



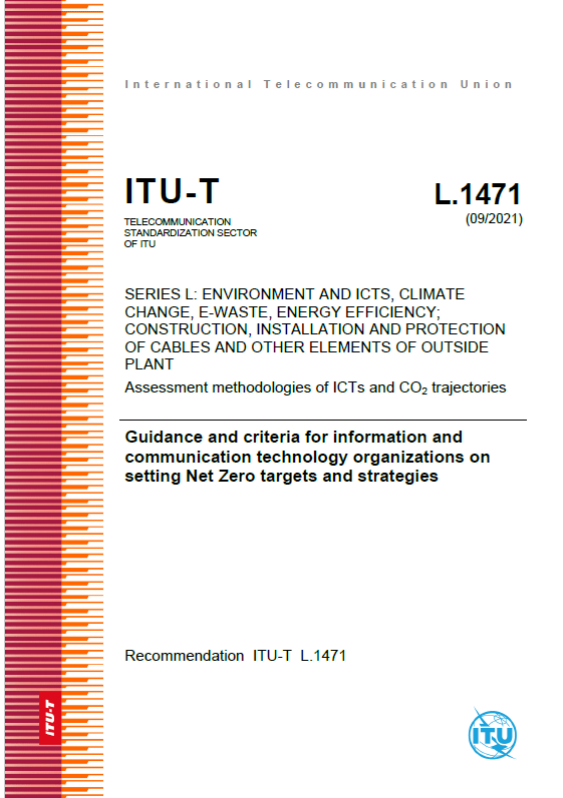
Keeping the ICT sector on track to Net Zero

May 2, 2023

The role of ICT and a brief overview of standards

**Pernilla Bergmark, Co-Rapporteur ITU-T
SG5 Q9**

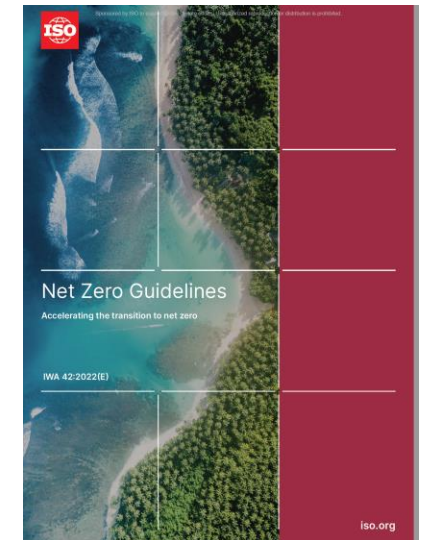
Towards Net Zero



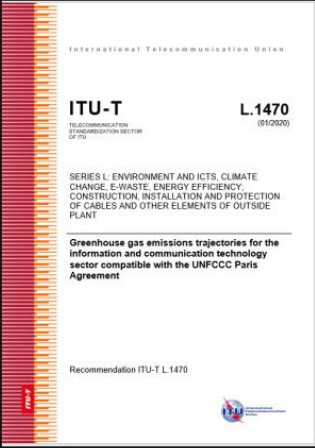
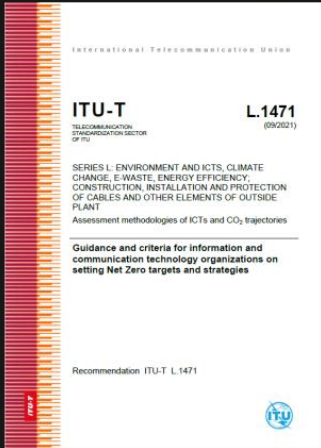
3.2.1 Net Zero (organisation level): An organisation has reached a state of net zero when this organisation has reduced its value chain emissions (scope 1 to scope 3) following science-based pathways, with any remaining residual GHG emissions attributable to that organisation being fully neutralized by like-for-like removals (e.g. permanent removals for fossil carbon emissions) exclusively claimed by that organisation.

Note: The term “residual” refers to residual emissions that remains technically unfeasible to be eliminated. For the ICT sector, such residual emissions shall align with or outperform the level of residual emissions as defined in [ITU-T L.1470].

