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WORLD SUMMIT ON
THE INFORMATION SOCIETY

WSIS FORUM 2023

13-17 March 2023

Virtual Workshops in April & May

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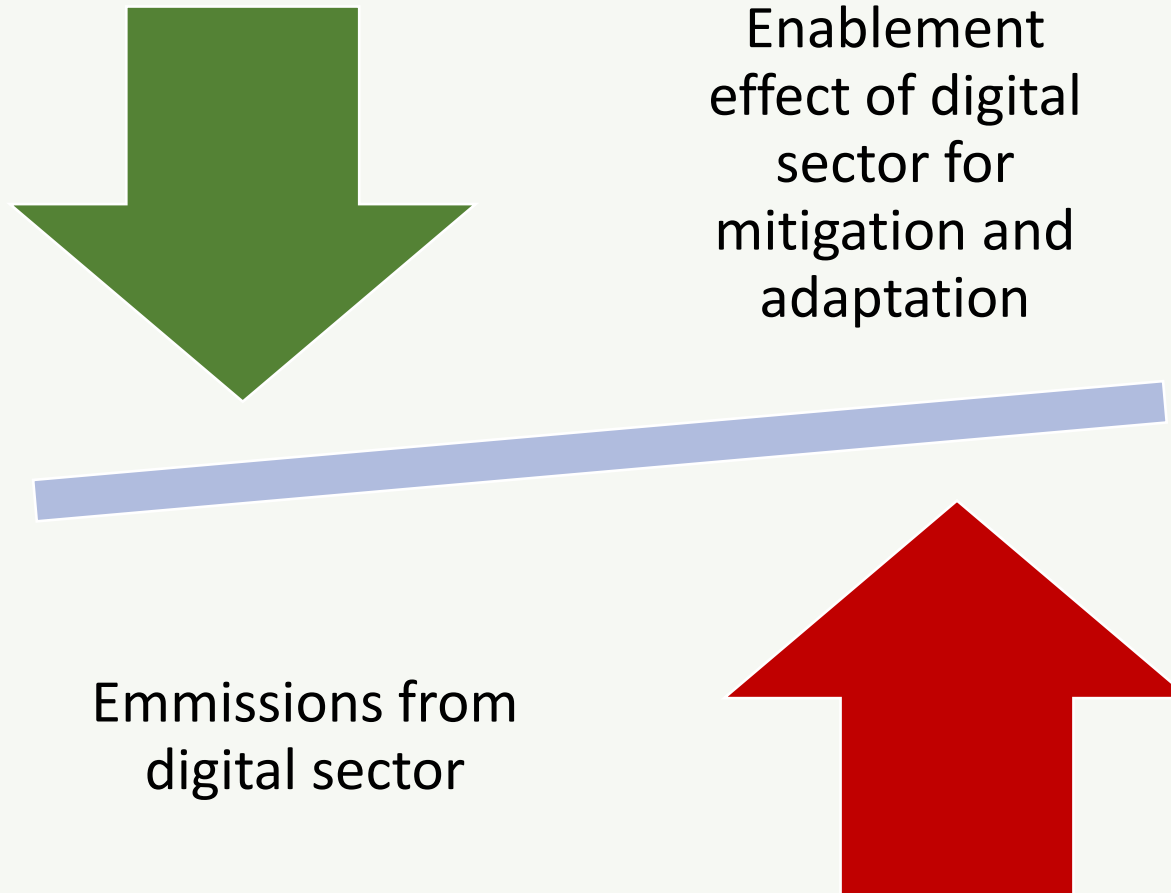
In collaboration with



Green Digital Development



Green digital: positive and negative drivers



How do we bridge the digital divide in sustainable way *and* leverage digital technologies effectively for climate action?



~3 billion

people remain offline and the vast majority are concentrated in developing countries



1.5 - 4%

of global GHG emissions is estimated for the digital sector (and growing)



64%

of NDCs mention using technology for adaptation and/or mitigation



Countries are lagging behind on climate commitments

Unpacking green digital

Greening Digital

ADAPTATION



Greening the digital sector by climate proofing digital infrastructure

MITIGATION



Greening the digital sector through e.g., energy efficiency measures and use of renewable energy

Greening *with* Digital

Leveraging digital technologies to enhance resilience of economies, populations and sectors

Leveraging digital technologies to decarbonize other sectors such as energy, transport and cities

