

# ITU standards & activities to help the environment and tackle climate change



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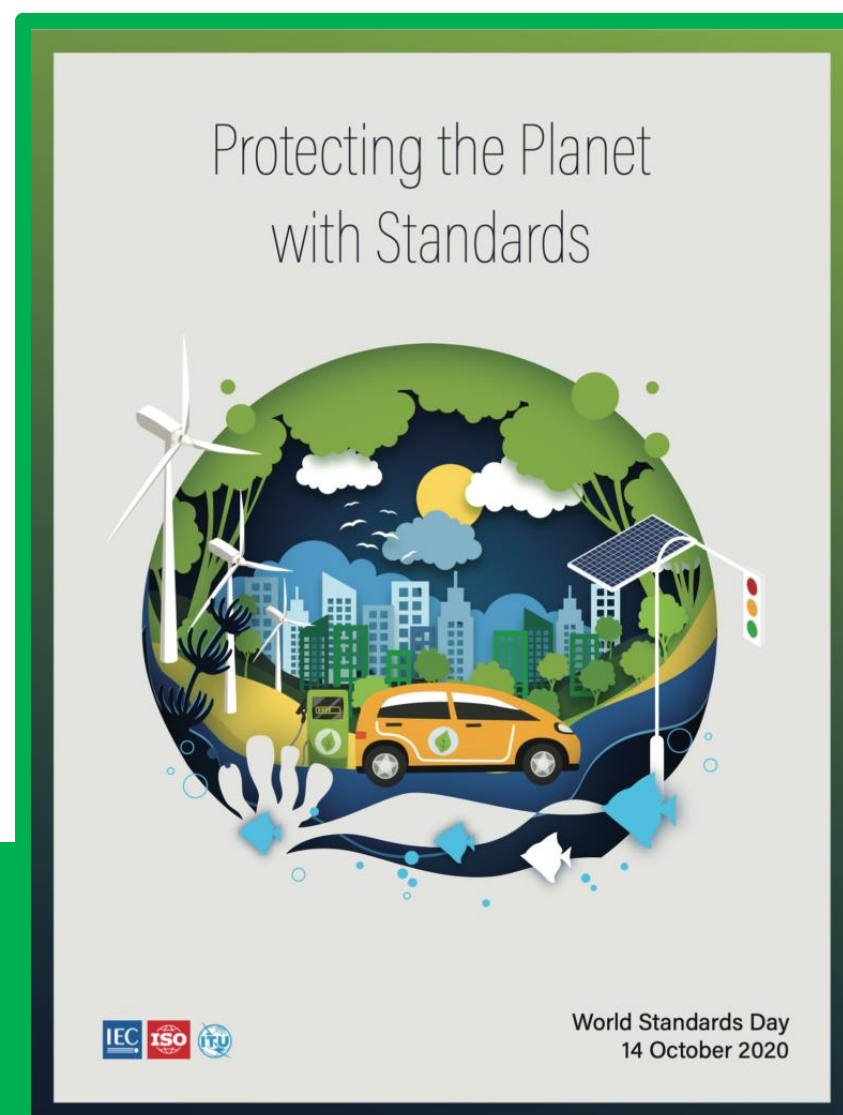
**October 2020**



