Greening Digital

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1.5 - 4%

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

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





¥ **** 64%

of low- and middle-income countries have modern data infrastructure of climate action plans (NDCs) mention use of technology

The digital divide is a resiliency divide



Why is digital necessary for resilience?

Countries able to use digital databases and trusted data sharing reach <u>3X</u>more beneficiaries



Digital for climate action



Digital infrastructure impacted by climate change



Flashfloods sever fiber optic cables in Kenya



Tropical storm submerges government data center in Dominica

How do we close the digital divide sustainably?

Emissions from the digital sector must be cut in half by 2030*



One third of the world's population remain unconnected in 2022





Total emissions from the digital sector 1.5-4%



Importance of Data Collection – France



Projection (Million tCO2e)



Source: ARCEP and ADEME. "Etude ADEME Arcep Analyse prospective de l'impact environnemental du numérique en France" <u>https://www.arcep.fr/uploads/tx_gspublication/Etude-ADEME-Arcep-presentation-conference_06_03_23.pdf</u>

Artificial Intelligence (AI) is expected to accelerate the growth of the sector's climate footprint

Estimated electricity demand from traditional data centres, dedicated AI data centres and cryptocurrencies, 2022 and 2026, base case



IEA. CC BY 4.0.

Key Takeaways

- ICT Sector emissions and energy data helps governments make informed decisions, set realistic targets, and adapt policy/regulation
- ✓ ICT regulators play a key role
- Technology transitions help reduce sector emissions but need to be carefully planned to ensure inclusion
- Regulatory modifications, coupled with incentives and collaboration between ICT and energy sectors, support sustainable energy access and a green digital transition



Digital and Energy Nexus – Areas of work

On-grid synergies – energy-digital infrastructure sharing

Energy transmission infrastructure and rights of way can be utilized to increase the speed, reduce costs and environmental impact of digital infrastructure deployment, benefiting utilities/transmission companies, telecoms market and consumers

Mini-grids and off-grid – joint energy-digital models for service delivery

Reliable and affordable access to energy solutions is critical to power rural base stations, masts, satellite Wi-Fi connection points, as well as handsets and other internet-enabling devices

Renewable energy for data centers

Connectivity and data are foundational to digital economies. Yet, less than 20% of low and middle-income countries have modern data infrastructure

Digitalization of the energy sector

Energy accounts for more than 75% of GHG emissions globally so digital applications that reduce these emissions are necessary to achieve the 1.5 degrees Celsius target





Measuring the Emissions & Energy Footprint of the ICT Sector IMPLICATIONS FOR CLIMATE ACTION





https://worldbank.org/digitaldevelopment