

Environmental impact of electronic communications

STUDY PRESENTATION

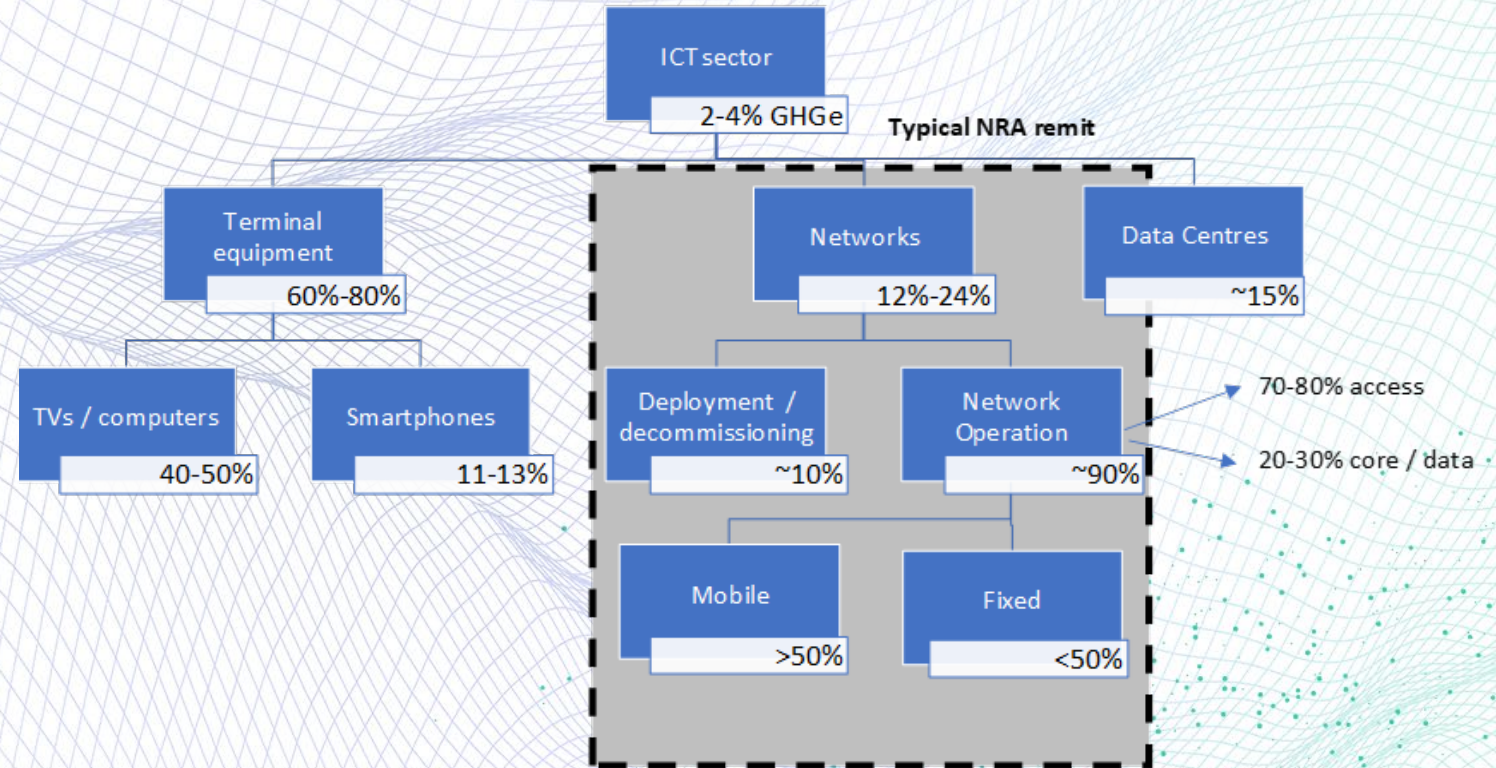
WHAT IS THE IMPACT OF ECN ON THE ENVIRONMENT?