# World Standards Day and International E-Waste Day 2020



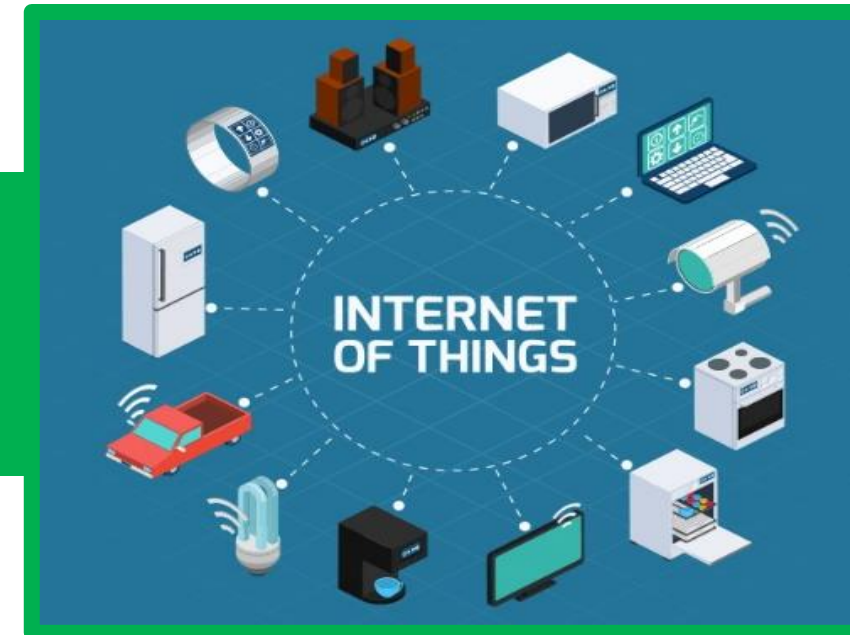
14 October 2020



**The ICT sector accounts for 2% of global emissions.**

**But it can also help reduce global emissions by 15%.**

# Frontier Technologies can address global challenges such as climate change



# ITU is helping the ICT sector move towards a carbon neutral path



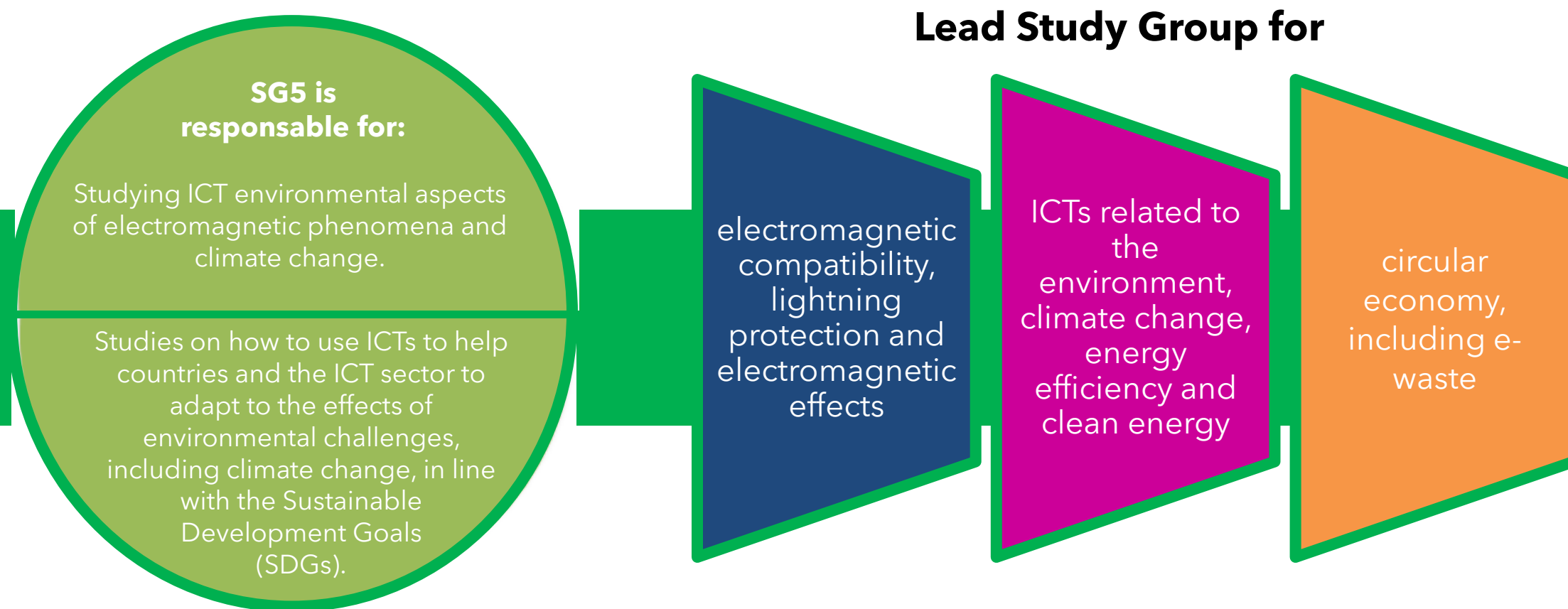
**International standards:** ITU-T SG5:  
Environment, Climate Change & Circular Economy

