



MEASURING THE ENVIRONMENTAL IMPACT OF THE ICT SECTOR

Lessons and insights from France, Brazil, South Africa, Zambia & BEREC



**Dr. Cosmas Luckyson
Zavazava**

Director, Telecommunication
Development Bureau
ITU



Xavier Merlin

Arcep Executive Board Member



Anne Yvrande-Billon

Director of Economic
Market and Digital Affairs
Arcep



Carlos Baigorri

President of Brazil's
National Telecomm-
unications Agency
(ANATEL)



Thabisa Faye

Councillor, Independent
Communications Authority
of South Africa



Casey Torgusson

Global Program Manager
Digital Transformation
World Bank



Bernard Banda

Director Economic
Regulation & Consumer
Protection, Zambia
Information and Comm-
unications Technology
Authority (ZICTA)



Mary Sarantopoulou

Co-Chair, Sustainability Working
Group - BEREC & Senior Advisor,
Telecommunications and Post
Commission - Greece (EETT)



Seth Ayers

Senior Digital Specialist
Digital Transformation
World Bank



Measuring National ICT Sector Environmental Impact

ARCEP CASE STUDY - FRANCE

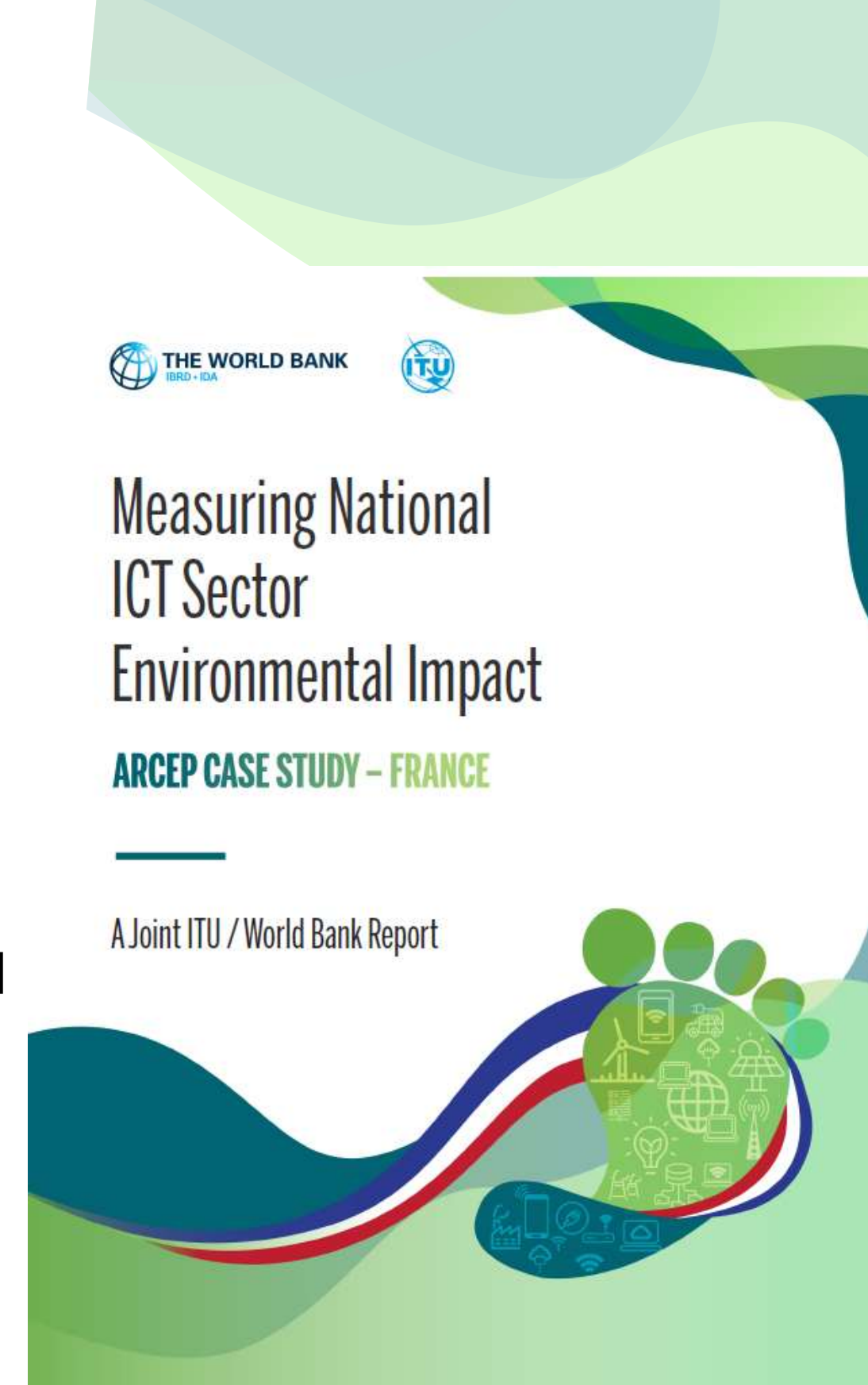


Arcep Case Study

A joint case study by the World Bank and the International Telecommunication Union (ITU) builds on previous reports, focusing on key lessons from Arcep's approach to environmental data collection.

