Developing green ICT policies for climate change mitigation

International Standards for
Sustainable Digital Transformation

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Benefits of Digital Technologies

Support climate change mitigation

Better Health and Wellbeing

Cleaner More Sustainable Environment

Drive the SDGs

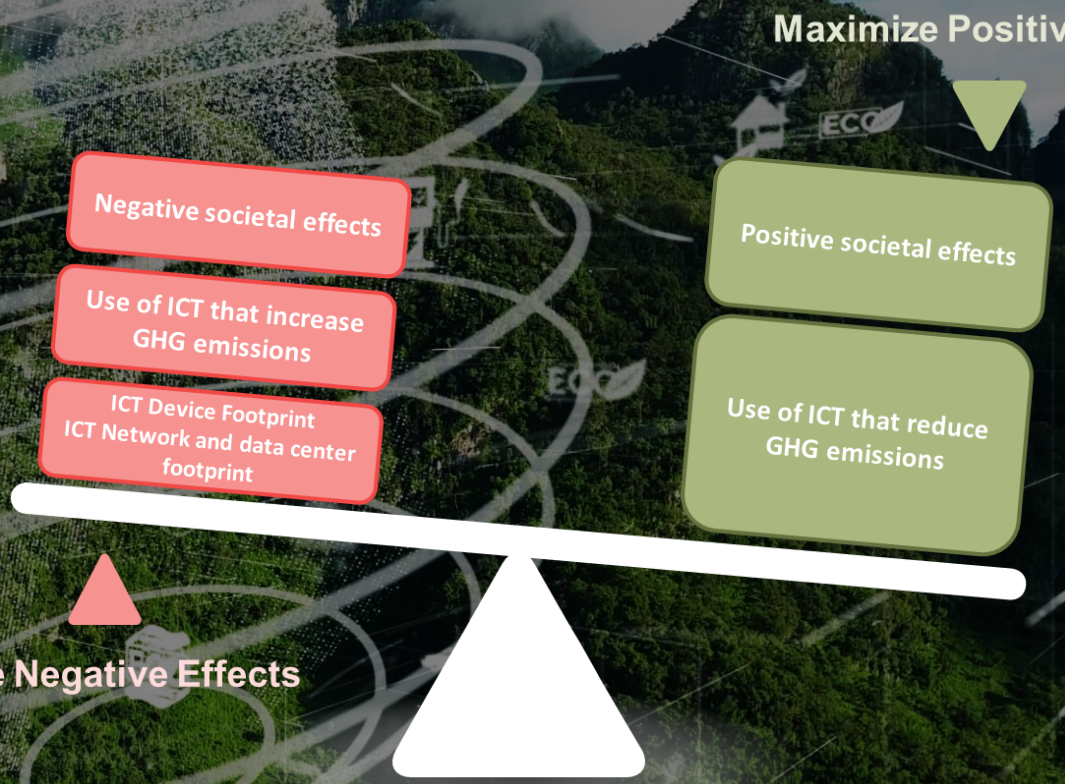
Improved Quality of Life

Double-Edge Nature of ICTs

ICT's current share of global greenhouse gas (GHG) emissions at **1.8%–2.8% of global GHG emissions**

HOWEVER

ICTs have the potential to slash global greenhouse gas (GHG) emissions **by 20% by 2030**