**Research and pre-standardization work:**  
FG-AI4EE

**Raising awareness:**  
International events and reports

**Active collaboration**  
with other entities and UN organizations

# ITU-T Study Group 5: Environment, climate change and circular economy



WP1/5 - EMC, lightning protection, EMF

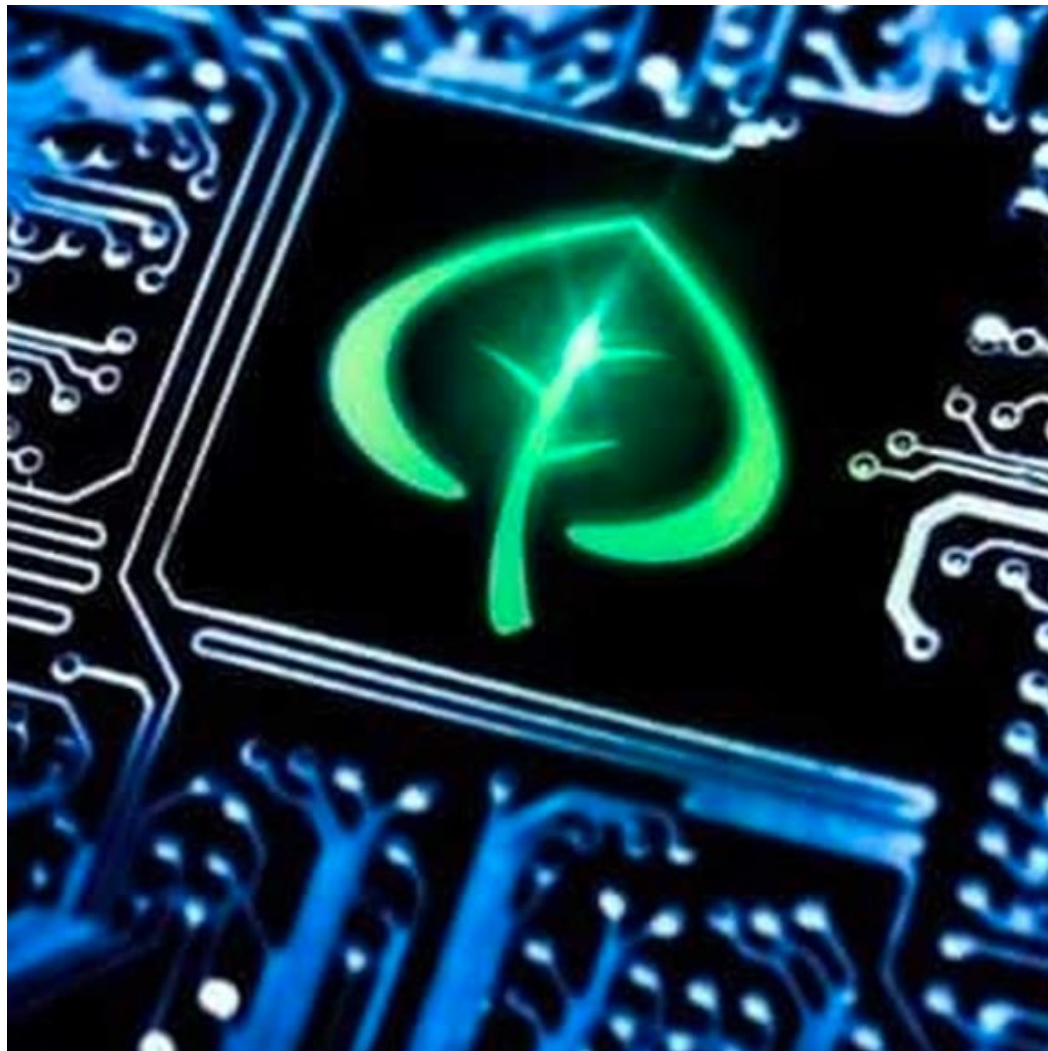
WP2/5 - Environment, Energy Efficiency and the Circular Economy