- ✓ Initiating Sustainability Data Collection – How Arcep started the process
- ✓ Legal Framework – Required legal adaptations to enable data collection
- ✓ Industry & Sector Coverage – Which companies and sectors are surveyed
- ✓ Data Outputs & Insights – Results and impact of Arcep's efforts

Highlights Arcep's key strategies and the impact of its data-driven approach, showcasing how it can serve as a model for effective regulatory practices worldwide.

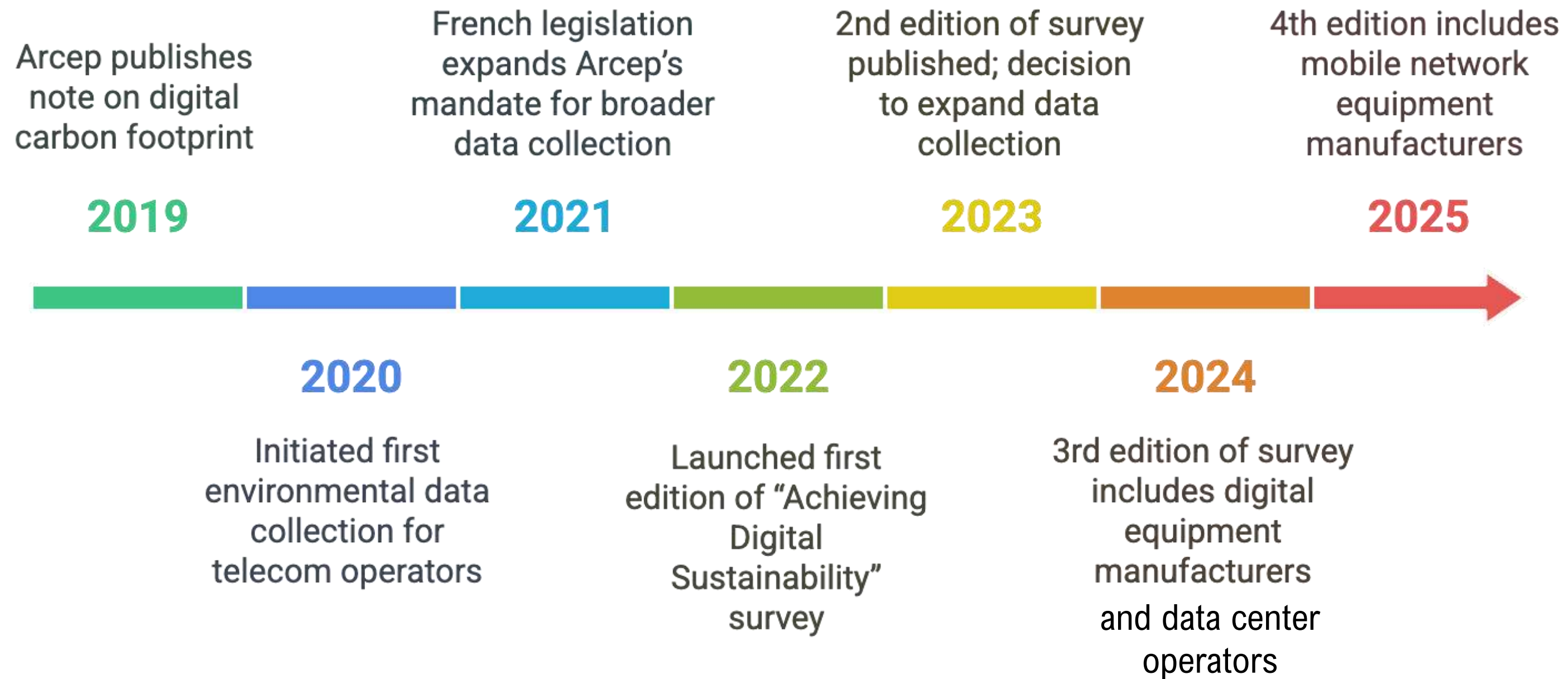


Overview of Arcep

- Established in 1997, Arcep initially regulated electronic communications. It expanded to include postal services in 2005 and later took on ICT environmental impact regulation.
- As an independent authority, Arcep is the first and only sector regulator to regularly publish environmental indicators in its annual survey, "Achieving Digital Sustainability".
- Arcep collects first-hand data from digital players to assess and monitor the sector's environmental impact.
- By developing a collaborative framework for data collection and analysis, Arcep actively engages with industry stakeholders and government bodies to measure the climate impact of the ICT sector.