Note: This is amended from [b-RtZ Criteria] and [b-SBTi Net Zero]



Joint work on establishing the 1.5°C trajectories for the ICT sector




Figure 1: Summary of ICT sector and sub-sector trajectories including embodied emissions and operation

ICT Sector emissions trajectories 2015-2030 (with percent reductions from 2020 to 2030)

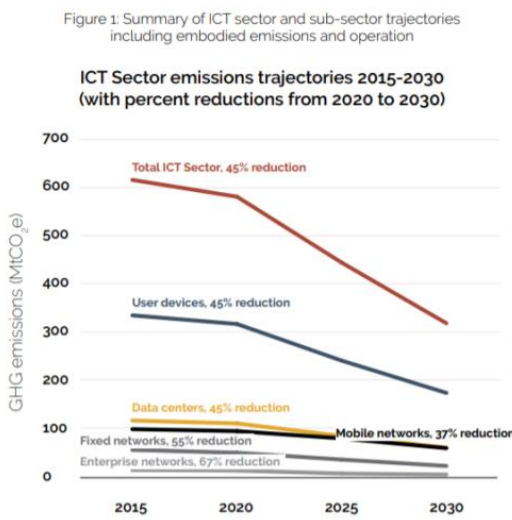
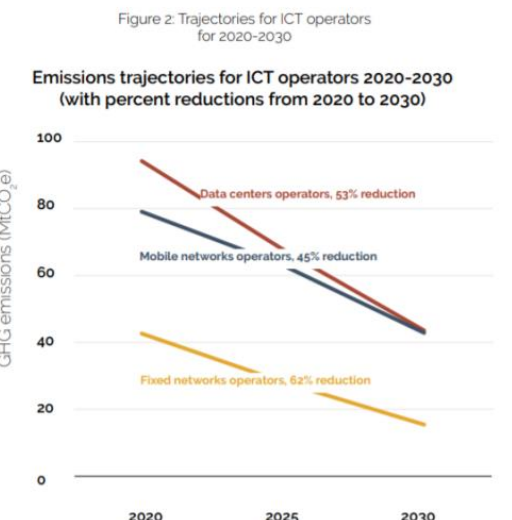