# Using ICT solutions in an environmentally sound manner



Aspects that should be considered

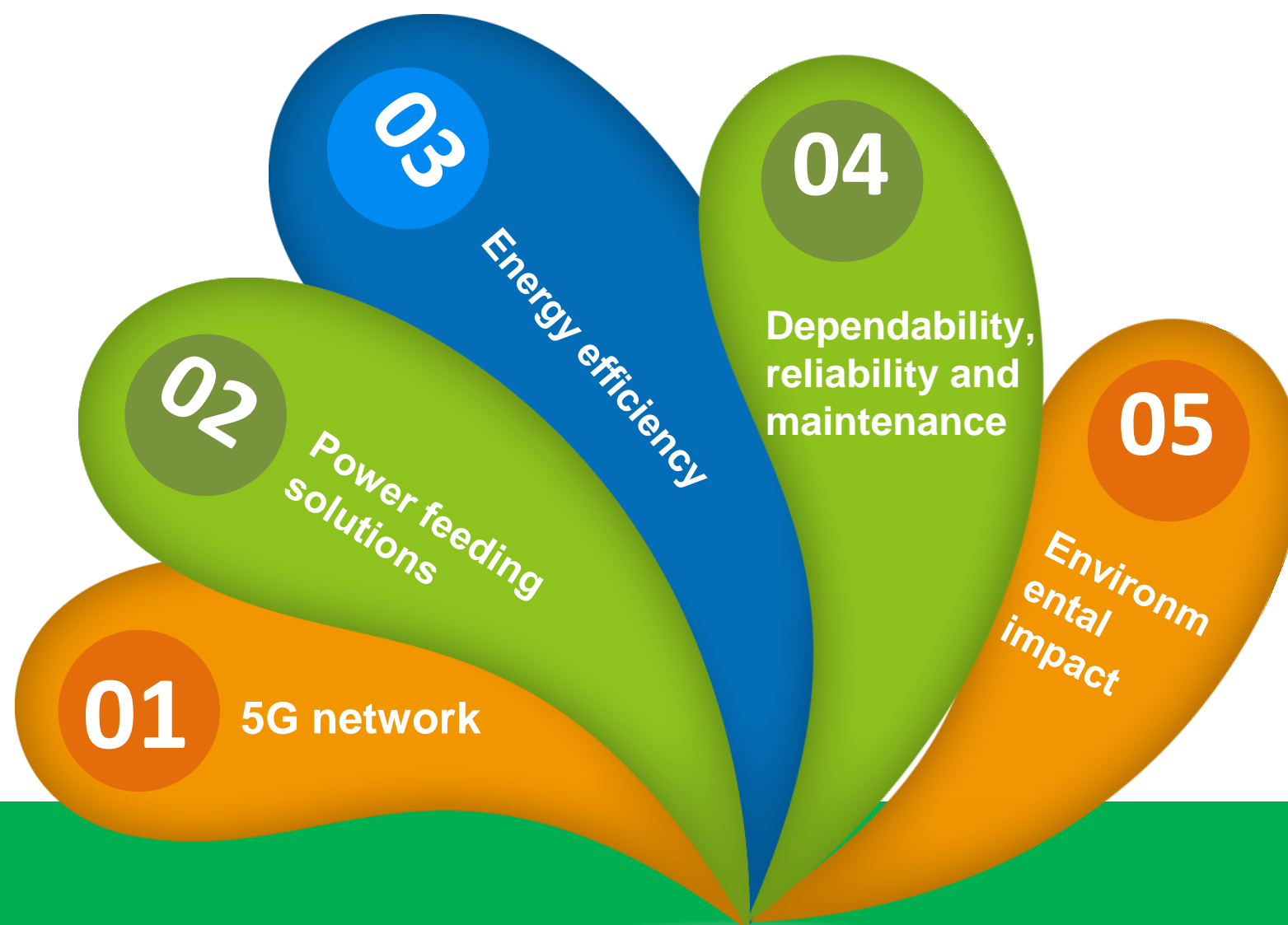
# ITU-T Recommendations on Energy Efficiency and Smart Energy