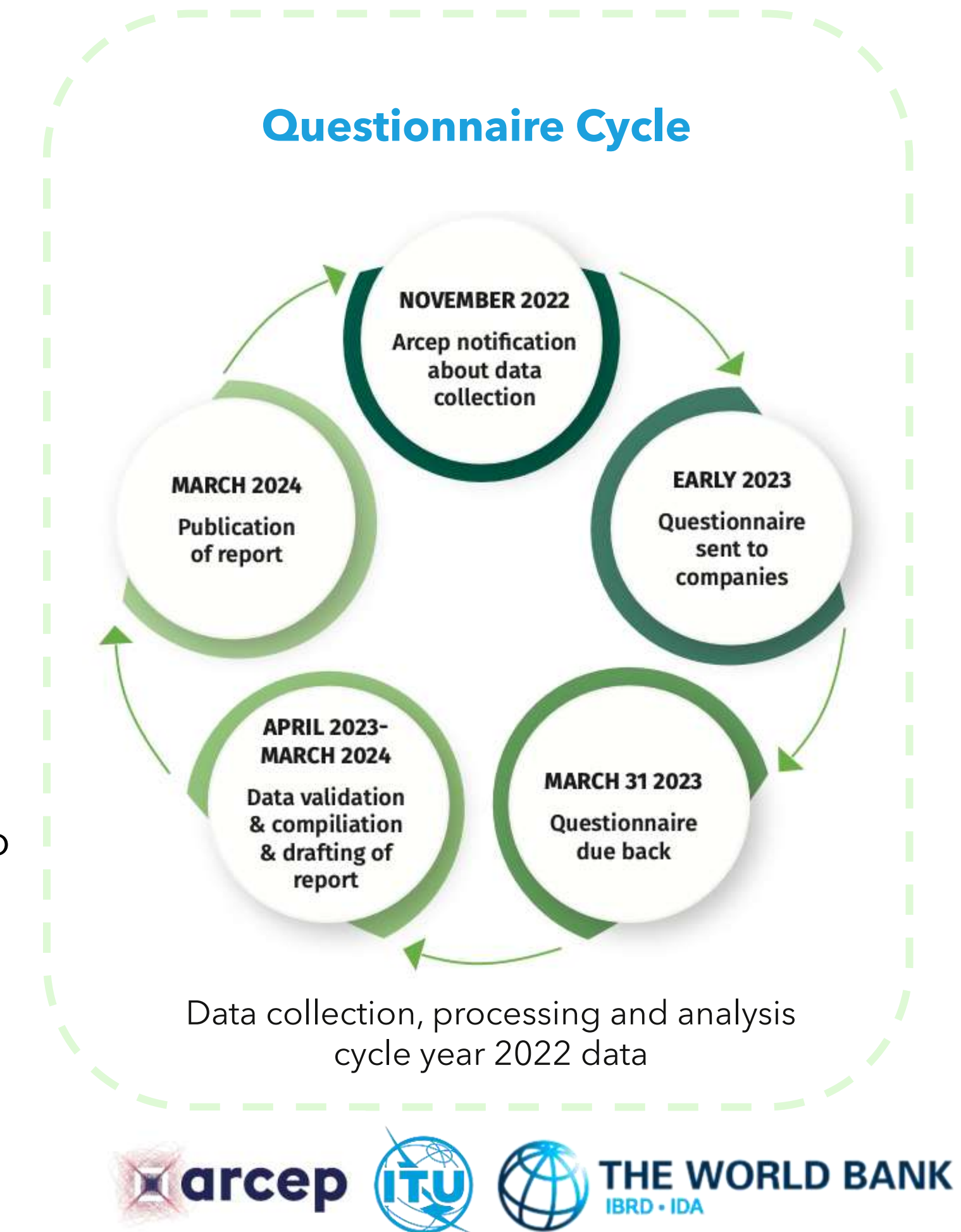


Arcep's Environmental Data Collection Timeline



Arcep's Phased Approach

- **Progressive Expansion** – Arcep gradually increased the scope and depth of reporting requirements.
- **Collaborative Methodology** – Data collection is built on stakeholder engagement, structured annual surveys, and evolving legal mandates to ensure compliance.
- **Partnership with ADEME** – Collaboration with the French Environment Agency enables the development of multi-criteria environmental indicators beyond just GHG emissions.
- **Survey Process:**
 - **Defining the scope** – Identifying industries and companies to be surveyed.
 - **Data validation** – Ensuring accuracy, consistency, and comparability of data.
 - **Publishing results** – Findings are reported in "Achieving Digital Sustainability."



Company Selection & Data Collection

Company Selection

Based on turnover or number of subscribers, covering:

- Main telecom operators.
- Leading data center operators.
- 70-90% of the market for digital devices companies.