Examples of focus areas

Greening Digital

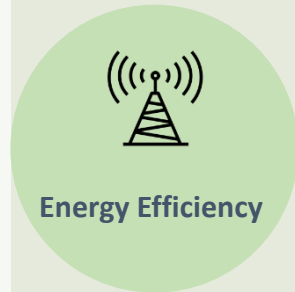
ADAPTATION



Climate Resilient
Digital Infrastructure

Greening *with* Digital

MITIGATION



Energy Efficiency



Renewable Energy
for ICT



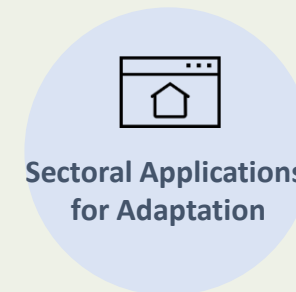
e-Waste &
Circular Economy



Digitization of
Service Delivery
for Resilience



Digitization for
Economic
Resilience



Sectoral Applications
for Adaptation



Digital
Disaster Risk
Management



Digitization for
Green Growth
& Jobs



Sectoral
Applications
for Mitigation

CROSS- CUTTING



Policy &
Regulation



Monitoring,
Reporting or
Transparency Tools



Research &
Innovation

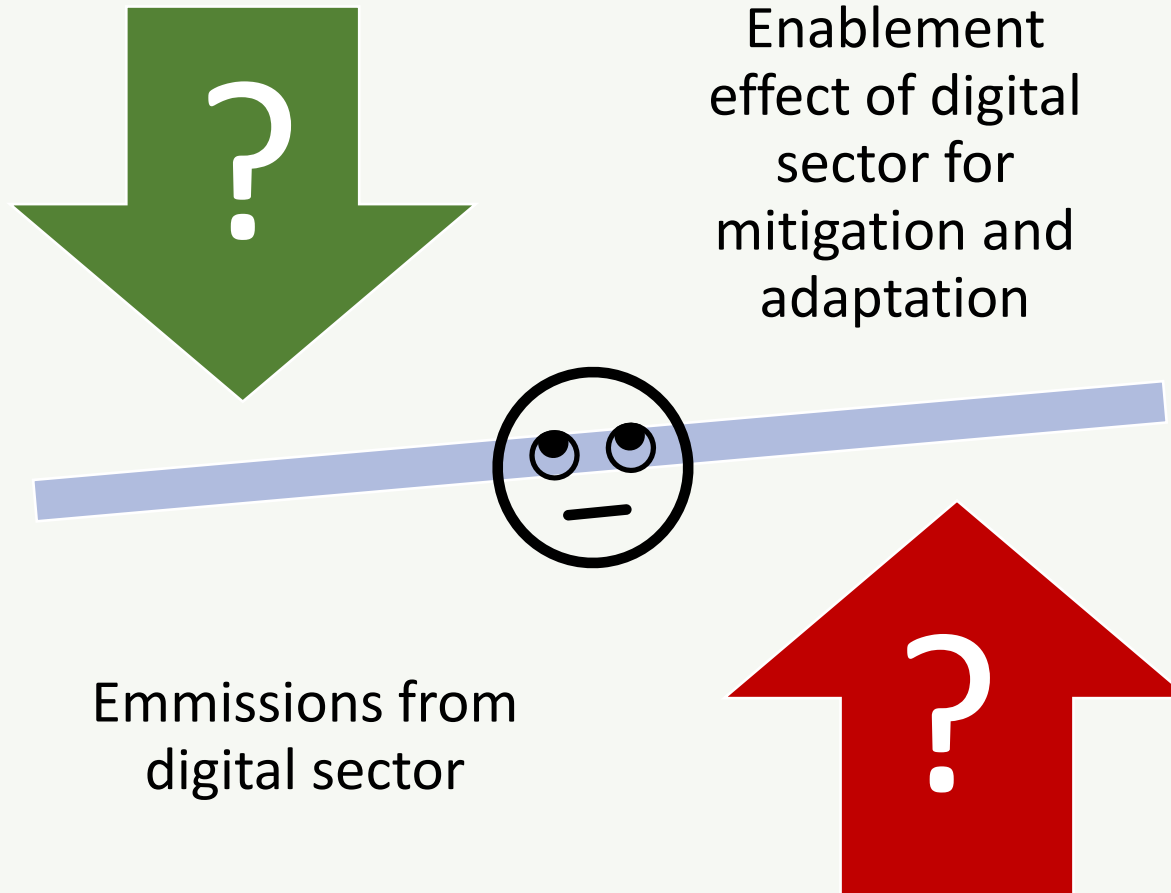


Capacity Building
& Training

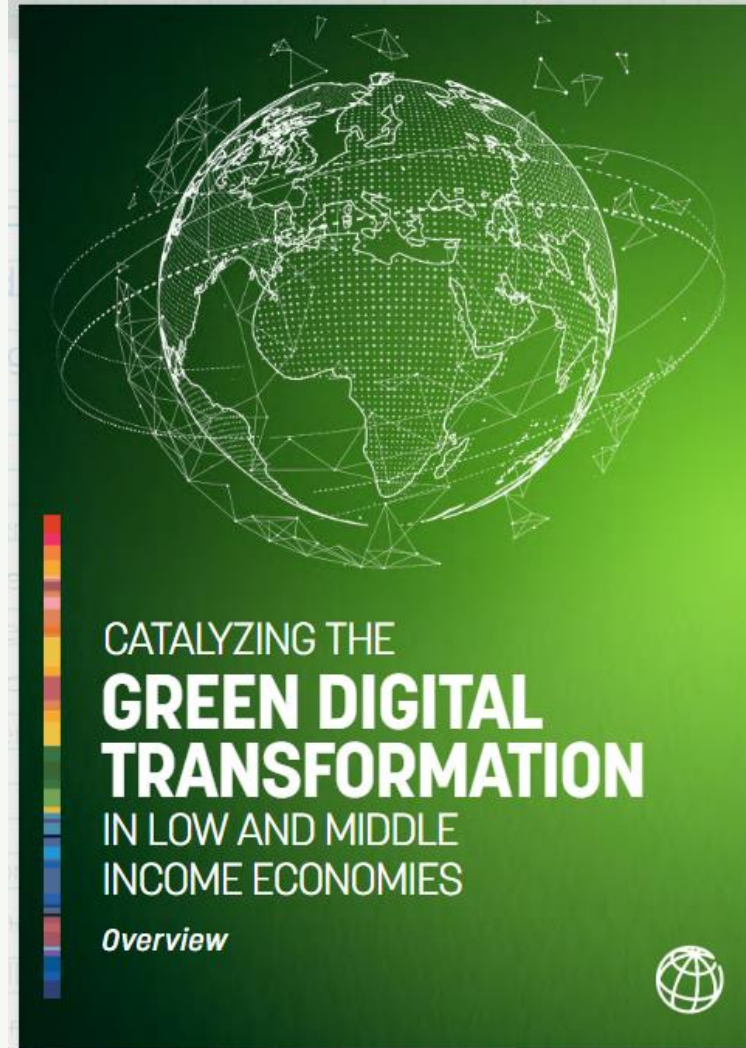


Digital Tools for
Behavioral Change
& Awareness

Green digital: Glass half empty or full?