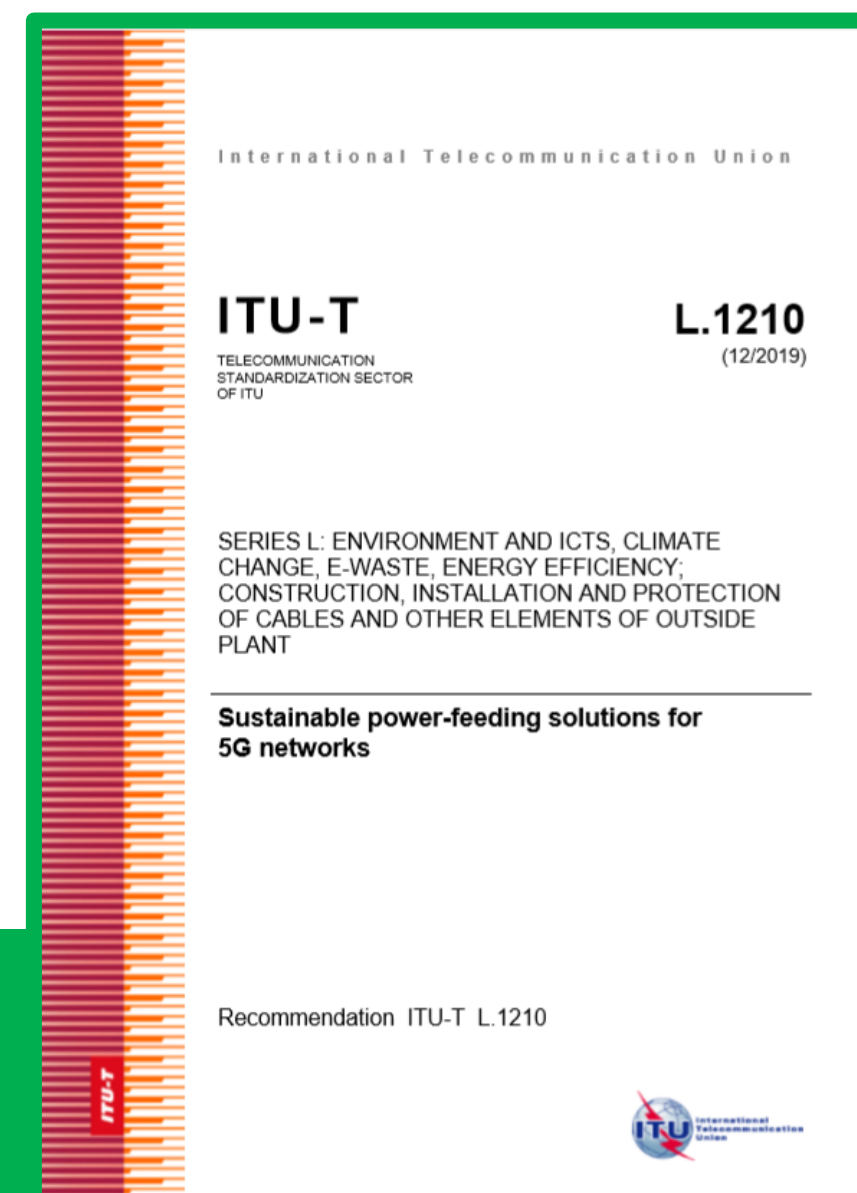
- **Recommendations ITU-T L.1220, ITU-T L.1221, and ITU-T L.1222:** Innovative Energy storage technology for stationary use:
  - Part 1: Overview of energy storage
  - Part 2: Battery
  - Part 3: Supercapacitor technology
- **Recommendation ITU-T L.1303:** Functional requirements and framework of green data centre energy-saving management system
- **Recommendation ITU-T L.1305:** Data centre infrastructure management system based on big data and artificial intelligence technology
- **Recommendations ITU-T L.1380, ITU-T L.1381, and ITU-T L.1382:** Smart Energy Solutions for:
  - Telecom sites
  - Data Centre
  - Telecommunication rooms
- **Recommendation ITU-T L.1370:** Sustainable & intelligent building services
- **Recommendation ITU-T L.1371:** A methodology for assessing and scoring the sustainability performance of office buildings



