Sustainability of telecommunications networks – Towards a Code of Conduct
DG CNECT E.1 – Future Connectivity Systems

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10 October 2023
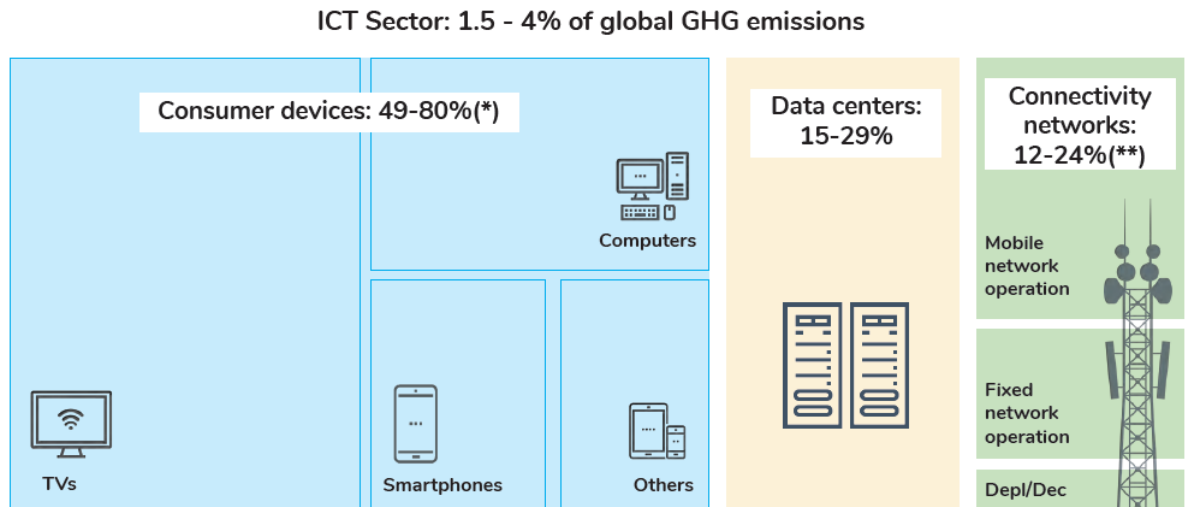
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1. Background

- Commission priority: The green and digital twin transition

- Since 2013: Codes of Conduct for Data Centres and Broadband Equipment

- 18.03.19: Ecodesign requirements for servers and data storage products (but also for other products)

- 09.12.21: EU Taxonomy Climate Delegated Act – in force

- 18.10.22: Action Plan on Digitalising the Energy System

Develop an energy-labelling scheme for computers and evaluate a possible revision of the eco-design regulation on servers and data storage products. Explore the possibility to develop common indicators for measuring the environmental footprint of electronic communications services.	Q. IV 2023
Establish an EU Code of Conduct for the sustainability of telecommunications networks.	Q. IV 2025

- 19.12.22: Interpretation/implementation Notice on Taxonomy Climate Delegated Act – agreed, pending only translation

  ➢ NB: Telco networks as such not included as their main purpose is not emission reduction (consideration only in combination with specific services, e.g., M2M communication infrastructure to be used for precision farming)

- Ongoing: EU Taxonomy Environmental Delegated Act; Energy Efficiency Directive (EED) Delegated Act, incl. data centre reporting

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2. ICT: Part of the problem or the solution?

- ICT accounts for 7-9% of global electricity consumption, 1.5-4% of global GHG emissions, and increasing amounts of e-waste

- ICT can help cut global emissions by 15% if properly used and governed

- 5G consumes 90% less energy than 4G for the same set of applications; energy efficiency important for 6G design

- 5G is key enabler for smart solutions (smart buildings, connected and automated mobility)

FIGURE 1.2. Relative GHG emissions of the digital sector, by main components

ICT Sector: 1.5 - 4% of global GHG emissions

Consumer devices: 49-80%(*)

Computers

TVs   Smartphones   Others

Data centers: 15-29%

Connectivity networks: 12-24%(**)

Mobile network operation

Fixed network operation

Depl/Dec

Note: (*) TVs account for 25-50% of devices' emissions, computers for around 25%, smartphones 11-13%. 'Others' includes routers, connected devices, among others. (**) Mobile network operations account for more than 50% of connectivity networks operations' emissions. 'Depl/Dec' stands for deployment and decommissioning, that accounts for 10 percent of total connectivity networks' emissions.