How Digital Technologies Support Sustainability

Artificial Intelligence

Smart traffic management to reduce air pollution and improve public health

5G

Smart water supply management to reduce water loss

Digitalization & Big Data

Increase agricultural efficiency and food security

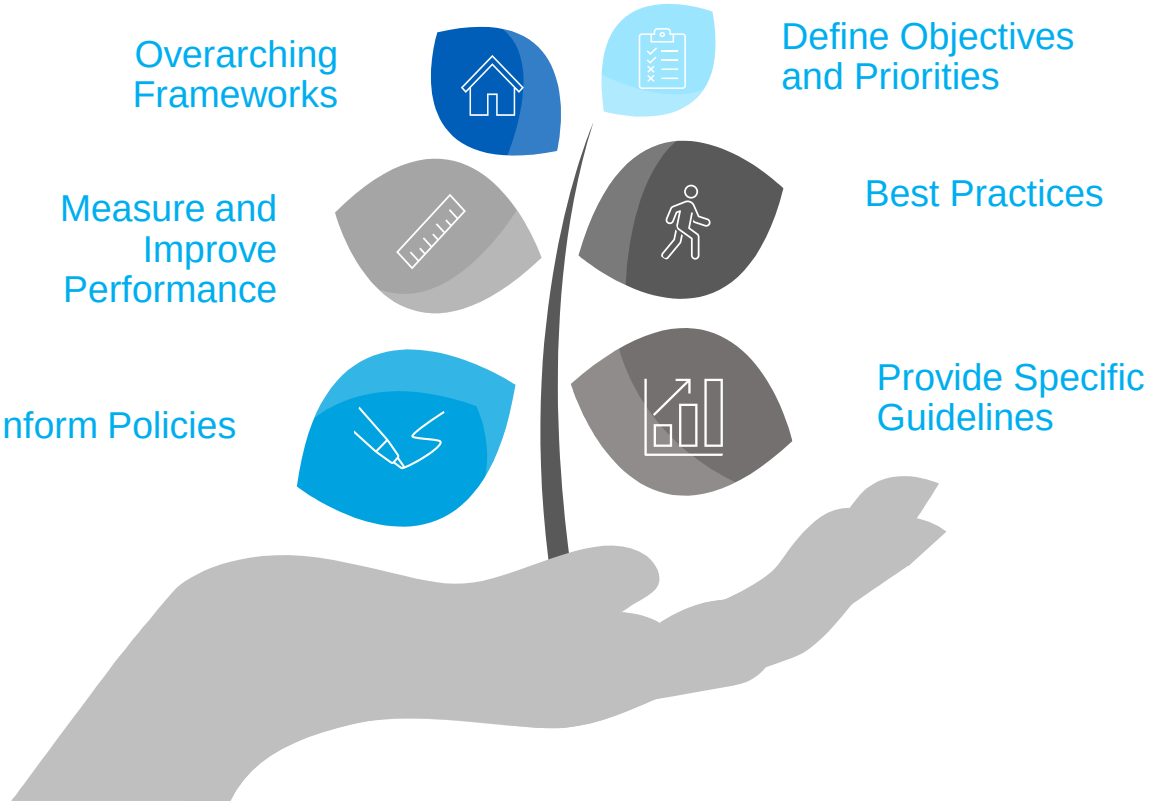
Smart Grids

Renewable electricity to reduce fossil fuel consumption

Robotics

Discovery and observation of marine life to protect biodiversity

Importance of International Standards



For cities and governments

- Reduce carbon emissions
- Achieve a sustainable digital Transformation
- Improve uptake of green energy
- Achieve targets set in the Paris Agreement and SDGs

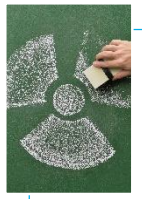
For ICT Sector

- Technical guidance to implement green energy solutions
- Provide measurement tools to evaluate progress
- Bring low-cost connectivity to rural areas
- Reach net-zero

ITU-T Study Group 5 Standards Development Areas

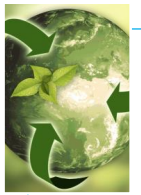
EMF, environment, climate action, sustainable digitalization, and circular economy

Electromagnetic compatibility, resistibility and lightning protection



Soft error caused by particle radiations

Human exposure to electromagnetic fields



Circular economy and e-waste management

ICTs related to the environment, energy efficiency, clean energy and sustainable digitalization for climate actions

International Standards on Sustainable Digital Transformation

Sustainable Digital Transformation

E-waste Management

- Standards to help **sustainable e-waste management systems**, **recycling procedures** and move us towards a circular economy.

Circular Economy

- **Designing with circularity and sustainability in mind** avoiding waste and facilitating their recovery and re-use during their end-of-life phase.