NRA's role is focused network operation; but

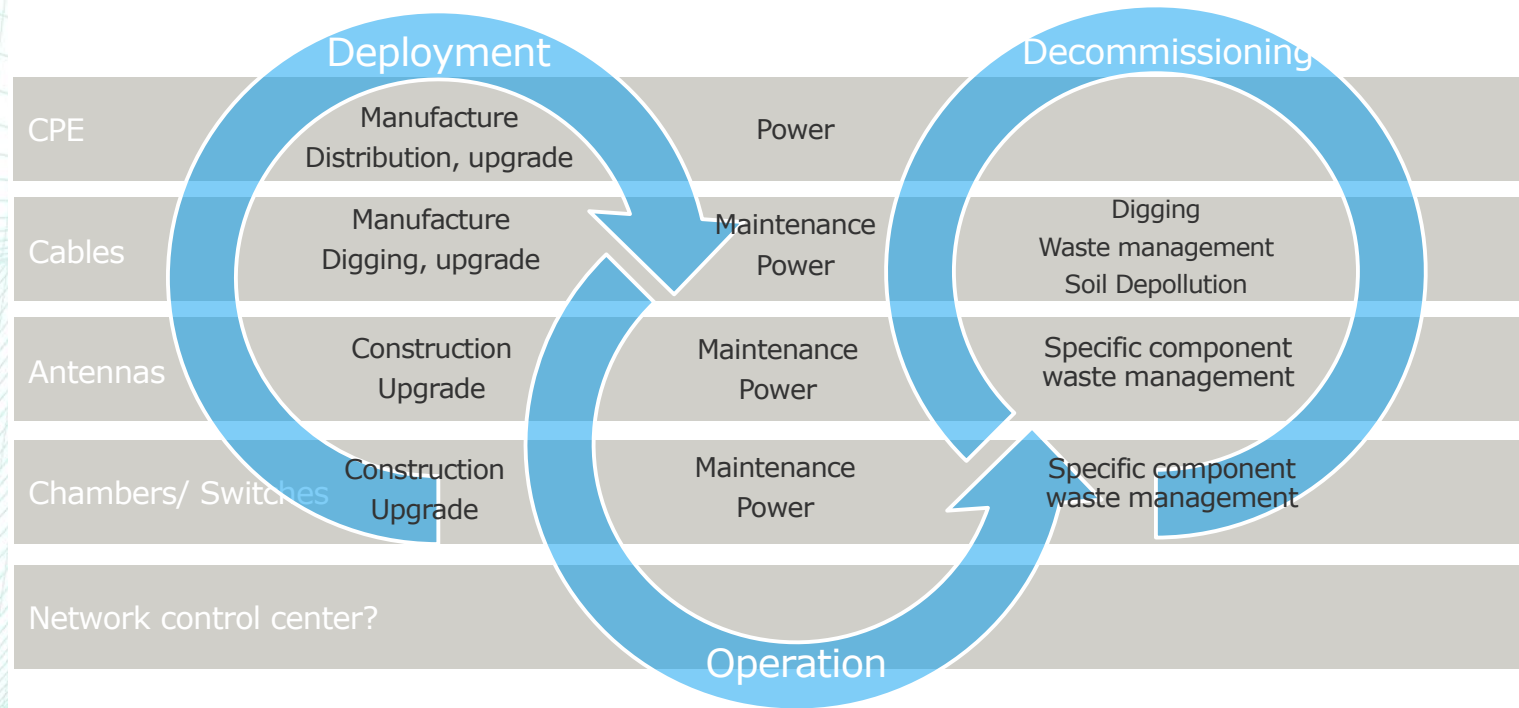
Network operation accounts for less than one quarter of ICT emissions (including equipment production). Mobile operation represents an increasing share

Terminal equipment seems to be the most significant driver of ICT GHG emissions - especially large screens

Future trajectory for ICT emissions is subject to debate - depends on strength of "rebound" effect vs energy efficiency savings from the sector. Projections range from stable emissions to worst case scenarios where ICT accounts for 14-24% global emissions by 2030/40



WHAT ARE THE IMPACTS AT DIFFERENT LIFECYCLE STAGES?



- Industry estimates suggest the **greatest environmental impacts are linked to network operation** (>90% of total GHG emissions from eComms: Nokia), and the access network in particular (70-80% power consumption: France Strategie). Supply and demand side both play role
- **Some impacts from deployment phase** not only GHG emissions, but also resources (raw materials, land & water) and on biodiversity
- During the **decommissioning phase**, most impacts are on resources (soil pollution, waste management)

TELECOM NETWORK LIFECYCLE
OVERVIEW OF THE 3 KEY STAGES AND THEIR SUB-STAGES

WHAT ACTIONS HAVE ECN OPERATORS TAKEN?

Several ECN operators have set targets for **net zero** (between 2030-2050), or made commitments to use **renewable energy**, improve energy efficiency, reduce waste and / or limit toxic substances

Actions to foster environmental sustainability often dovetail with the interests of ECN operators to **reduce costs** through:

