CARBON REPORT
2020

wifirst

INTRODUCTION

Since its creation, Wifirst has been committed to a process aimed at implementing responsible digital technology by integrating competitiveness, innovation, regulatory compliance, social and environmental responsibility and sustainable strategy into its growth plan.

Going further than issues of quality, material traceability and the working conditions of our employees, identifying opportunities to reduce the carbon footprint of our activity as a telecoms operator allows us to affirm that our environmental ambitions contribute to the Paris Agreement, moving in the direction of a low carbon future, whilst at the same time being ever more competitive.

In specific terms, this translates into conducting a carbon assessment to identify and measure the major areas of CO_2 emissions in order to reduce our impacts and those of our customers. We have chosen to focus our actions on reducing emissions at source. In addition, we are studying how to implement compensation mechanisms.

This choice is in line with our desire to take CSR and Sustainable Development on board and use it as a focus for innovation. We also aim to underpin a strong conviction: connectivity must be considered as a resource to be pooled, to be shared, in order for there to be controlled energy consumption and optimised quality of service.

«

We realise that nowadays the topic of the "impact" of digital technology has become of interest to stakeholders. At Wifirst it's been 20 years since we incorporated this dimension into our approach to WiFi as a service and more than ever we are looking to the future.

»

Marc Taieb, founder and CEO of Wifirst
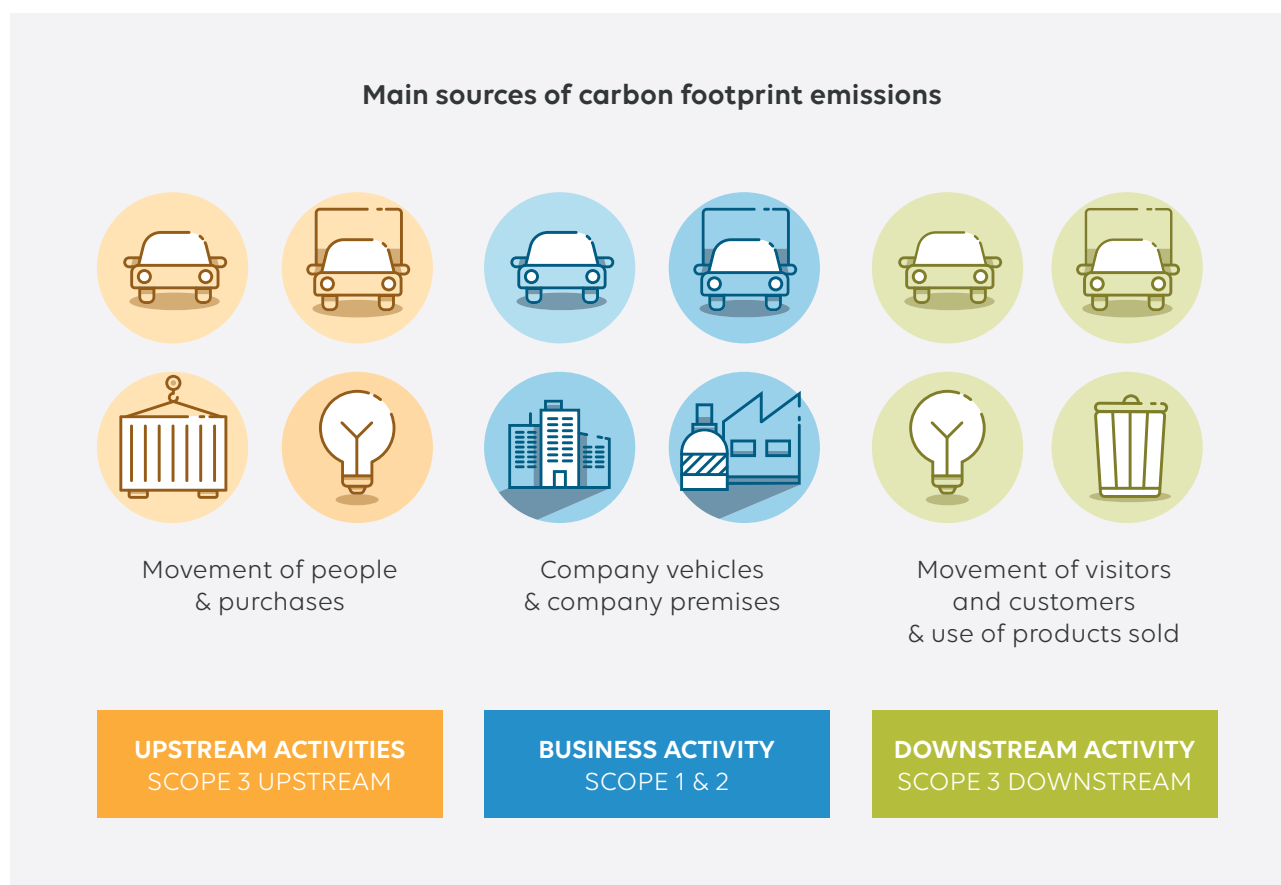
AIMS & METHODOLOGY