Figure 2: Trajectories for ICT operators for 2020-2030

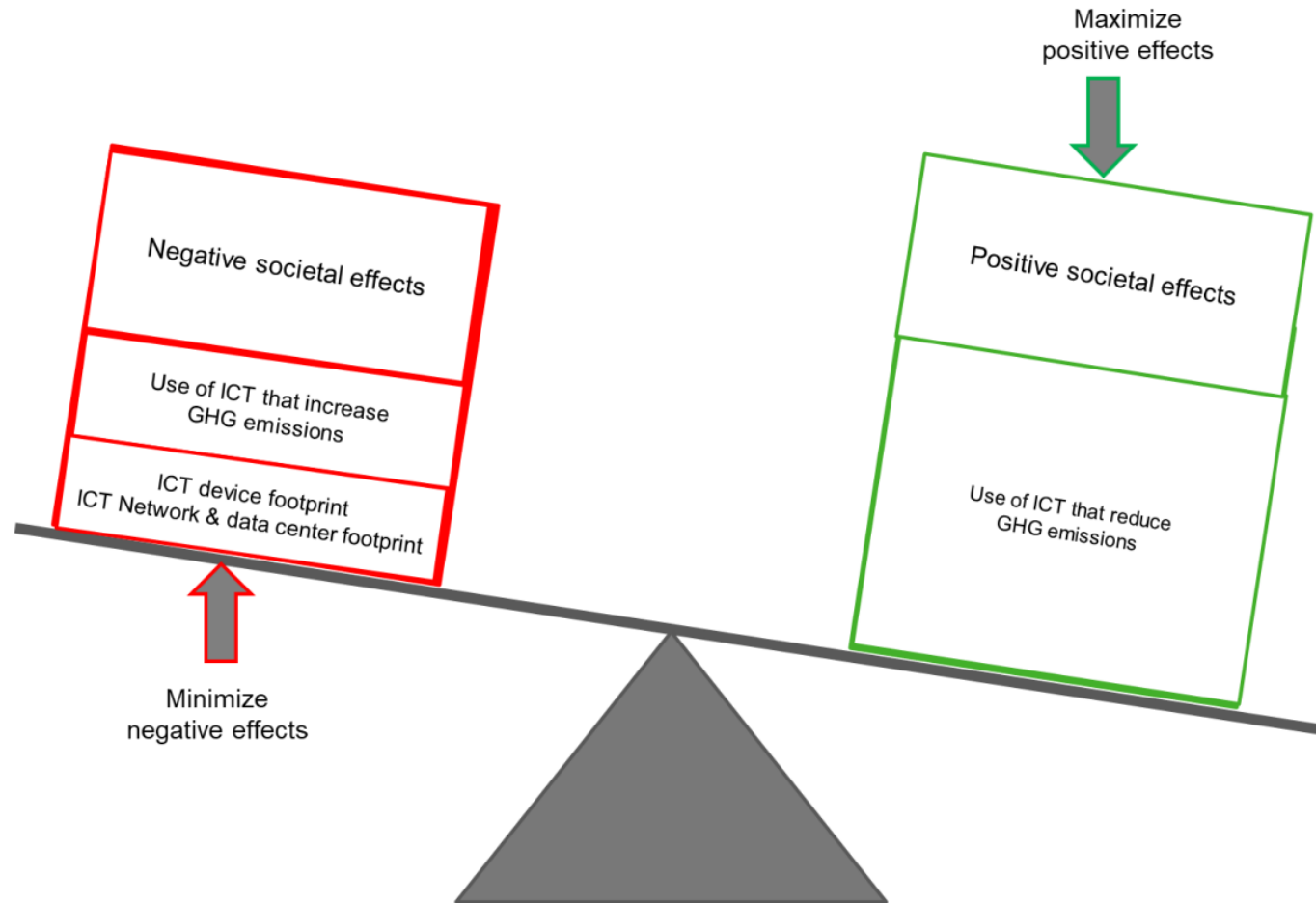
Emissions trajectories for ICT operators 2020-2030 (with percent reductions from 2020 to 2030)



<https://www.itu.int/rec/T-REC-L.1470>
<https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=14318>
<https://www.itu.int/rec/T-REC-L.Sup38-202010>
<https://sciencebasedtargets.org/sectors/ict>