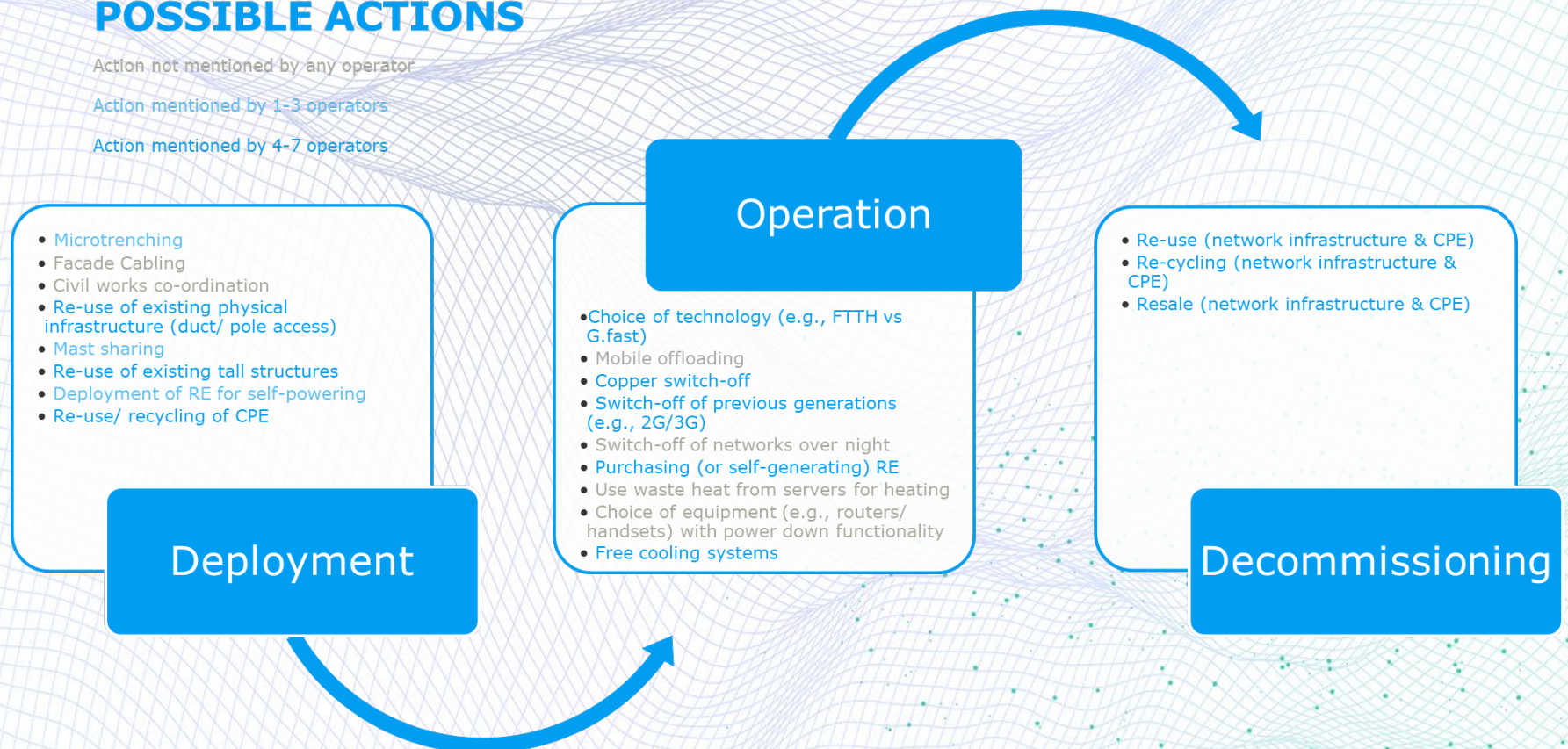
- Reduced energy consumption
- Reduced duplication / digging

POSSIBLE ACTIONS

Action not mentioned by any operator

Action mentioned by 1-3 operators

Action mentioned by 4-7 operators



POTENTIAL POLICY TRADE-OFFS

Reflecting environmental concerns may create tensions with existing regulatory objectives

- Energy efficiency vs **technological neutrality** (VHCN)?
- Potential **trade-offs between infrastructure competition and network sharing?**
- Strategies to reduce energy consumption might **affect quality** (network and/or content)
- Trade-offs between **environment and cost?**

How to balance?

- Cost Benefit Analysis to take into account environmental impacts?

WHAT ROLE COULD NRAS PLAY?

Open questions:

- Role of NRA vs env. Agency
- Horizontal vs sectoral measures

Areas of agreement:

- Need for **global action covering whole lifecycle**
- **Consistent data is key** especially for scope 3 (different / changing methodologies)
- **Collaboration with environmental agency is important**

Possible roles for NRAs?

- Data gathering and benchmarking / research
- Building awareness amongst consumers and ECN operators
- Promoting deployment of efficient new technologies, switch-off of legacy technologies
- Promoting re-use of existing infrastructure (PIA), network sharing where appropriate
- Incentives / conditions in context of spectrum awards, State Aid, permits, RoW
- Facilitating development of Codes of Conduct
- Sustainable design of digital / ICT products, energy efficiency, recycling e.g. as in FR

Constraints on NRAs

- Lack of remit / budget
- Potentially conflicting objectives under EECC / Code will not be reopened in short term

Other means to get engaged?

- Potential to pursue environmental objectives in the context of UN Sustainable Development Goals Agenda 2030 / European Green Deal / national sustainability plans

THANK YOU