We were under the impression that our collective WiFi approach in «as a service» mode had a lower carbon footprint than private solutions and / or solutions based on other technologies.

We therefore commissioned Virtus Management, a consulting firm specialising in the conversion of digital transitions, to carry out a certain number of studies to validate this approach.

The approach consisted of establishing Wifirst's carbon footprint and identifying key trends, with the following aims:
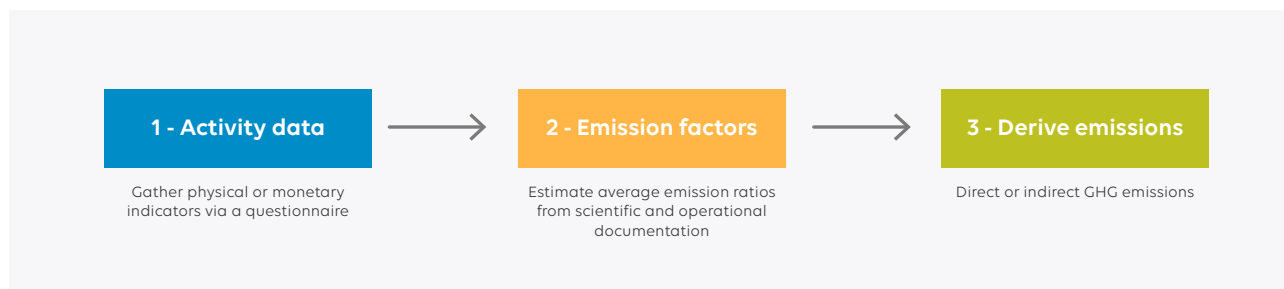
• Determining the main sources of Wifirst's emissions
• Identifying areas where our carbon footprint can be reduced
• Introducing actions to contribute to the aim of carbon neutrality

Our assessment is based on ADEME's principles for quantifying greenhouse gas emissions, a method coordinated and disseminated by the Association Bilan Carbone. It takes into account a company's different sources of emissions based on 3 scopes:

Main sources of carbon footprint emissions

Movement of people & purchases	Company vehicles & company premises	Movement of visitors and customers & use of products sold
UPSTREAM ACTIVITIES SCOPE 3 UPSTREAM	**BUSINESS ACTIVITY** SCOPE 1 & 2	**DOWNSTREAM ACTIVITY** SCOPE 3 DOWNSTREAM