The multifaceted climate impacts of ICT



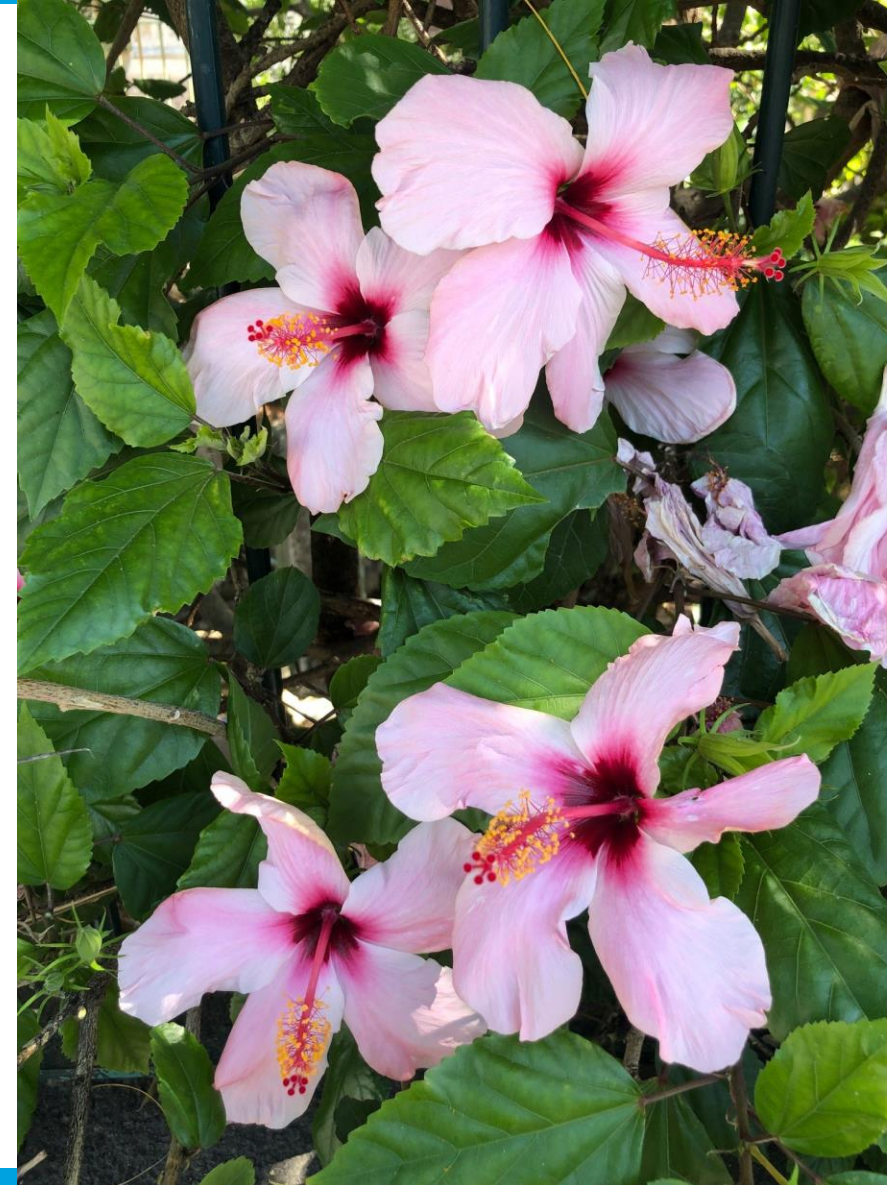
Source : Bergmark, Coroama, Kamiya, Masanet 2021

Some main definitions

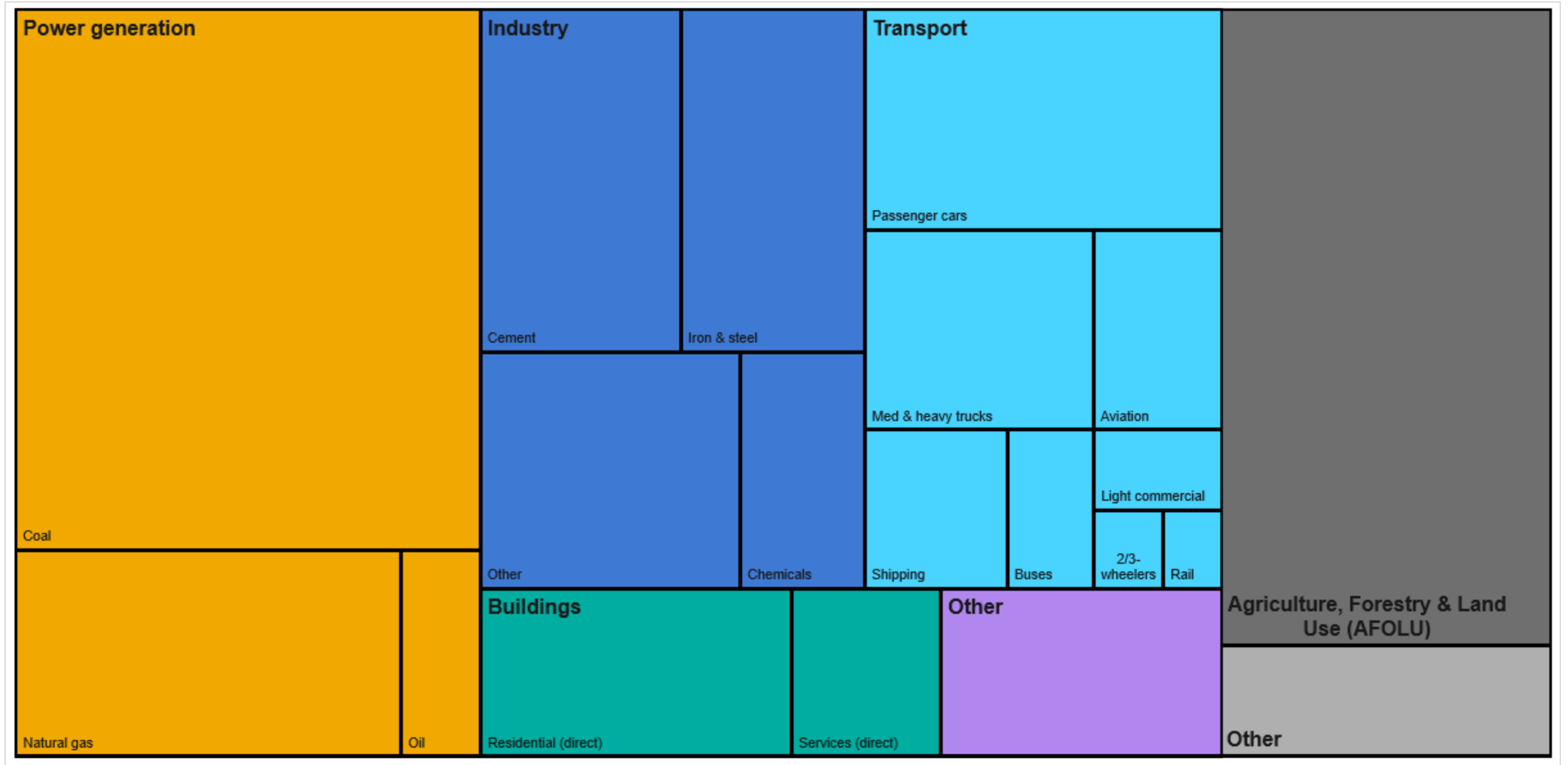
First order effect: Direct environmental effect associated with the physical existence of an ICT solution, i.e., the raw materials acquisition, production, use and end-of-life treatment stages, and generic processes supporting those including the use of energy and transportation.