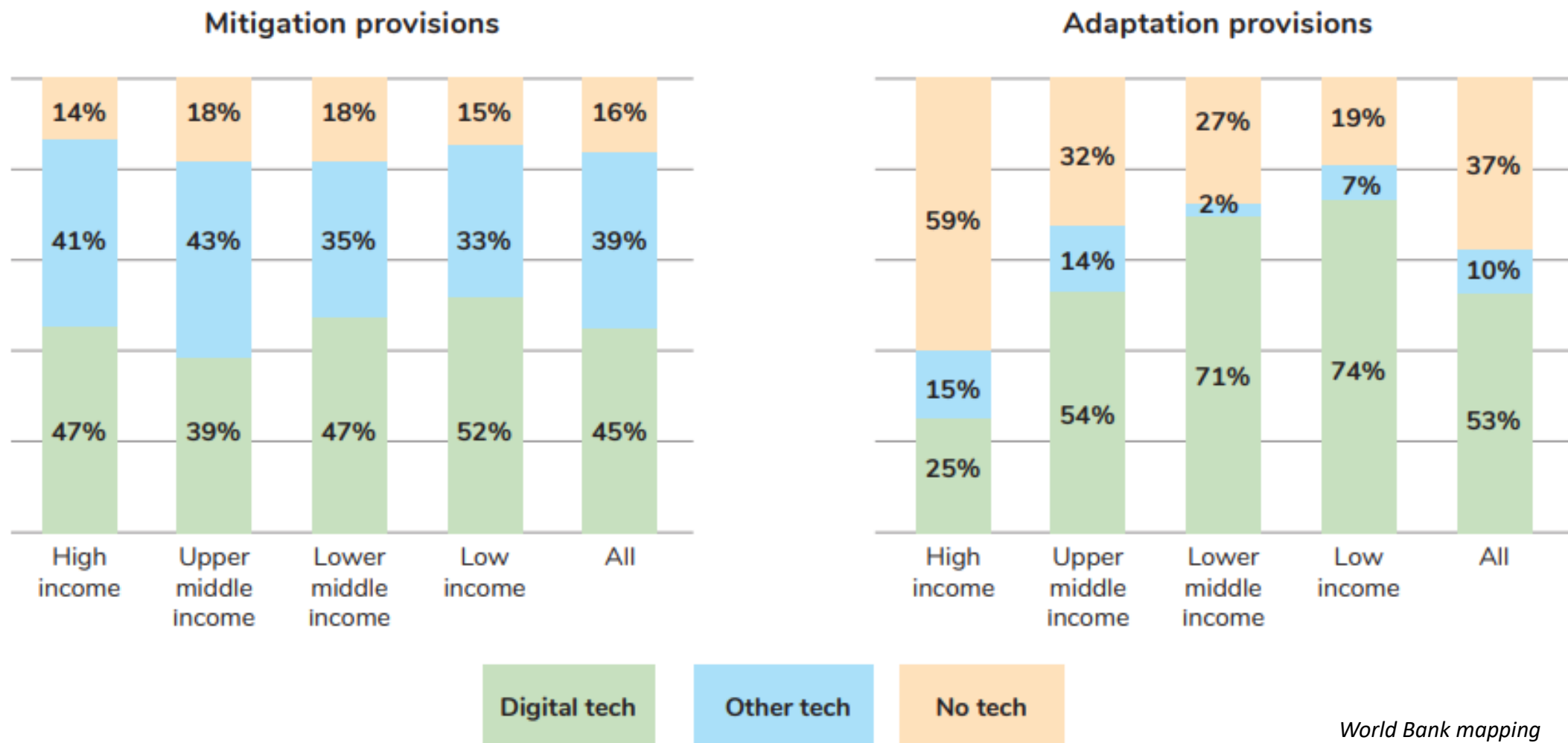


Upcoming report: Catalyzing the Green Digital Transformation



<https://www.digitaldevelopmentpartnership.org/?ddp=news-01-26-01>

Analysis of NDCs: Countries recognize the power of digital



Can digital unlock mitigation in other sectors?

Agriculture



Challenge: Agriculture, forestry, and land use change produce almost 25% of global GHG emissions

Opportunity: Digital technologies can potentially reduce GHG emissions by 1-4% from agriculture sector by 2030

Transport



Challenge: Transport accounts for 20% of the world's greenhouse gas emissions

Opportunity: Optimizing traffic flow; digitally-enabled modern logistic systems; transitioning to electric vehicles.

Energy



Challenge: Energy accounts for more than two-thirds of total GHG emissions globally.

Opportunity: Enhancing energy efficiency, enabling demand-side flexibility, mobile money enables new business models for delivering affordable home solar systems.

Urban



Challenge: Cities consume 2/3 of the energy used worldwide and account for about 70% of carbon emissions.

Opportunity: Digital technologies can help reduce total energy demand in the building sector by about 10% through operational efficiency compared to IEA's reference scenario, from 2017-2040.

Examples of mainstreaming 'green' in digital investments

Morocco

GIS and satellite image processing for land restoration monitoring; remote management system for irrigation, precision agriculture to monitor fertilizer use

Türkiye: Improved data collection and information management to inform climate-smart agricultural policy (food yields, soil carbon information system)

MONGOLIA

e-Mongolia portal, energy efficient data center

CAMEROON

e-waste recycling strategy, solar power for digital

MARSHALL ISLANDS

energy efficient digital infrastructure

Ghana

Digitization of urban mobility sector for improved urban mobility planning

Kenya

Digital skills training includes green growth perspectives.

DRC: GIS tools to monitor forest management and preservation to prevent road-led deforestation.

MALDIVES:

Shared data platform and innovative data collection to monitor/manage marine ecosystems and monitor GHG emissions

Argentina

Energy efficient data infrastructure

Madagascar

Smart grid, smart meters to automate mini grid operation and support energy management at supply & demand level

Digital technologies are not a silver bullet

Rebound effects



- Technologies can reduce emissions per unit but increase consumption.
- Ride sharing as an example.

Adoption barriers



- Digital divide, cost of adoption, lack of incentives.
- Technologies adjust to needs of low and middle-income countries.
- Limited awareness of the productive potential of digital technologies for public sector, firms and individuals.