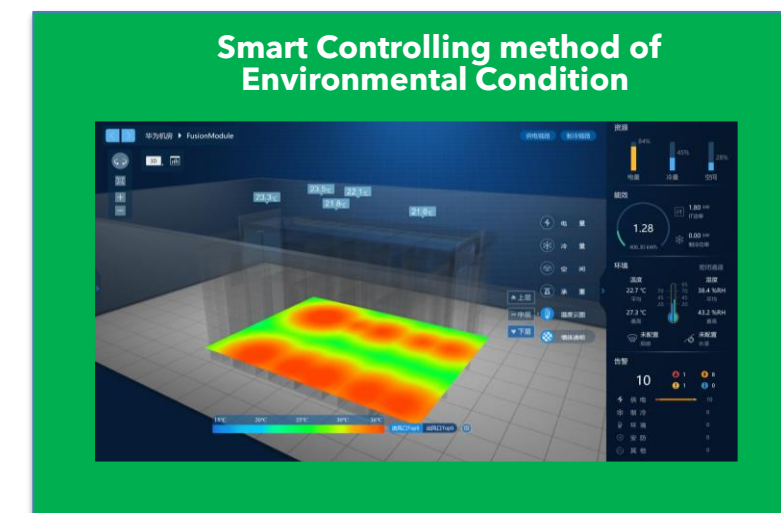
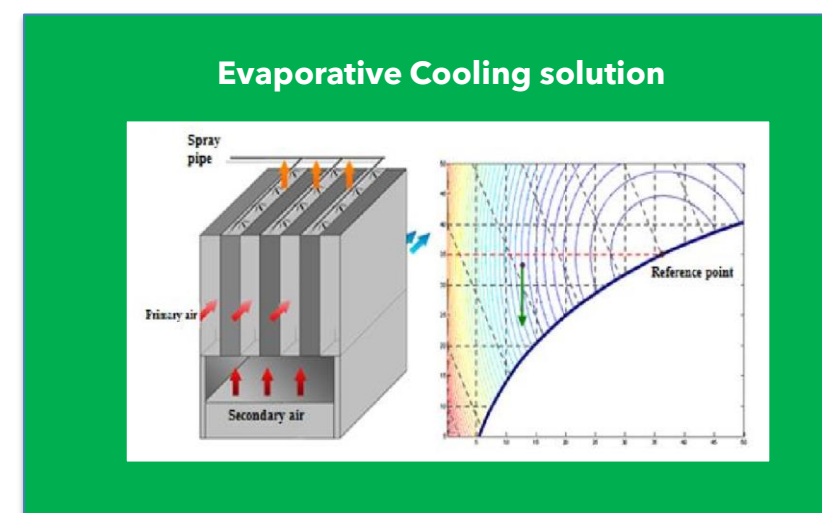
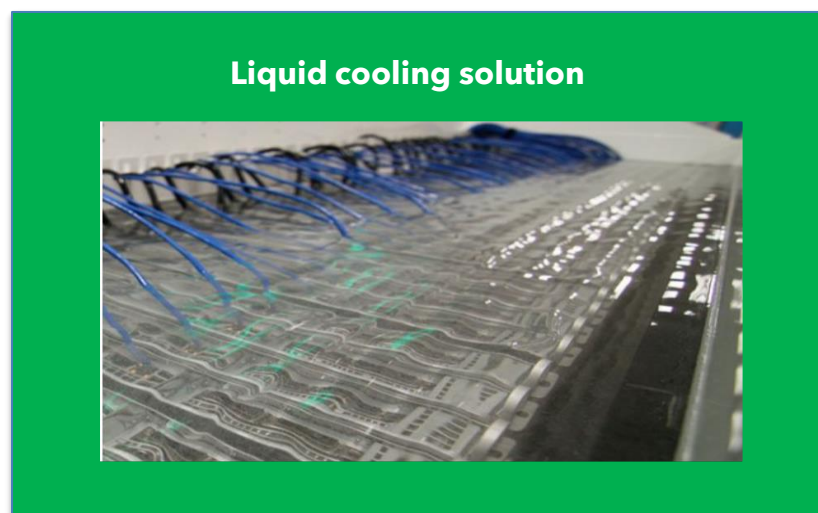
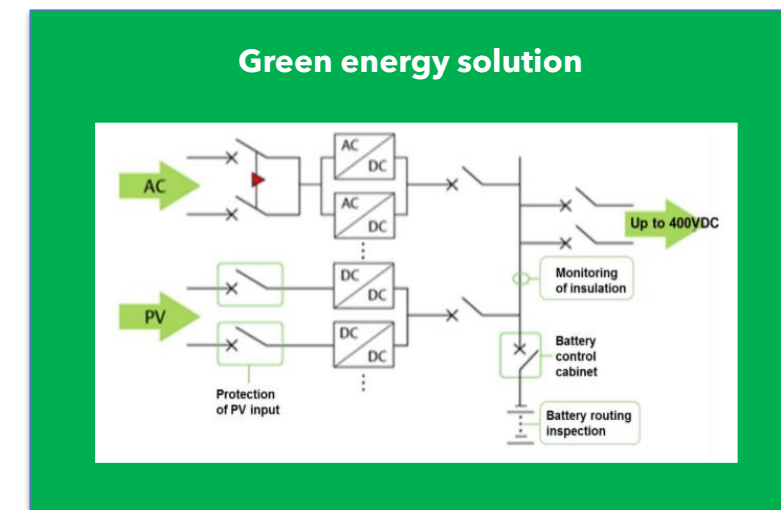
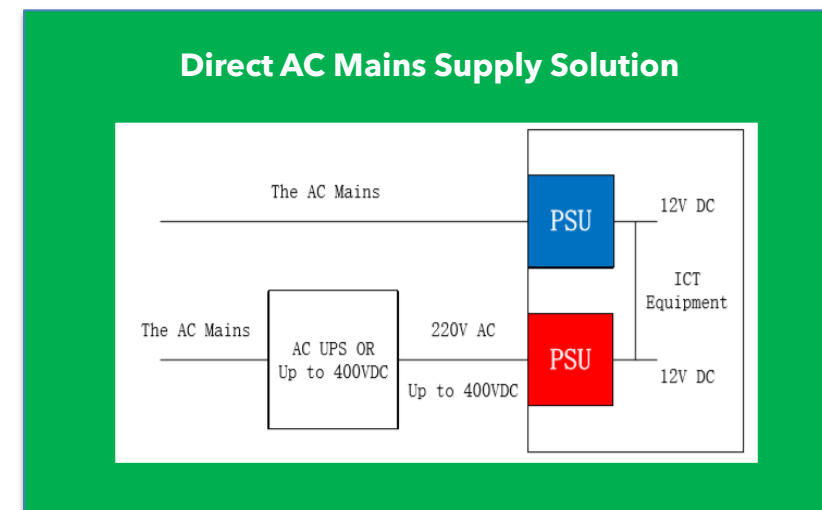
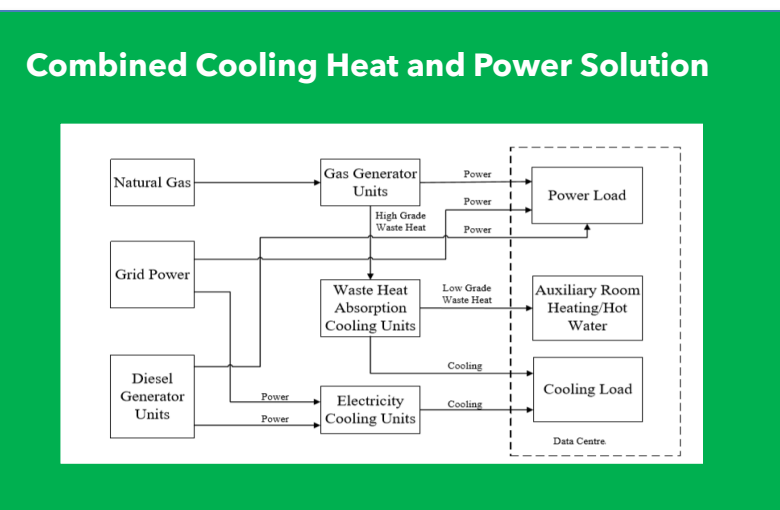
# ITU-T L.1210(2019) "Sustainable power-feeding solutions for 5G networks"