Second order effect: The indirect impact created by the use and application of ICTs which includes changes of environmental load due to the use of ICTs that could be positive or negative.

Higher order effect: The indirect effect (including but not limited to rebound effects) other than first and second order effects occurring through changes in consumption patterns, lifestyles and value systems.



Greenhouse gas emissions come from many sectors and sources

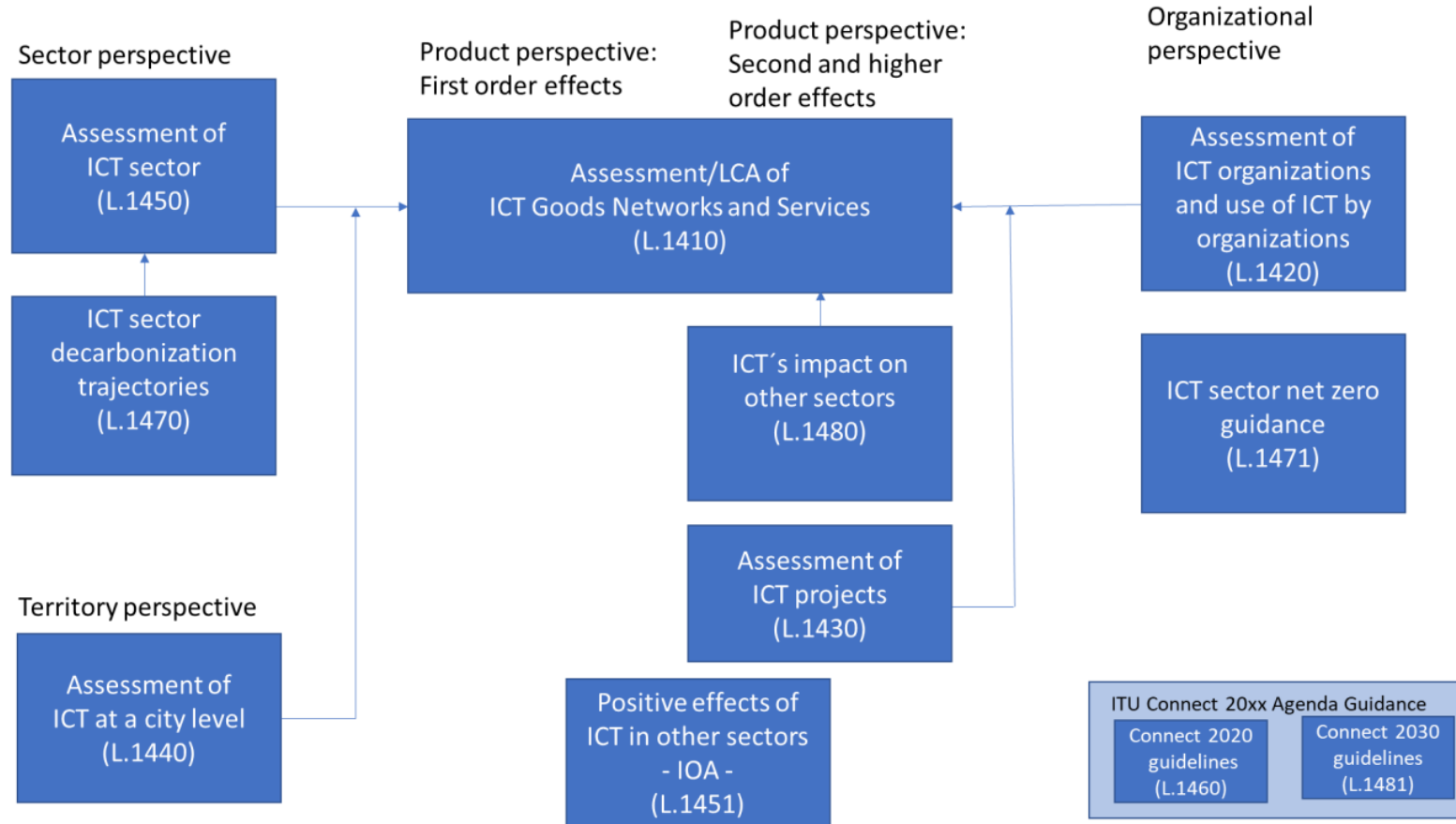


Direct and indirect effects of digital technologies

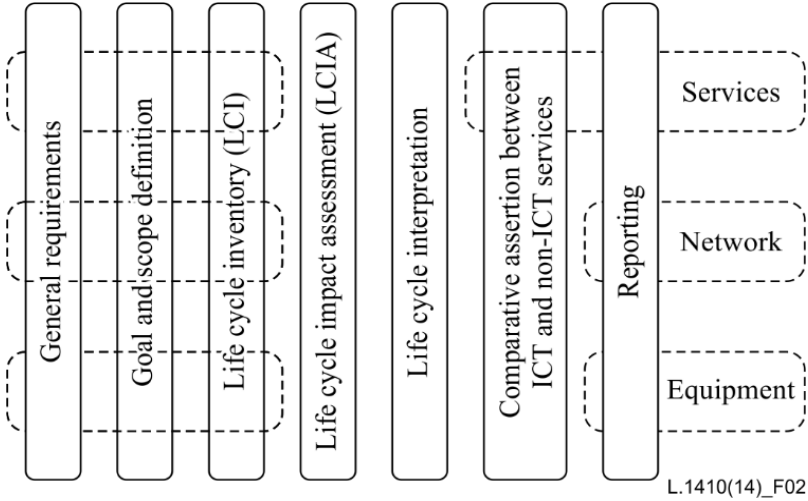
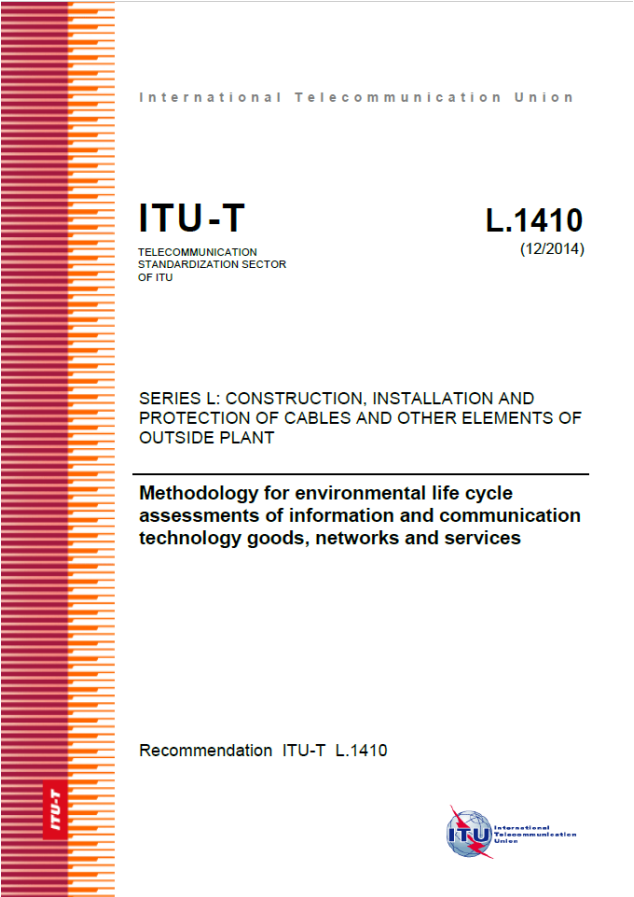