Arcep has the flexibility to expand the number of companies surveyed in the future.

Type of Data Collected

Environmental data collected:

- GHG emissions (Scope 1,2, and 3)
- Energy & water consumption
- Volumes of recycled devices
- Use of rare earth metals in ICT manufacturing
- Power consumption of digital devices (Standby & operating)

Future Plans

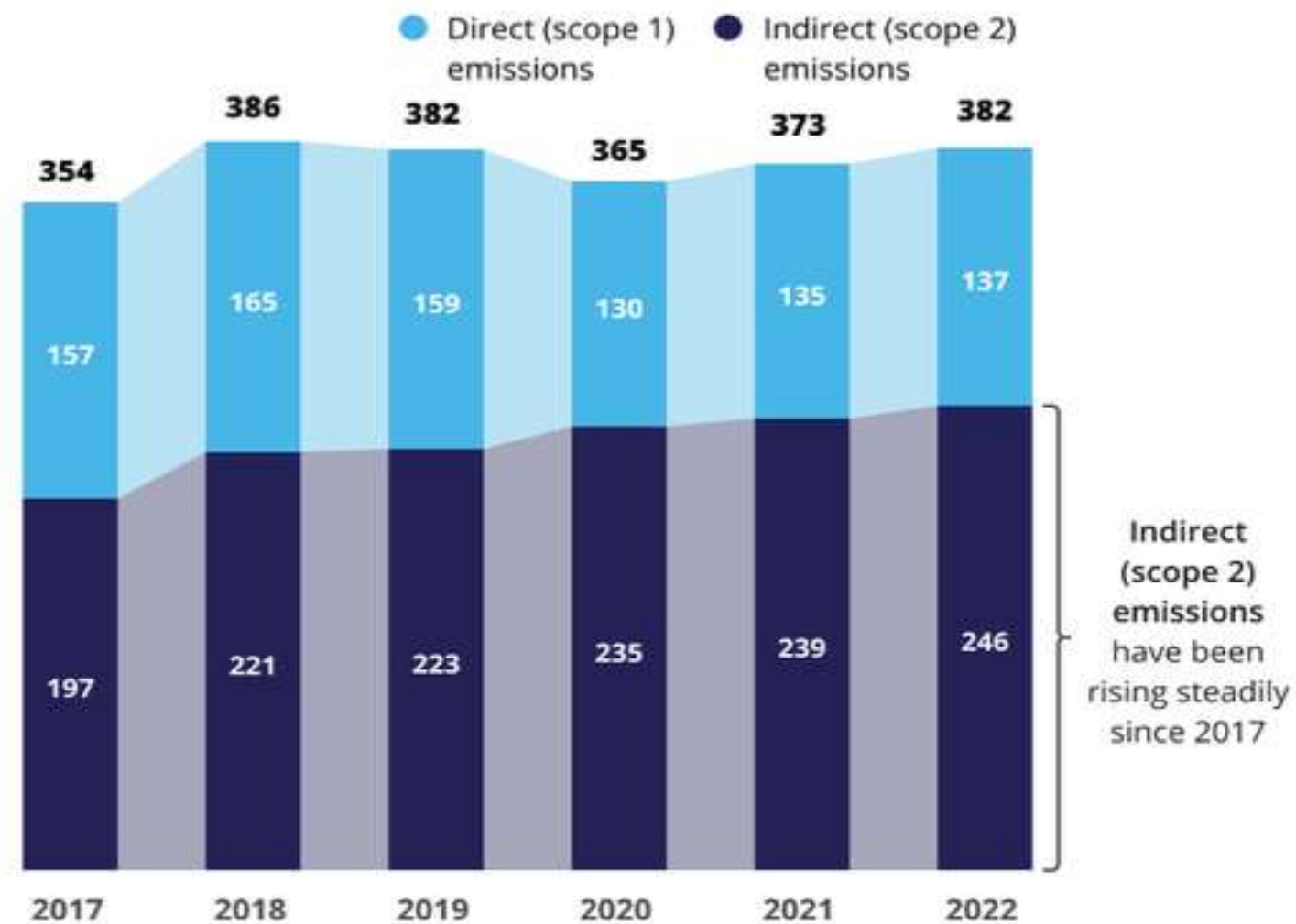
Arcep aims to continue to steadily enhance its collection of environmental data, including for:

- Fixed network equipment suppliers that manufacture fiber optic cables.
- New indicators for some of the market players that are already being queried.