About VIRTUS Management

VIRTUS Management is a management consulting firm specialising in converting digital, environmental and societal transitions into development opportunities for communities and businesses. Favouring a systemic approach, it identifies the actions to be taken with regard to human, organisational, relational and technological assets in order to align the fundamentals of your business activities with the dynamics of their environment.
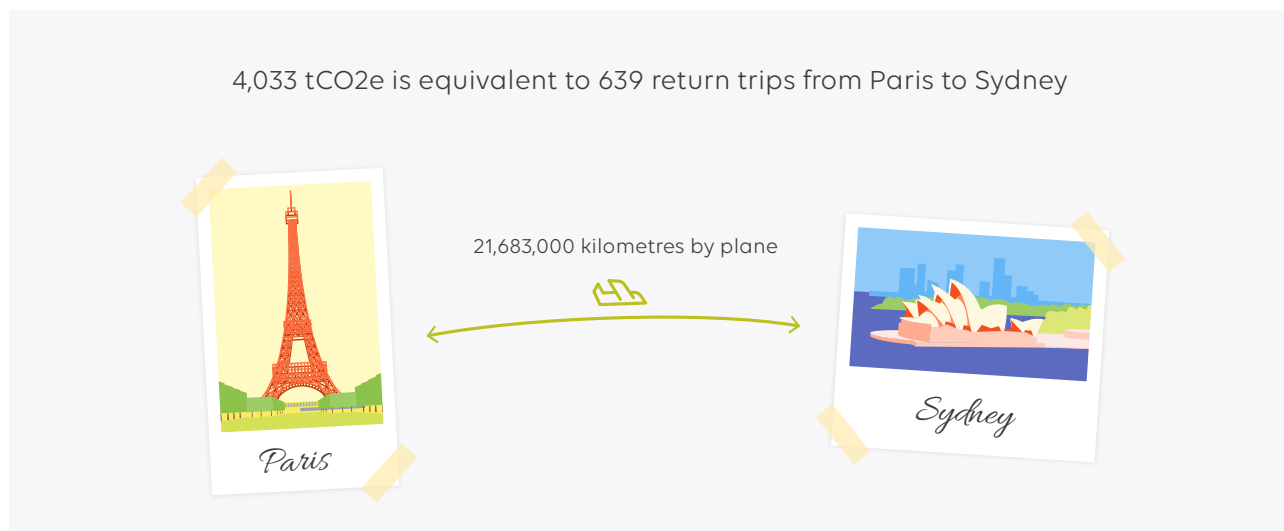
1 - Activity data	2 - Emission factors	3 - Derive emissions
Gather physical or monetary indicators via a questionnaire	Estimate average emission ratios from scientific and operational documentation	Direct or indirect GHG emissions

Virtus Management approach

The firm was co-founded by Hugues Ferreboeuf, member of the Think Tank The Shift Project, a stakeholder in the transition to a low-carbon economy, which notably conducts work relating to the energy and ecological impact of the Digital Transition.

SUMMARY OF THE STUDY

Wifirst's carbon footprint in 2020 represented **4 033 tCO2e** of which only **110 tCO2e** related to scopes 1 & 2. Its carbon intensity is 3 times lower than the average calculated by ADEME in the telecommunications sector.

4,033 tCO2e is equivalent to 639 return trips from Paris to Sydney

21,683,000 kilometres by plane

Paris

Sydney

Through this assessment, we have quantified the carbon impact of our overall activity. It takes into account:

- The equipment installed on our customer sites which is by far **the biggest contributor**, through its embedded footprint and through the resulting electricity consumption
- The **transportation of people and equipment** (excluding fuel for company vehicles)
- The use of third-party networks **to handle traffic generated by customer sites,** a source of emissions that also carries significant weight

All these emission sources are part of scope 3, which carries **36 times more weight** than scopes 1 and 2 in Wifirst's case.

Opportunities for reducing the carbon footprint:

The second part of the study highlights and quantifies the benefits of our collective managed WiFi infrastructure, by quantifying the emissions avoided. These are figures on which Wifirst will be able to rely to better guide its climate strategy.