Content of Recommendation



# ITU-T L.1381(2020) "Smart energy solutions for data centers"



# ITU's work to combat e-waste



**National Policy and Regulatory Development**



**Developing International standards**



**Improving and Collecting Data**



**Projects and Activities**



**United Nations E-waste Coalition**



**Reports and Publications**

# The E-waste Challenge MOOC


Sign In / Register  
 Learning ▾ Community ▾ Coaching ▾

## The E-Waste Challenge MOOC

Learning > E-waste

### Join the MOOC to take action on e-waste










Tackling the global explosion of e-waste is one of the most important challenges of our time.  
 Yet it is also a fantastic opportunity for all of us to get involved, to make a difference and to help bring about the systemic change needed for a greener future!

The Massive Open Online Course (MOOC) on e-waste has been developed to encourage:

- Environmentally sound management of hazardous chemicals and wastes.
- Cleaner production processes to minimize use/emissions of hazardous waste.
- Protection of human health, communities and the environment from the impact of hazardous waste and climate change.
- Design, circular economy, mitigation and adaptation activities to lower the impact on climate change and natural resources.

# Helping the ICT sector reduce its emissions



This guidance supports operators and data centre owners in setting science-based targets for GHGs according to the decarbonisation pathways, described in detail in Recommendation ITU-T L.1470.