Examples of Data from Arcep's 'Achieving Digital Sustainability' Annual Survey

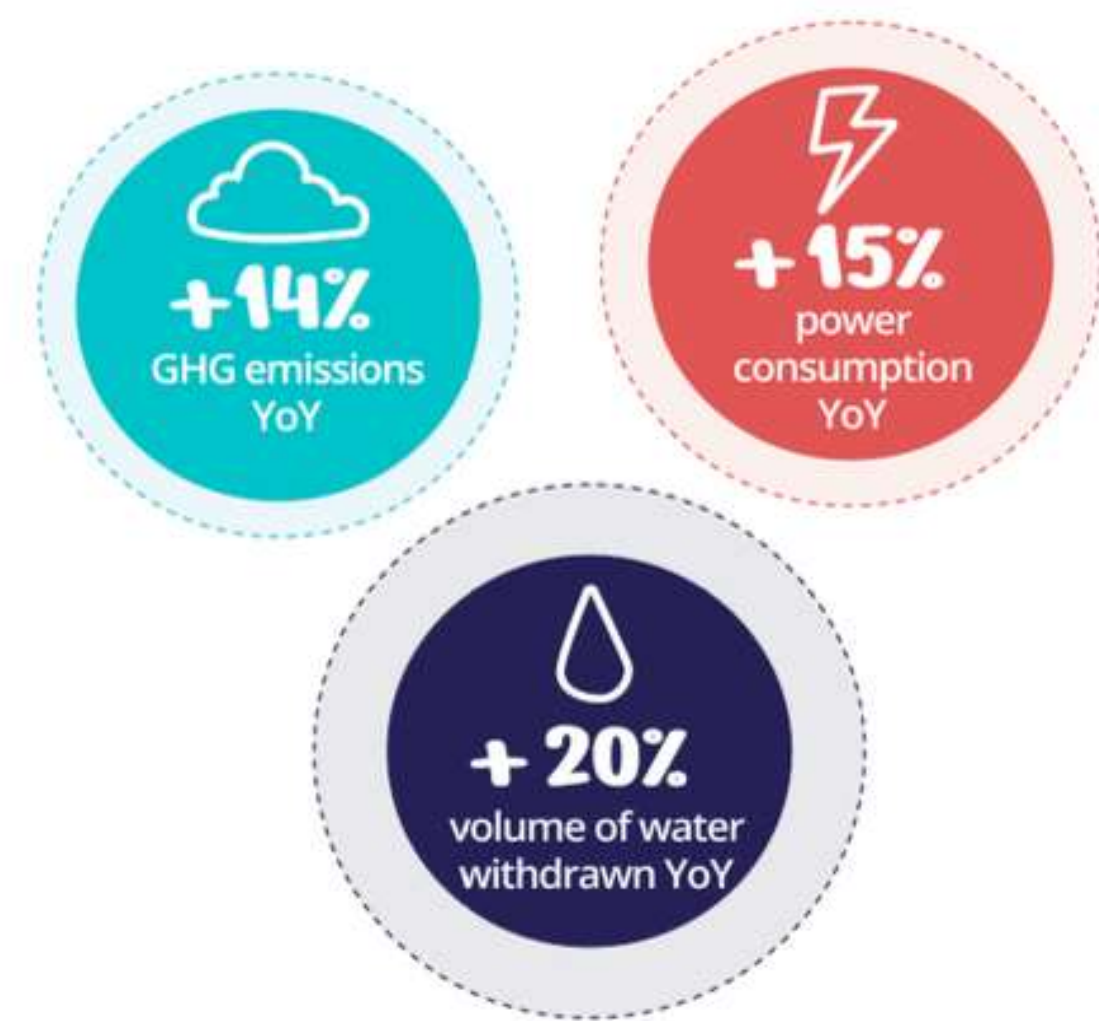
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The ICT companies surveyed in France generated 1.1 million tons of operational GHG emissions in 2022



2

The GHG emissions, electricity and water consumption of data centre operators rise by more than 10% in one year