- **Increasing the length of useful life of customer equipment**
- **Selecting «low carbon» suppliers**
- **Internal organisation in line with our climate commitments**
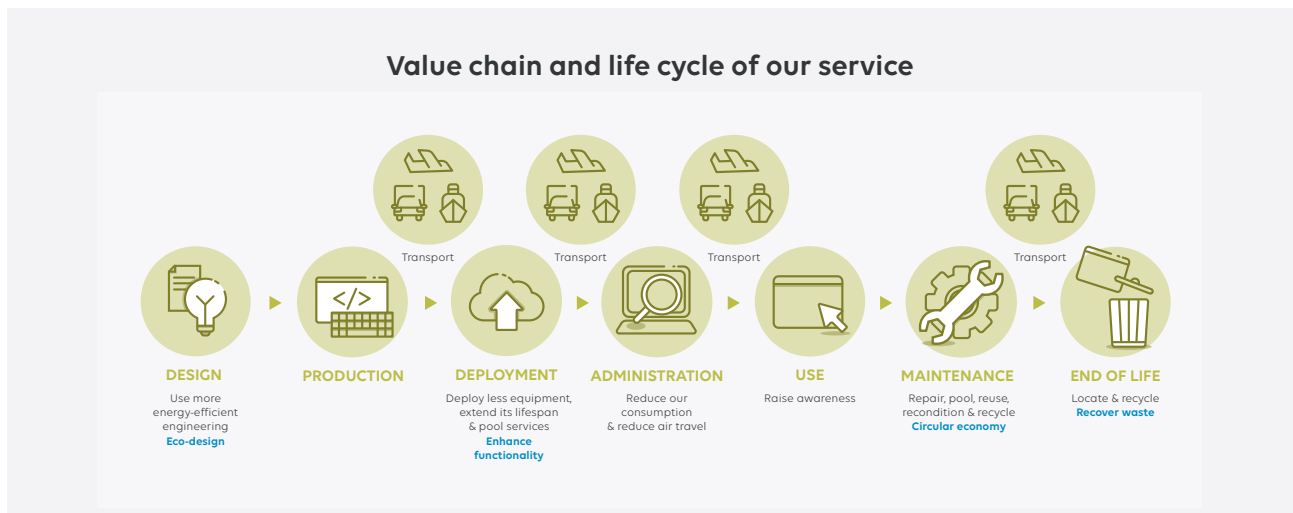- **Implementation of eco-responsible WiFi offers**

> « Wifirst's multiservice WiFi solution is 15 times less "carbon-intensive" than some competitors' solutions. »

The Wifirst offer, a valuable asset for less carbon-intensive digital technology

Faced with the pressure and innovation brought about by the growing role of digital technology in our society, Wifirst has responded with **the intelligence of its networks.** This approach allows us to pollute less while offering our customers high-performance and competitive multiservice WiFi.

Value chain and life cycle of our service

Transport → Transport → Transport → Transport

DESIGN
Use more energy-efficient engineering
Eco-design

PRODUCTION

DEPLOYMENT
Deploy less equipment, extend its lifespan & pool services
Enhance functionality

ADMINISTRATION
Reduce our consumption & reduce air travel

USE
Raise awareness

MAINTENANCE
Repair, pool, reuse, recondition & recycle
Circular economy

END OF LIFE
Locate & recycle
Recover waste

> « Whereas an individual box offer generates 36.6kg of CO_2 per year and per housing unit, Wifirst's "as a service" approach represents only 2.4kg of CO_2. »

This carbon assessment allows us to confirm the benefits of our collective managed WiFi infrastructure by quantifying the emissions avoided. The figures produced obviously feed into our ongoing work towards transparency and leading by example, aimed in particular at orienting our climate strategy over the long term by analysing our "as a service" model.

CARBON REPORT IN DETAIL

1. Carbon footprint and trends

The essential aim of our Carbon Report is **to provide an overview of the impact of our activity** with a physical indicator: our greenhouse gas emissions. With the help of this baseline study we can steer our telecom operator activity to strengthen our low-carbon model and adopt a pioneering position to support our customers in the era of eco-responsible WiFi.