Energy Efficiency, Green Network and Data Centres

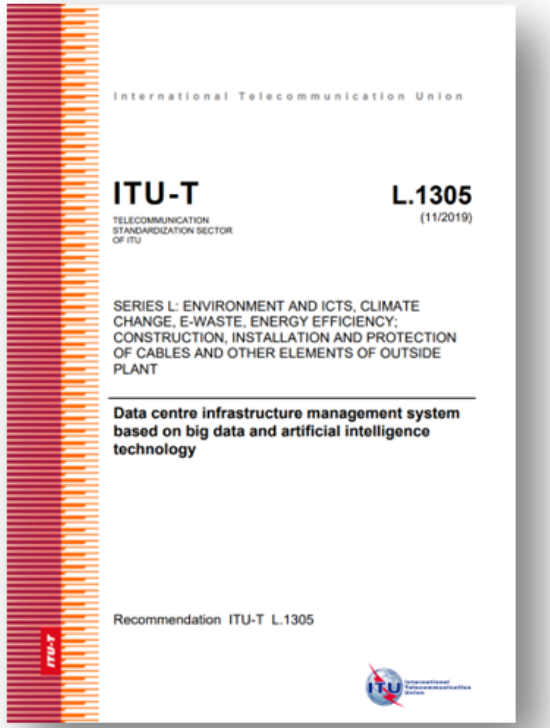
- Identifying the **environmental and energy efficiency requirements for ICTs** .
- Providing solutions for assessing **environmental performance of green networks and data centres**.

GHG Emissions and ICT Sector

- Providing **trajectories, best practices, and targets** to help the ICT sector move towards **decarbonization and Net Zero emissions**.

To support and provide guidance to government, industry, and academia

Example of Standards using Big Data and AI supporting the ICT Sector



Using smart analyses, the Data Centre infrastructure management (DCIM) system can make a data centre more stable and energy efficient for long-term operations. All resources can be adequately used to enhance the usage efficiency.

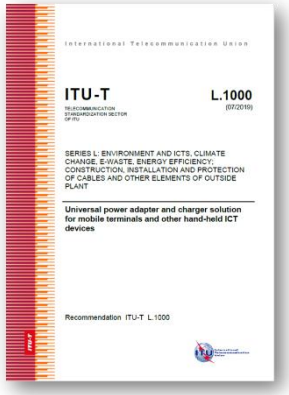
- provide passive responses to be active predictions
- automate management of infrastructure resources
- use AI technology to decrease the system cost and increase efficiency

Example of Standards supporting the ICT Sector

ITU-T L.1000 Universal power adapter and charger solution

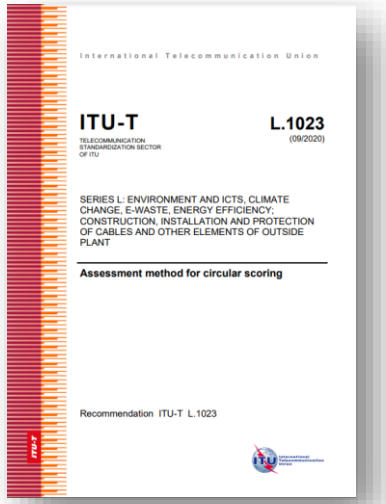
A universal power adapter and charger solution that will reduce the number of power adapters and chargers produced and **recycled.**

Mitigation of **50.000 tonnes** of e-waste



Example of Standards supporting the ICT Sector

ITU-T L.1023 Assessment method for circular scoring



1 – Product durability (PD):

- Promoting the life span and durability of products
- Adapting their design and studying the possibility of upgrading
- Service support for the first user or subsequent users

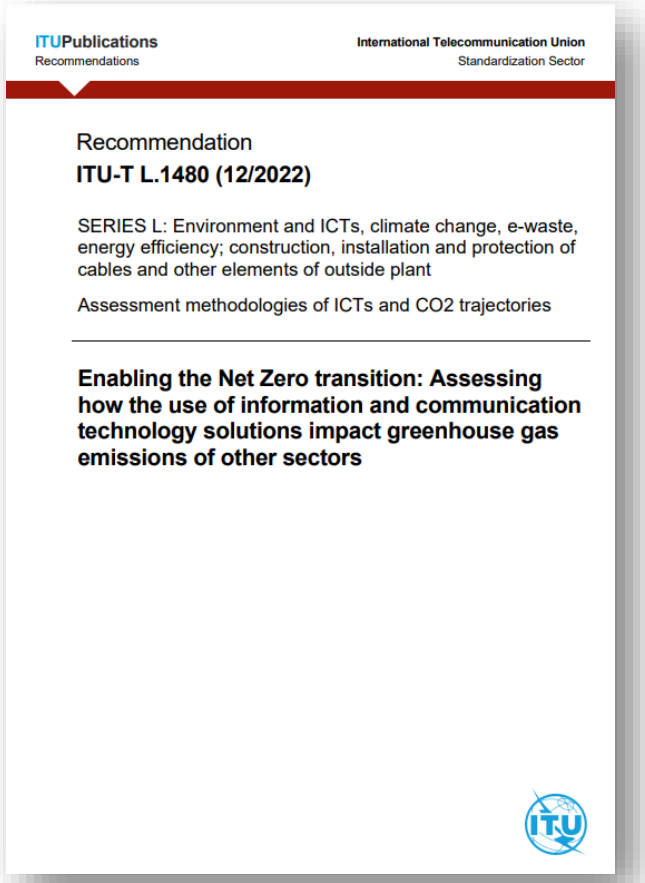
2 – Ability to recycle, repair, reuse, upgrade (3RUe) - equipment level