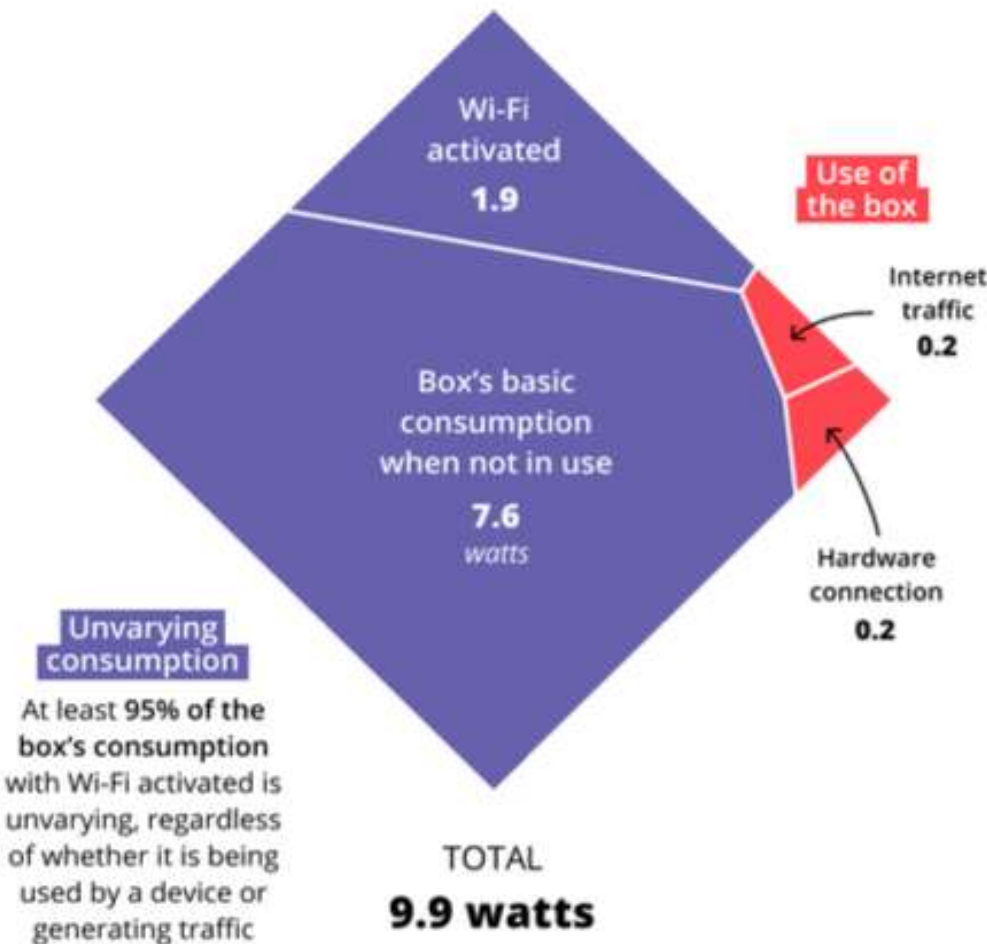


Examples of Data from Arcep's 'Achieving Digital Sustainability' Annual Survey

3

Close to 95% of a box's power consumption is independent of the length and intensity of its use

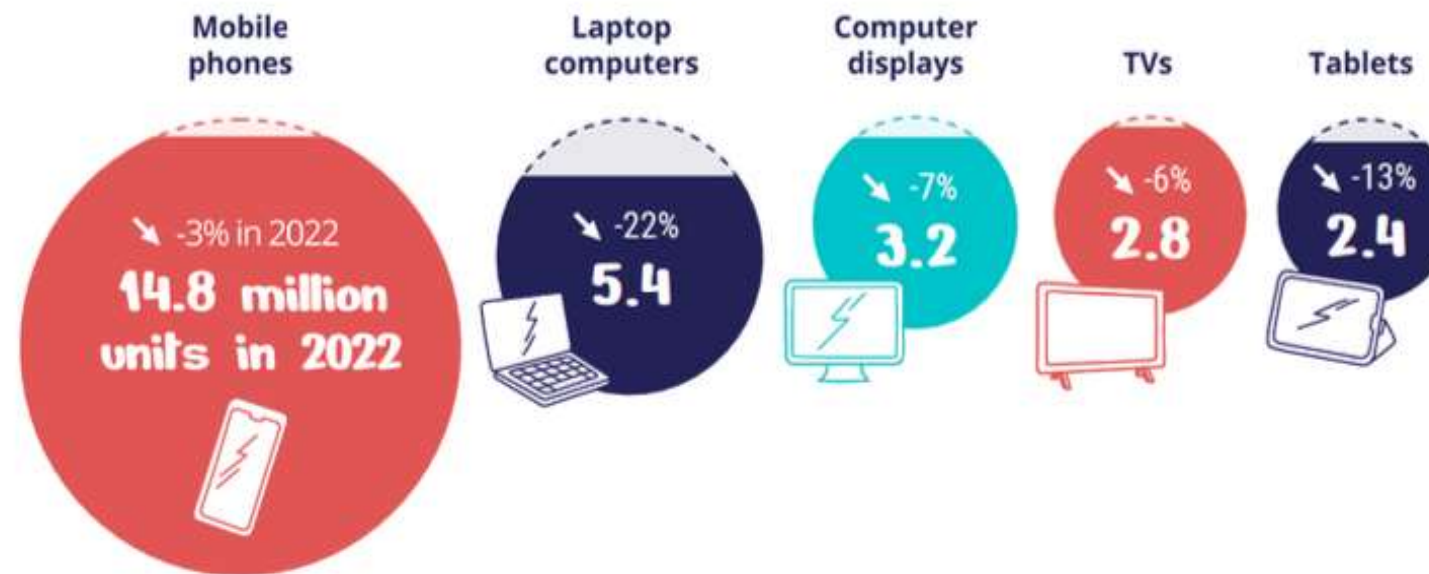
Breakdown of boxes' average power consumption (in watts)