Calculation methods



- GHG inventories are largely limited to self-reported data.
- GHG emissions are rarely measured directly and instead primarily estimated using activity data (i.e., amount of fuel consumed, vehicle miles traveled, etc.).
- GHG emissions data tends to be inconsistent and incomplete.

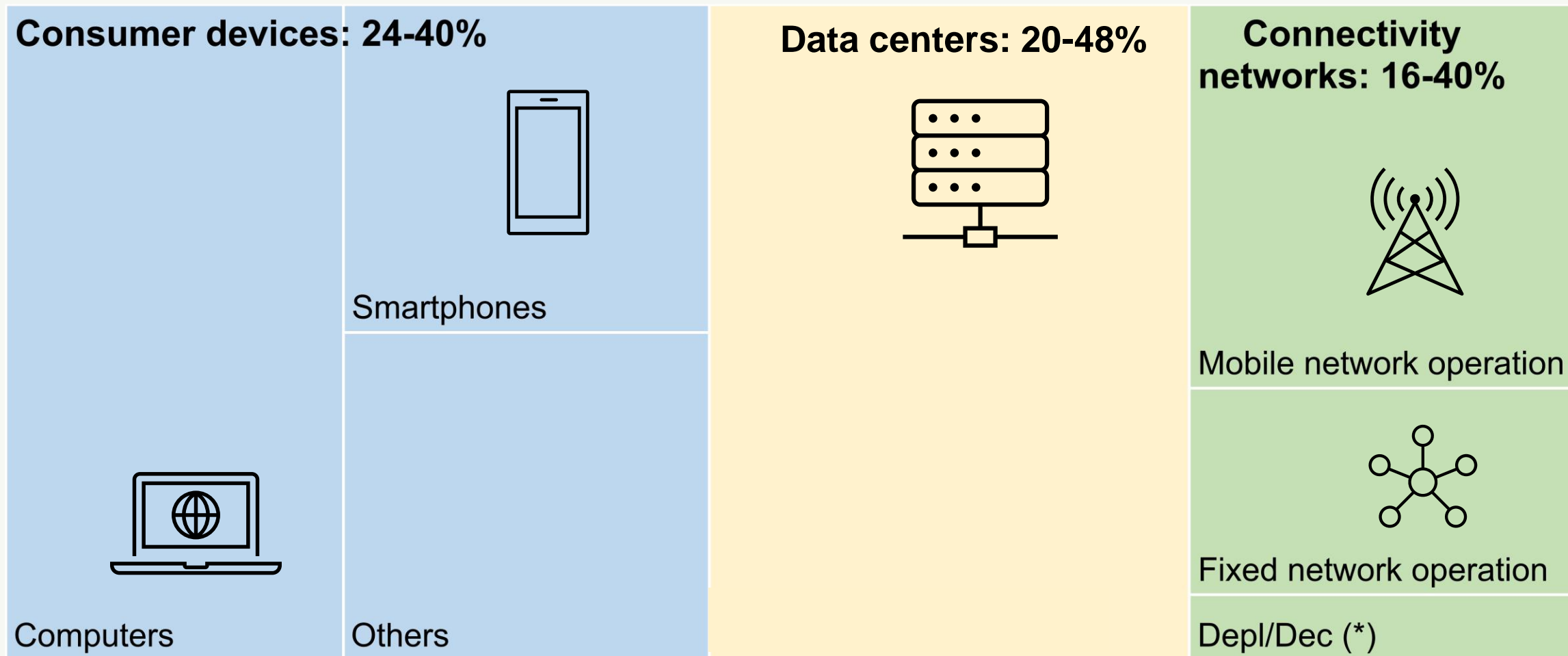
Emissions from ICT



- Although ICT can accelerate mitigation, it also contributes to GHG emissions.
- ICT's current share of global GHG emissions is estimated to be 1.5 percent to 4 percent.

Digital contributes to 1.5-4% of global GHG emissions

Digital Sector Carbon Footprint Breakdown



Note: Mid point of ranges presented in figure. TVs (including smart TVs) are excluded from the sector breakdown. 'Depl/Dec' stands for deployment and decommissioning

Looking forward

Greening Digital

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CROSS- CUTTING



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Digital Tools for
Behavioral Change
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Greening *with* Digital

Digitization of
Service Delivery
for Resilience

Digitization for
Economic
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Sectoral Applications
for Adaptation

Digital
Disaster Risk
Management

Digitization for
Green Growth
& Jobs

Sectoral
Applications
for Mitigation



**DIGITAL AND
CLIMATE CHANGE**
Digital Development



WORLD BANK GROUP
Digital Development

Thank you!

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