- Possibilities to refurbish;
- Possibilities to reuse product parts and components;
- Facilitate the identification, separation and recycling of materials.

3 – Ability to recycle, repair, reuse, upgrade (3RUm) – manufacturer level:

- Manufacturer ability (on company level) to facilitate recycling, repair, reuse and upgrade

Example of Standards supporting the ICT Sector


ITUPublications
Recommendations

International Telecommunication Union
Standardization Sector

Recommendation
ITU-T L.1480 (12/2022)

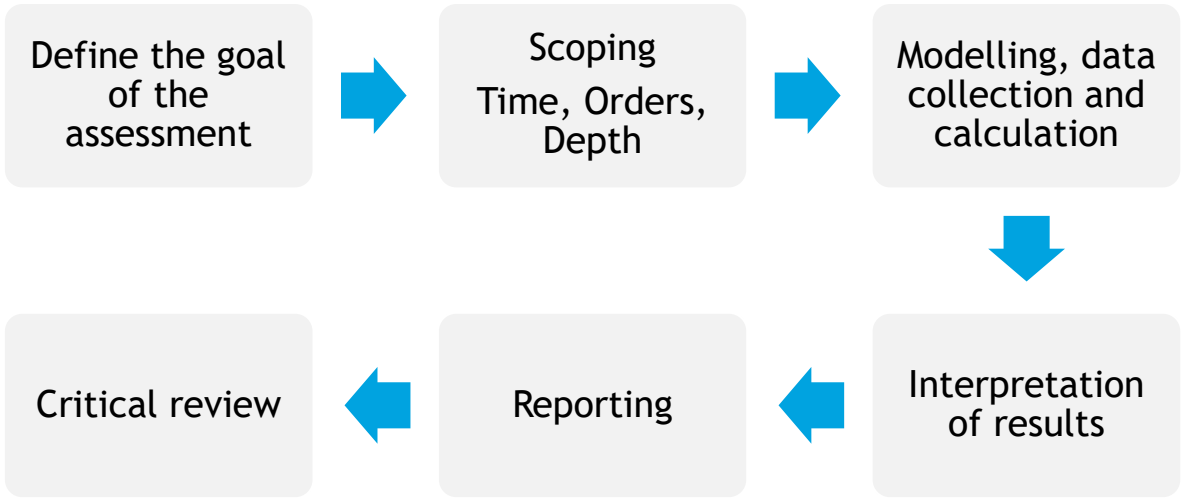
SERIES L: Environment and ICTs, climate change, e-waste, energy efficiency; construction, installation and protection of cables and other elements of outside plant

Assessment methodologies of ICTs and CO2 trajectories

Enabling the Net Zero transition: Assessing how the use of information and communication technology solutions impact greenhouse gas emissions of other sectors

- Provides a methodology on **how to assess ICT and digital technologies solutions impact GHG emissions**
- Being used by the European Green Digital Coalition

Six steps to assess an ICT solution



Example: Assessing the impact of a virtual event

Advancing towards a sustainable digital transformation

Examples of ongoing work

Requirements for a global digital sustainable product passport to achieve a circular economy

Examples related to applying methodology to assess ICT solution GHG impacts

Guidance for Administrations on the application of the methodology to assess how digital technologies can help to reduce GHG emissions

