

European Commission Mandates

ETSI performs energy efficiency related work in support of European Commission Mandates. The current Mandates in this domain are:

- Mandate 439: Standardization in the field of standby and off modes power consumption measurement for energy using products
- Mandate 450: Standardisation in the field of measurements of no-load condition electric power consumption and average active efficiency of external power supplies
- Mandate 451: Standardization in the field of power consumption measurement of simple set-top boxes in active and standby modes
- Mandate 462: ICT to enable efficient energy use in fixed and mobile information and communication networks

Partnership activities

Some aspects of ETSI's energy efficiency work is done in partnership with other organizations, including ITU-T Study Group 5, the Broadband Forum, the Home Gateway Initiative, CENELEC (for Mandates 439 and 451) and the Global eSustainability Initiative forum (GeSI). Links have also been established with the EC 7th Framework Programme (FP7) EARTH Project (Energy Aware Radio and neTwork technologies).

About ETSI

ETSI is one of the world's leading standards development organizations for Information and Communication Technologies (ICT). Founded initially to serve European needs, ETSI has grown rapidly to become highly-respected as a producer of technical standards for worldwide use. ETSI is formally recognized by the European Union as a European Standardization .

ETSI membership is composed of manufacturers and network operators – all the “big names” and many smaller companies too – plus national administrations, ministries, regulators, universities, research groups, consultancies and user organizations. A powerful and dynamic mix of skills, resources and ambitions, all working together to bring the very best ICT solutions to the global marketplace. Geographically, our membership of over 700 companies and organizations is drawn from more than 60 countries on 5 continents.

ETSI is independent of all other organizations and structures, a key feature for ensuring neutrality and trustworthiness. That brings benefits not only in the acceptance of our standards and other publications, but also in our growing range of ancillary services, such as interoperability testing. And because standardization inevitably draws upon the bright ideas of our members, we have an Intellectual Property Rights (IPR) policy in place that has become the model for many other organizations.

Your company can be part of this dynamic organization. For more information about how you can be involved, please visit

<http://www.etsi.org/membership>

For details about ETSI's current Energy Efficiency standardization activities , please visit

<http://portal.etsi.org/EE> or contact Better_Living_with_ICT@etsi.org

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Energy Efficiency

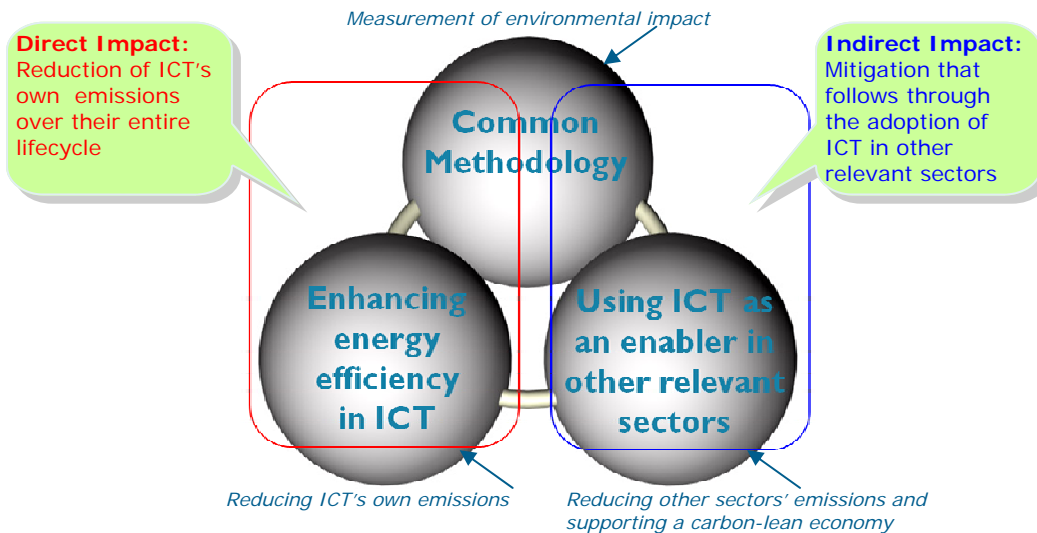


The challenge of energy efficiency

One of the key ambitions of the European Union (EU) is to develop a low-carbon economy. To make this happen, the EU has given policy direction through the comprehensive policy framework proposed in the energy and climate package. Among the climate and energy targets for 2020 are a reduction of at least 20% in greenhouse gases and a 20% share of renewable energies in EU energy consumption.