The scopes involved:

All the CO2 emissions linked to our activity have been studied. While many companies consider that the most important and most direct activities are part of SCOPE 1 and SCOPE 2, we have **opted for transparency** by also taking into account SCOPE 3, which in particular includes transport and the embedded footprint (the footprint of equipment purchased before use by the company).

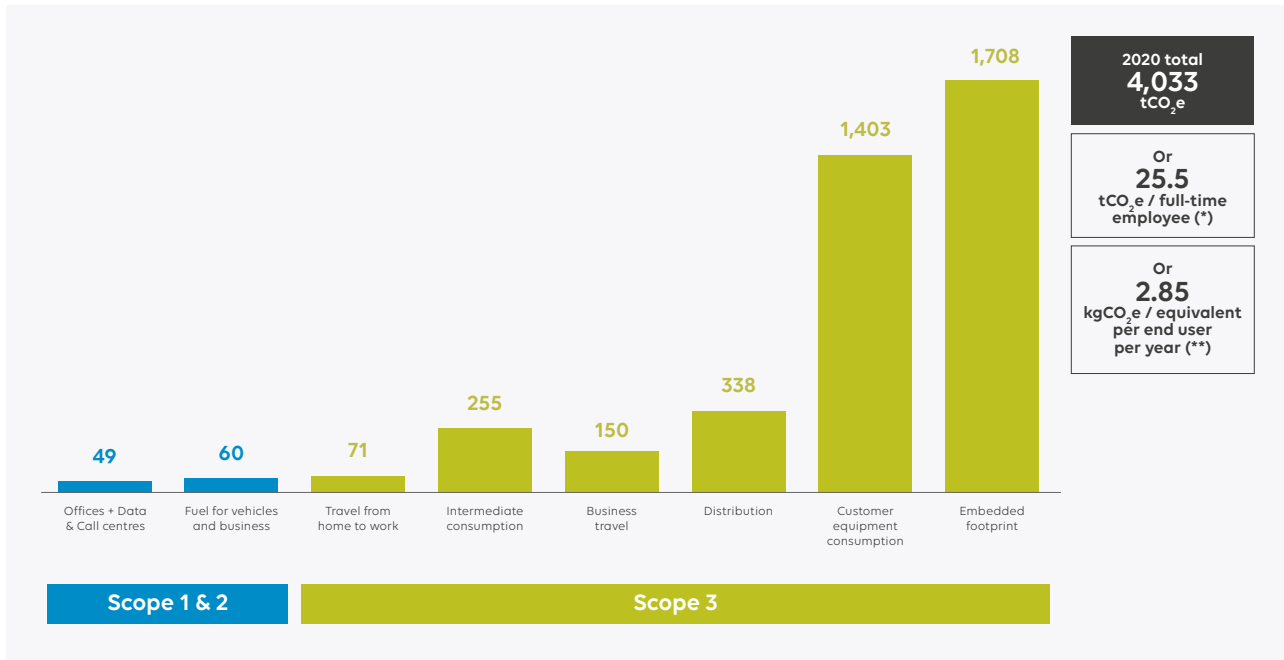« Scopes 1 and 2 represent less than **3%** of Wifirst's total carbon footprint, i.e. 110 tCO2e. »

SCOPE 1	SCOPE 2	SCOPE 3
Emissions that are the direct consequence of activities controlled by the company, emissions linked to its buildings and various installations Examples: combustion of stationary and mobile sources, non-combustion industrial processes, emissions from ruminants, biogas from technical landfills, refrigerant leaks, nitrogen fertilisation, biomass, etc.	Indirect emissions related to the production of electricity, heat or imported steam for the activities of the organisation.	Emissions indirectly produced by the activities of the organisation which are linked to the complete value chain such as: purchase of raw materials, services or other products, employee travel, upstream and downstream transport of goods, management of waste generated by the activities of the organisation, use and end of life of products and services sold, fixed assets and production facilities, etc.