4

Smaller released volume for every category of new device in 2022

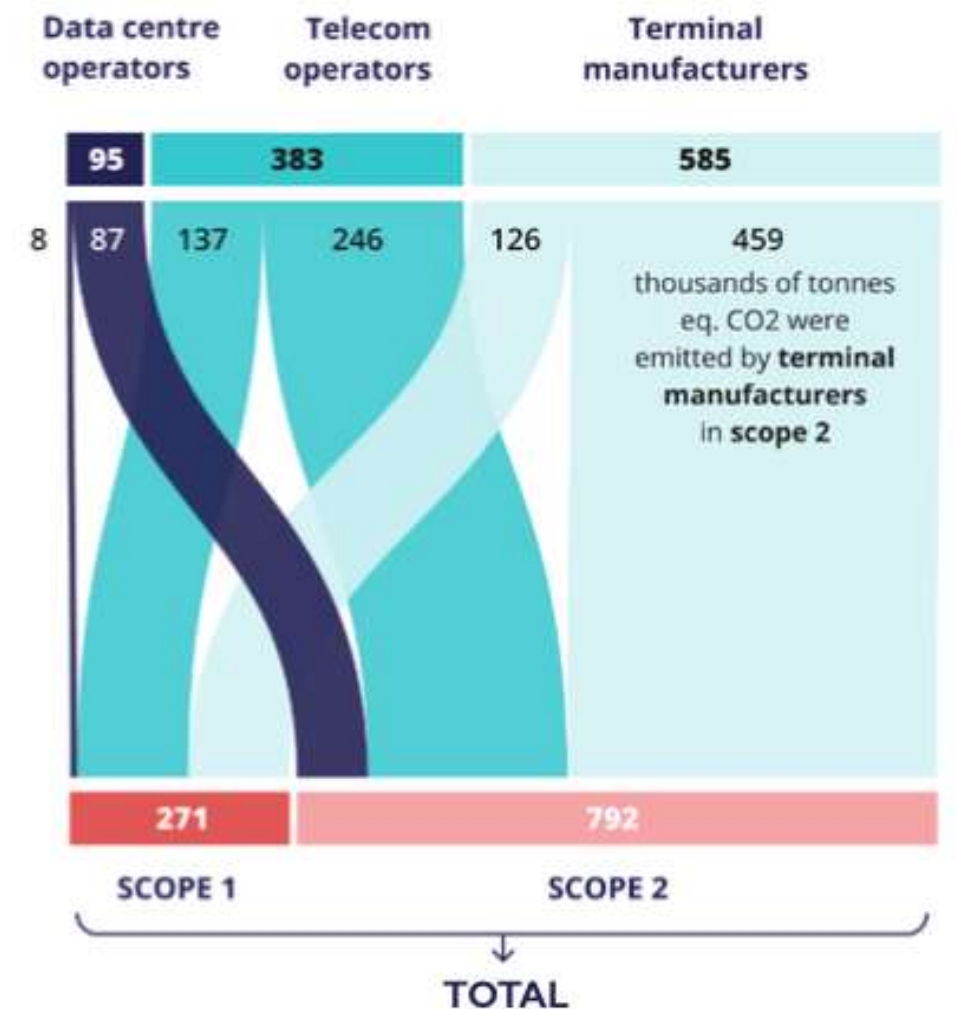
Million units released in 2022 and YoY growth rate