The L.1400 series of ITU Recommendations developed by ITU-T SG5

L.1400-series overview



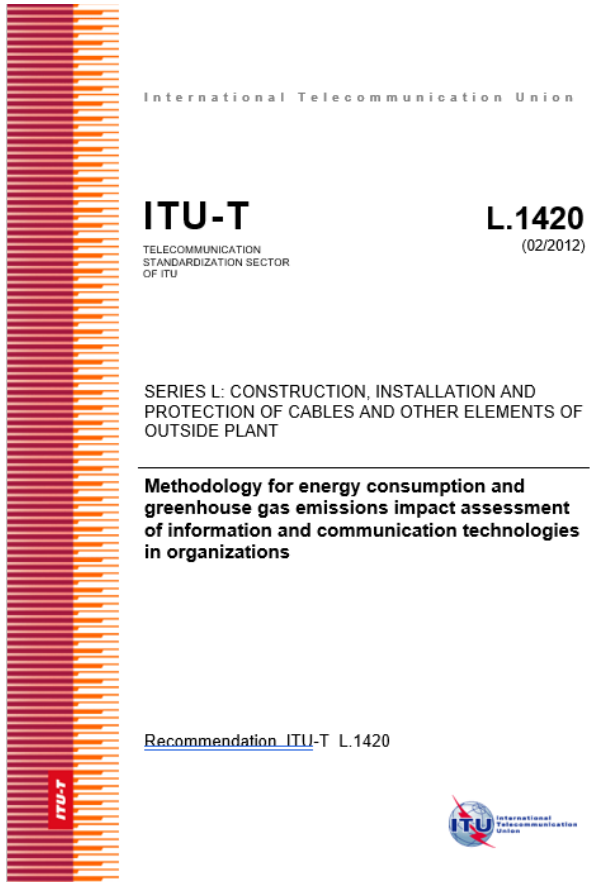
Assessing ICT goods, networks and services



Part I: ICT life cycle assessment: framework and guidance for assessing goods, networks and services.