Definition source: Ademe
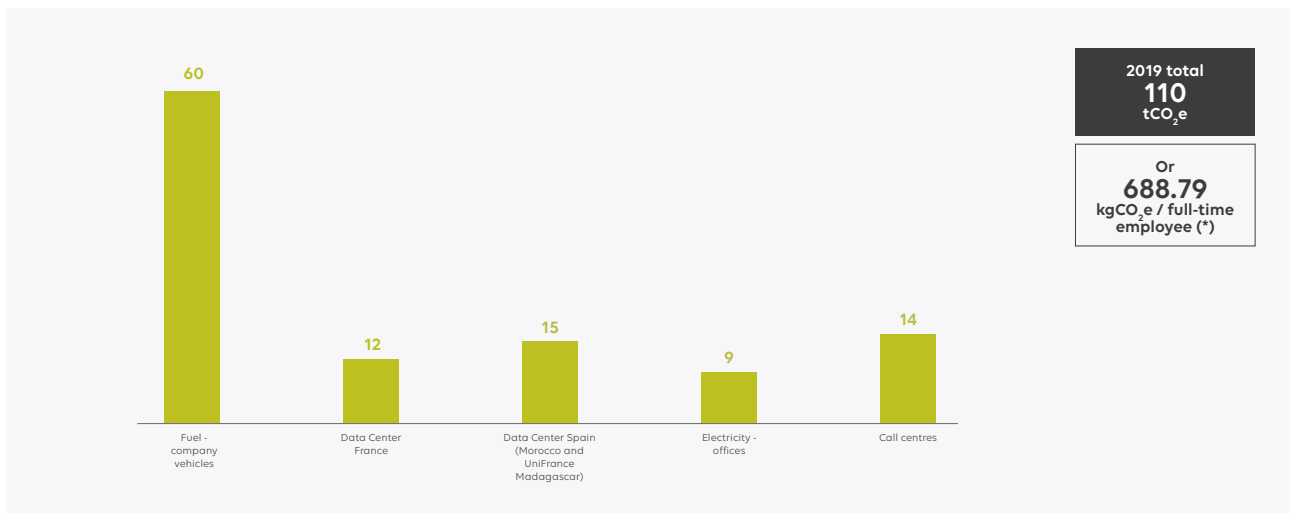
Key figures from Wifirst's balance sheet

The result of Wifirst's carbon assessment for 2020 indicates total emissions of **4,033 tCO2e**, or 25.25 tCO2e per employee and 2.85 kgCO2e equivalent per annual end user. Fixed assets and equipment constitute the biggest item, representing **42.35% of these emissions**, broken down as follows.

2020 total 4,033 tCO$_2$e	
Or **25.5** tCO$_2$e / full-time employee (*)	
Or **2.85** kgCO$_2$e / equivalent per end user per year (**)	

Chart values: Offices + Data & Call centres: 49 — Fuel for vehicles and business: 60 — Travel from home to work: 71 — Intermediate consumption: 255 — Business travel: 150 — Distribution: 338 — Customer equipment consumption: 1,403 — Embedded footprint: 1,708. Scope 1 & 2 | Scope 3.

(*) based on 159.7 people
(**) based on service to 1,410,495 equivalent users

// Detailed Scope 1 & 2 emissions (tCO2e)

