard for computation of energy efficiency upper bound for apparatus processing communication signal waveforms
- IEEE P1924.1, Recommended practice for developing energy efficient power-proportional digital architectures
- IEEE P1925.1, Standard for Energy Efficient Dynamic Line Rate Transmission System
- IEEE P1926.1, Standard for a Functional Architecture of Distributed Energy Efficient Big Data Processing
- IEEE P1927.1, Standard for Services Provided by the Energy-efficient Orchestration and Management of Virtualized Distributed Data Centers Interconnected by a Virtualized Network
- IEEE P1928.1, Standard for a Mechanism for Energy Efficient Virtual Machine Placement
- IEEE P1929.1, An Architectural Framework for Energy Efficient Content Distribution
- IEEE P2061 - Architecture for Low Mobility Energy Efficient Network for Affordable Broadband Access
- IEEE P2784, Guide for the Technology and Process Framework for Planning a Smart City

**Draft standards projects, once approved, are often revised and/or used as the base for new projects, and therefore may appear in both the "active standards" and "projects under development" lists.*

***For the full and most-up-to-date list, please go to https://standards.ieee.org/standard/index.html*