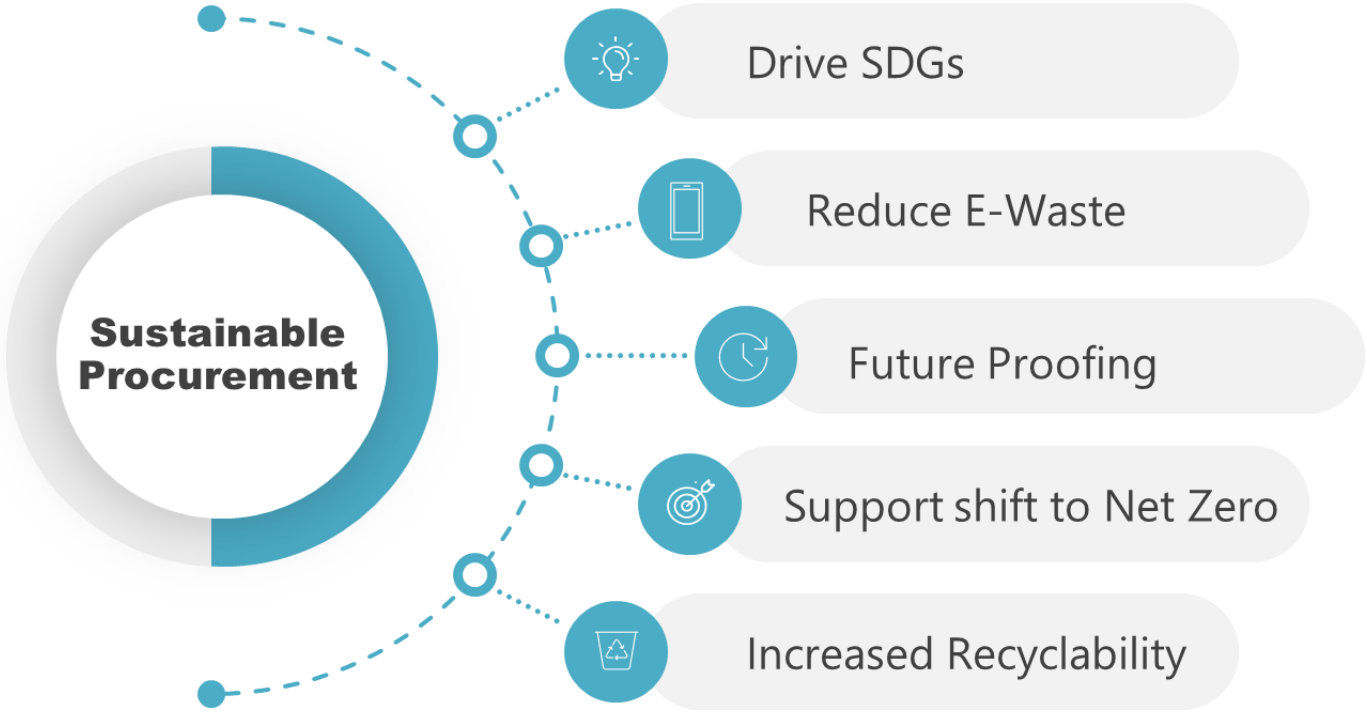
Requirements for a global digital sustainable product passport to achieve a circular economy

- Requirements of reporting key aspects related to circularity and transparency of an ICT or digital technology product in digital format.
- Facilitate and automate comparison of different ICT products based on circularity aspects.
- Facilitate preparation and reuse in the second-hand market and the reverse supply chain.
- Help manufacturers, governments, users to implement voluntary reporting and monitoring mechanisms to assess these qualities

ETSI

European Commission

ITU-T Standards Driving Sustainable Procurement



Recommendation L.1061Circular Public Procurement of ICTs

Strengthening Collaboration and Implementation of Standards

Collaboration with Other Organizations

ETSI

ISO

IEC

GeSI ENABLING DIGITAL SUSTAINABILITY

step solving the e-waste problem

circular electronics partnership

BASEL CONVENTION

PACE II

Collaboration Across UN Agencies

World Health Organization

UNIDO

UN environment programme

Thank you!

Email

tsg

Website

SG5: Environment, climate change and circular economy