Source: Adapted from WIK and Ramboll (2021) to include estimates by Minges, Mudgal, and Decoster (forthcoming 2022) based on analysis of reported emissions by 150+ international digital companies and analysis of TVs emissions by Freitag et al (2021).
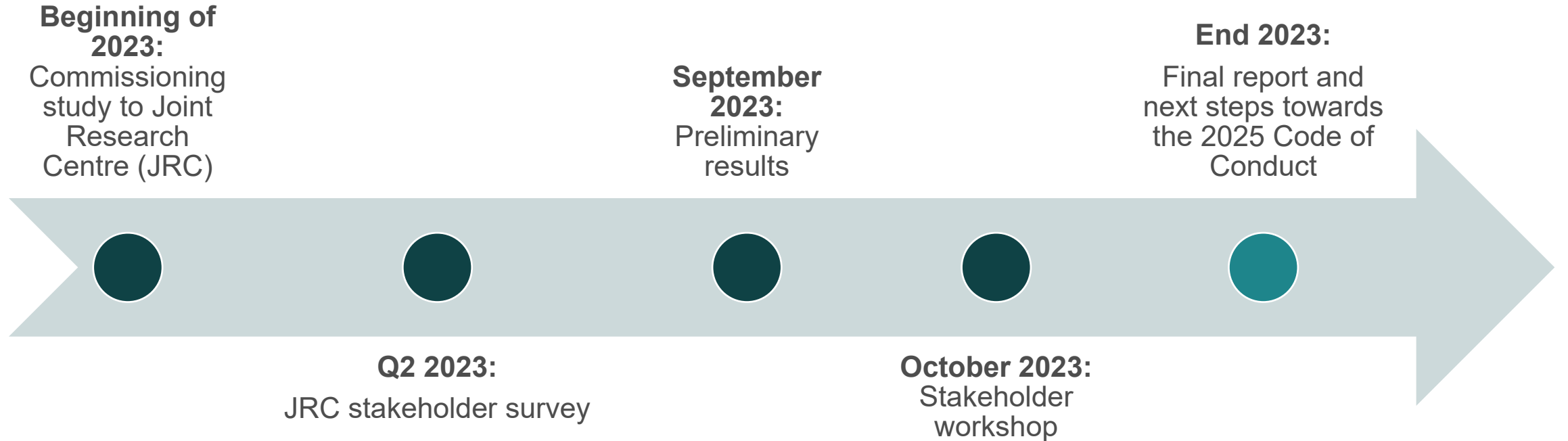
Source: World Bank 2022

→ **How to quantify the real impact of telecoms networks?**
→ **What is needed to make telco a positive force for the green transition?**

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3. Priority task 2023

Study on identifying common indicators for measuring the environmental footprint of electronic communications networks (ECNs) for the provision of electronic communications services (ECSs):

- Focus: Sustainability of **fixed and wireless telco network operations**

- Preparing the ground for an actual **Code of Conduct (Q4 2025)**

- Accounting for EU Taxonomy developments ('**taxonomy-readiness by design**'):

  - Building on **international and EU standards**

  - **Easily verifiable and applicable indicators**, leaving ideally no room for diverging interpretations

  - Relating to the climate and environmental **EU Taxonomy objectives**

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4. State of play & next steps

Beginning of 2023:
Commissioning study to Joint Research Centre (JRC)

September 2023:
Preliminary results

End 2023:
Final report and next steps towards the 2025 Code of Conduct

Q2 2023:
JRC stakeholder survey

October 2023:
Stakeholder workshop

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Thank you for listening!

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