Currently, Information and Communication Technologies (ICT) account for around 2% of the total carbon emissions and this figure is expected to triple in the global calculation by 2020 compared to the 2002 level. It is therefore urgent that energy efficiency measures are applied in order to counterbalance the expected growth in ICT.

ICT is also recognised as an important part of the solution for combatting 'climate change', and has three inter-related focus areas:



Common Methodology: ICT can contribute to setting the common methodology for the measurement of overall environmental impacts

Enhancing energy efficiency in ICT: Various technical solutions to enhance energy efficiency within the ICT domain

Using ICT as an enabler in other relevant sectors: ICT can be used as an enabler to reduce environmental impacts of other relevant sectors such as Intelligent Transport (ITS) and Machine-to-Machine (M2M) communications (outside the scope of this leaflet).



ETSI's role

Several of ETSI's Technical Committees (TCs) are actively involved in specifying technologies to improve energy efficiency. For example, the Access, Terminals, Transmission and Multiplexing Technical Committee (TC ATTM) deals with energy efficiency for broadband with close collaboration with the ETSI Environmental Engineering Technical Committee (TC EE), which defines the energy efficiency indicators and measurement methods. Working Group 5 of ETSI's Telecommunications and Internet converged Services and Protocols for Advanced Networking Technical Committee (TC TISPAN) is also currently working on how to use Next Generation Networks (NGN) to monitor and control power levels in Customer Premises Networks.

Common Methodology — Assessment of environmental effects

Work in this area is led by TC EE and includes:

Life Cycle Assessment (LCA), a system analytical method and model for assessing the environmental aspects associated with a product over its life cycle, i.e. material extraction, manufacturing, transport, use and scrapping processes. The current work items are DTS/EE-00014: 'General definition and common requirements' and DTR/EE-00008: 'Environmental Impact Assessment of ICT including the Positive Impact by using ICT Services'.

Requirements and measurement methods on power consumption of specific telecommunication products to enhance energy efficiency. TC EE's current work items in this domain are concerned with specifying:

- Measurement methods for energy consumption of Customer Premises Equipment: DTS/EE-00018 & DEN/EE-00021
- Measurement methods and limits for energy consumption in broadband telecommunications equipment: ETSI Standard ES 203 215
- Energy efficiency of Wireless Access Network Equipment: Technical Specification TS 102 706
- Measurement methods for power consumption in transport telecommunication networks equipment: DES/EE-00023
- Measurement methods for energy consumption of router and switch networks equipment: DES/EE-00024

Enhancing energy efficiency in ICT

Technical solutions to improve energy efficiency in networks and devices have been identified by TC EE, TC ATTM and the 3rd Generation Partnership Project, 3GPP™:

- Use of alternative energy solutions in telecommunication installations (TC EE): Technical Report TR 102 532
- Reverse power feeding (TC EE and TC ATTM TM6): Technical Reports TR 102 614 and TR 102 629
- Digital Subscriber Line (DSL) power optimization (TC ATTM TM6)
- Energy control and monitoring in home networks (TISPAN WG5): Feasibility study in Special Report SR 085 014
- Network energy saving for E-UTRAN (Enhanced UMTS Terrestrial Radio Access Network): Feasibility study underway in 3GPP RAN (Radio Access Networks)
- Energy saving management (3GPP SA (Services and System Aspects) WG5): Automated energy savings management

TC EE is also actively involved in standardization activities for best practices for deployment of telecommunications equipment, and for power supplies, bonding and related topics.