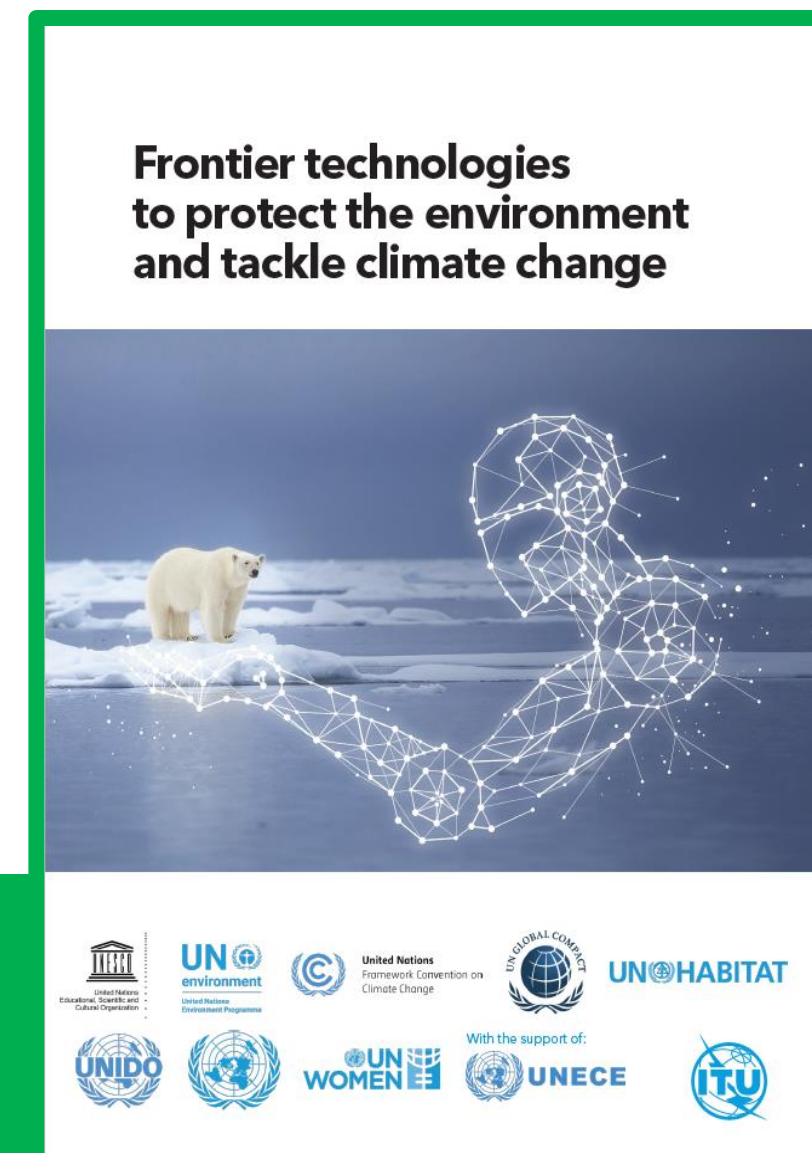
# FG-AI4EE: Environmental efficiency for AI and other emerging technologies



This FG-AI4EE identifies the standardization needs to develop a sustainable approach to AI and other emerging technologies.

The FG-AI4EE is working on the **Requirements, Assessment and Measurement & Implementation** of AI and Emerging Technologies for environmental efficiency.

# ITU-T publications on Environment and Climate Change



# Thank you!

Questions? Interested in learning more?  
Let us know!



**Email**

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# Additional slides

# WP1/5 - EMC, lightning protection, EMF



**Q1/5** -  
Protection of  
information and  
communication  
technology (ICT)  
infrastructure  
from  
electromagnetic  
surges

**Q2/5** -  
Equipment  
resistibility and  
protective  
components

**Q3/5** -  
Human exposure  
to  
electromagnetic  
fields (EMFs)  
from information  
and  
communication  
technologies  
(ICTs)

**Q4/5** -  
Electromagnetic  
compatibility  
(EMC) issues  
arising in the  
telecommunicati  
on environment

**Q5/5** -  
Security and  
reliability of  
information and  
communication  
technology (ICT)  
systems from  
electromagnetic  
and particle  
radiations

# WP2/5 - Environment, Energy Efficiency and the Circular Economy



**Q6/5 -**  
Achieving energy  
efficiency and smart  
energy

**Q7/5 -**  
Circular economy  
including e-waste

**Q9/5 -**  
Climate change  
and assessment of  
information and  
communication  
technology (ICT) in  
the framework of  
the Sustainable  
Development Goals  
(SDGs)

# ITU-T Recommendations on E-waste and Circular Economy



- **Recommendation ITU-T L.1020:** Circular Economy: Guide for Operators and Suppliers on approaches to migrate towards circular ICT goods and networks
- **Recommendation ITU-T L.1021:** Extended producer responsibility - Guidelines for sustainable e-waste management
- **Recommendation ITU-T L.1022:** Circular Economy: Definitions and concepts for material efficiency for Information and Communication Technology
- **Recommendation ITU-T L.1023:** Assessment method for circular scoring
- **Recommendation ITU-T L.1032:** Guidelines and certification schemes for e-waste recyclers

# ITU-T Recommendations on Climate Change adaptation and mitigation



- **Recommendation ITU-T L.1450:** Methodologies for the assessment of the environmental impact of the information and communication technology sector
- **Recommendation ITU-T L.1451:** Methodology for assessing the aggregated positive sector-level impacts of ICT in other sectors
- **Recommendation ITU-T L.1470:** GHG emissions trajectories for the ICT sector compatible with the UNFCCC Paris Agreement
- **ITU-T L.Suppl.37 to ITU-T L.1470:** Guidance to operators of mobile networks, fixed networks and data-centres on setting 1.5°C aligned targets compliant with Recommendation ITU-T L.1470