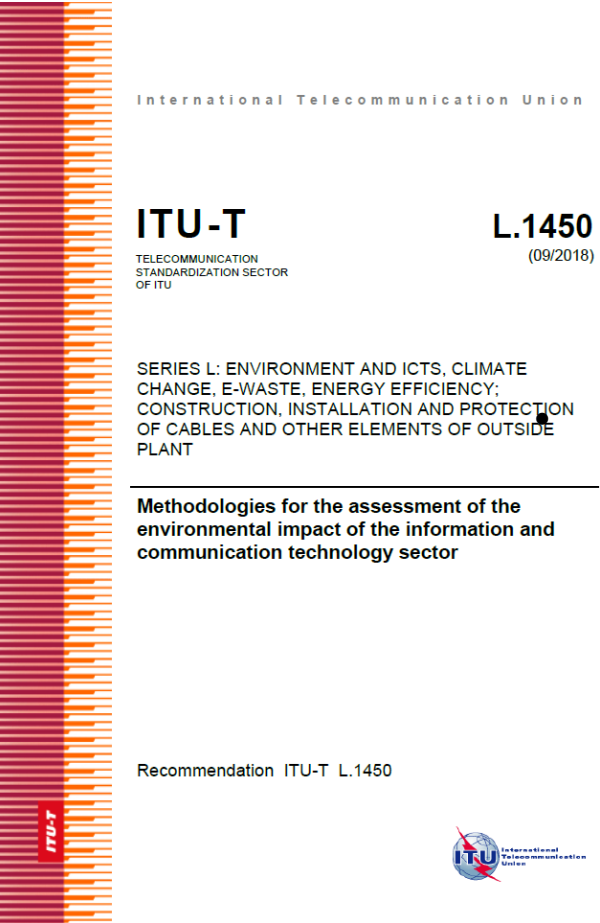
Part II: Comparative analysis between an ICT product system and a reference product system: framework and guidance.

Assessing ICT organizations



- Company carbon footprint reporting
- Aligned with GHG protocol and ISO 14064-2
- Embodied emissions (part of scope 3) based on LCA/estimates
- Current edition from 2012 – revision ongoing
- Scope 3 a key challenge – new guidance available soon
- Also covering use of ICT by organizations

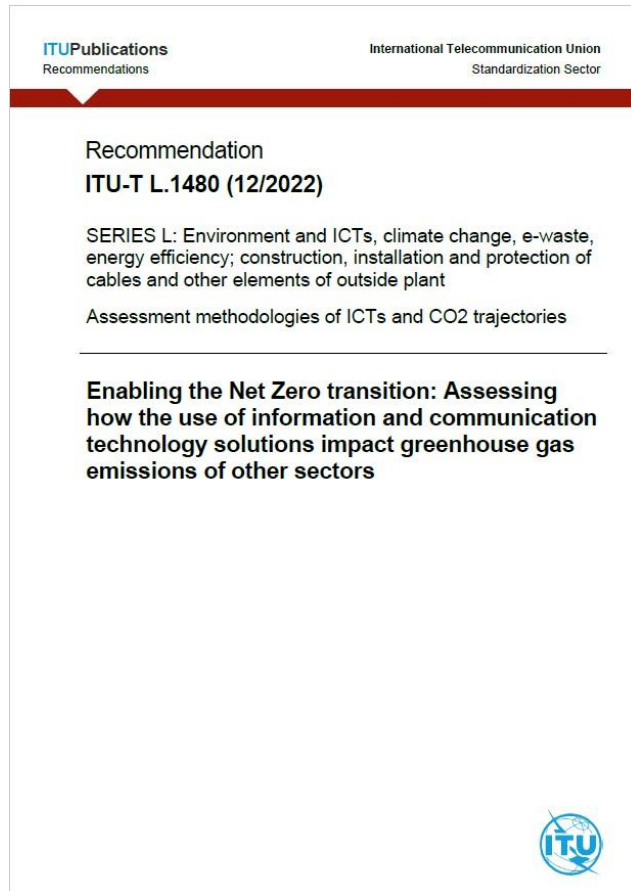
Assessing ICT sector GHG emissions



- A basis for moving towards a consented understanding of ICT impacts
- A basis for decarbonization trajectories
- Life cycle perspective

Basis for decarbonization trajectories, data center, networks and user goods

Assessing impacts of ICT in other sectors



Assessment of the second order effect of one or several ICT solution(s)

- implemented **in a specific context** by the user of an ICT solution
- implemented **at different scales**, including at an organizational level, at a city level, at a country level or at worldwide level
- **from the perspective of a contributing ICT organization**

...while considering also higher order effects. This includes

Thank you!