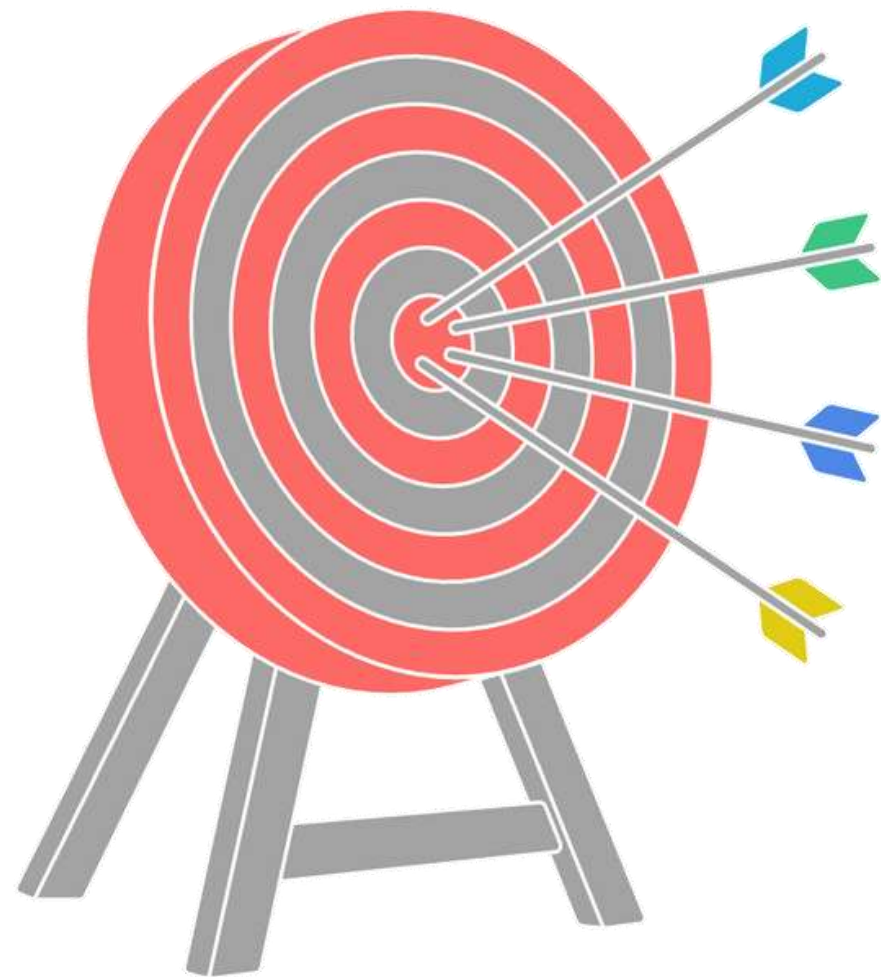
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Emissions from scopes 1 and 2 of the players exceed 1 million tonnes of CO2 eq.

Breakdown of GHG emissions in 2022 by scope 1 and 2 and by type of player (in thousands of tonnes of CO2 eq.)



Utilization of Results



Monitor



Encourage



Identify



Inform

There are four main objectives attached to Arcep's annual "Achieving digital sustainability" survey:

- 1. Inform** citizens, public sector players and all of the stakeholders on the ICT sector's environmental footprint;
- 2. Identify** economic players' activities that are likely to have an impact on the environment;
- 3. Encourage** stakeholders to take steps to achieve the most efficient measurement possible of their environmental footprint;
- 4. Monitor** the progression of these indicators over time, to assess business-led environmental actions and provide key insights for evaluating public policies, including Arcep's initiatives.

Lessons learned and challenges

Building expertise in environmental data collection

Arcep had prior expertise in statistical monitoring of the telecommunications sector but needed to develop new skills to measure environmental footprints in the digital sector.

Consultative approach with stakeholders

Arcep engaged stakeholders early, holding consultation meetings in 2020 with trade associations, telecom operators, tech companies, environmental groups, etc.

Co-constructing data collection frameworks

Arcep collaborated with digital device manufacturers and data center operators through bilateral exchanges and workshops, improving data quality. This improved response rates and indicator development.

Collaboration with ADEME (France's Environment Agency)

A joint study with ADEME highlighted the environmental impact of digital devices and data centers, highlighting the need for multi-criteria assessments beyond GHG emissions.

Strong government support for legislative changes

Arcep was enabled to expand environmental data collection across the ICT sector through legislative backing, ensuring compliance and reliability.

Recommendations for regulators to build data collection

- **Obtain a data collection mandate:** A clear legal mandate is crucial. Arcep secured government support by publishing a report highlighting the importance of environmental data collection.
- **Collaborate and co-build with stakeholders:** Collaborate with industry players, environmental experts, and associations to ensure relevant indicators and maximize response rates.
- **Base collection on recognized indicators & methodologies:** Start with widely used and standardized metrics to reduce workload for companies and regulators, gradually expanding over time.
- **Begin with the telecom sector:** Many regulators already collect telecom data, making it a practical starting point before expanding to other ICT sub-sectors.
- **Gradually expand to broader ICT sub-sectors & devices:** Data centers and digital devices contribute significantly to emissions. Tailor data collection to the structure of the national ICT sector.
- **Develop in-house environmental expertise through capacity building:** Train staff to understand environmental issues, define relevant indicators, and engage effectively with the ICT sector.
- **Learn from other regulators:** Collaboration with environmental agencies and global peers strengthens frameworks and improves data collection strategies.

Key takeaways

- Monitoring ICT's environmental impact is crucial for **informed decision-making** as emissions and energy consumption grow.
- **Progressive expansion** ensures gradual growth in the scope and depth of reporting requirements.
- **Developing in-house expertise & capacity** is essential to manage environmental data effectively.
- A **collaborative methodology** relies on **stakeholder engagement**, structured surveys, and evolving legal mandates for compliance.
- Arcep's approach as detailed in this new case study can provide an **example for other regulators** on collecting environmental data for the ICT sector.
- Collecting national data enables regulators to craft policies that prioritize sustainability in digital transformation. It also fosters transparency and drives accountability.

Thank you

Ms. Anne Yvrande-Billon

Director of Economic, Market and Digital Affairs, Arcep