Wifirst's combined scope 1 & 2 emissions were **110 tCO2e** in 2020. The company's vehicles constitute the biggest item, representing **the majority of its emissions.**
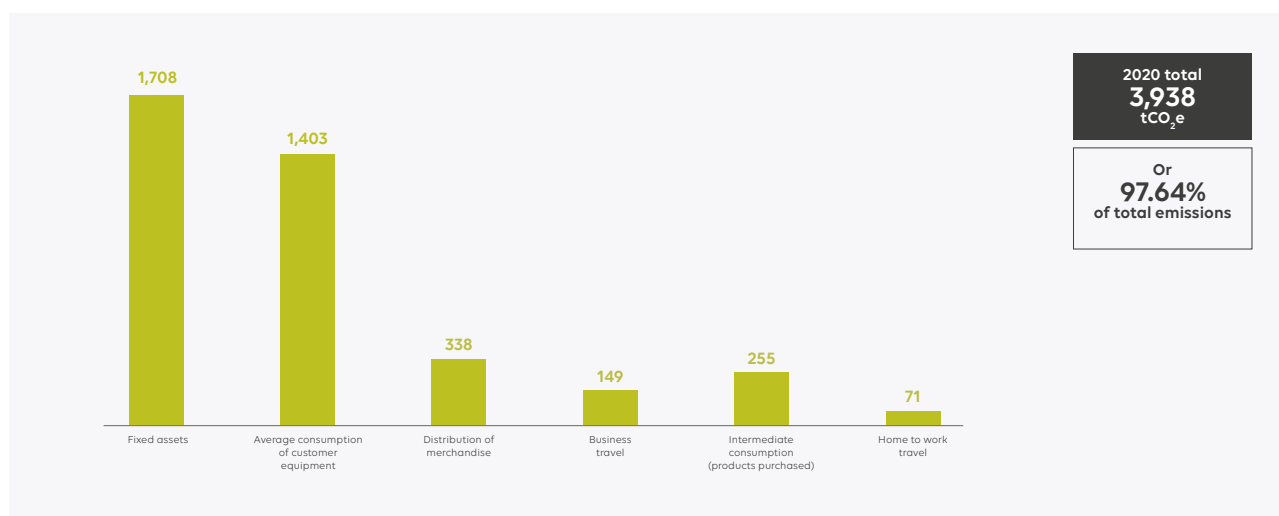

2019 total 110 tCO$_2$e	
Or **688.79** kgCO$_2$e / full-time employee (*)	

Chart values: Fuel - company vehicles: 60 — Data Center France: 12 — Data Center Spain (Morocco and UniFrance Madagascar): 15 — Electricity - offices: 9 — Call centres: 14.

(*) based on 159.7 people

// Focus on scope 3

Wifirst scope 3 emissions were **3,938 tCO2e** in 2020.
Fixed assets and equipment are the biggest items, representing **43.37% or 1,708 tCO2e of these emissions.**

2020 total
3,938
tCO_2e

Or
97.64%
of total emissions

Chart values: Fixed assets 1,708; Average consumption of customer equipment 1,403; Distribution of merchandise 338; Business travel 149; Intermediate consumption (products purchased) 255; Home to work travel 71

Changes in CO2 emissions from 2017 to 2020

	2017	2018	2019	2020
SCOPE 1 & 2	72 tCO_2e	86 tCO_2e	99 tCO_2e	110 tCO_2e
SCOPE 3	2717 tCO_2e	3105 tCO_2e	3595 tCO_2e	3938 tCO_2e
TOTAL	2819 tCO_2e	3210 tCO_2e	3694 tCO_2e	4033 tCO_2e

A steady drop in carbon intensity

	2017	2018	2019	2020
tCO2 / EMPLOYEE	28.2 tCO_2e	26.8 tCO_2e	26.2 tCO_2e	25.25 tCO_2e
tCO2 / M€ IN REVENUE*	77.9 tCO_2e	65.5 tCO_2e	65.3 tCO_2e	66.1 tCO_2e**
tCO2 / GB CONSUMED ON OUR NETWORK	2.03 gCo2	1.61 gCo2	1.41 gCo2	1.34 gCo2

Scope 3 total
*** 42.0 TCO2e: scope of emission factors used by Ademe*
(excluding consumption of customer equipment and home / work travel)
**** Full carbon cost. Marginal cost (= marginal consumption of equipment) = 10% of full cost*
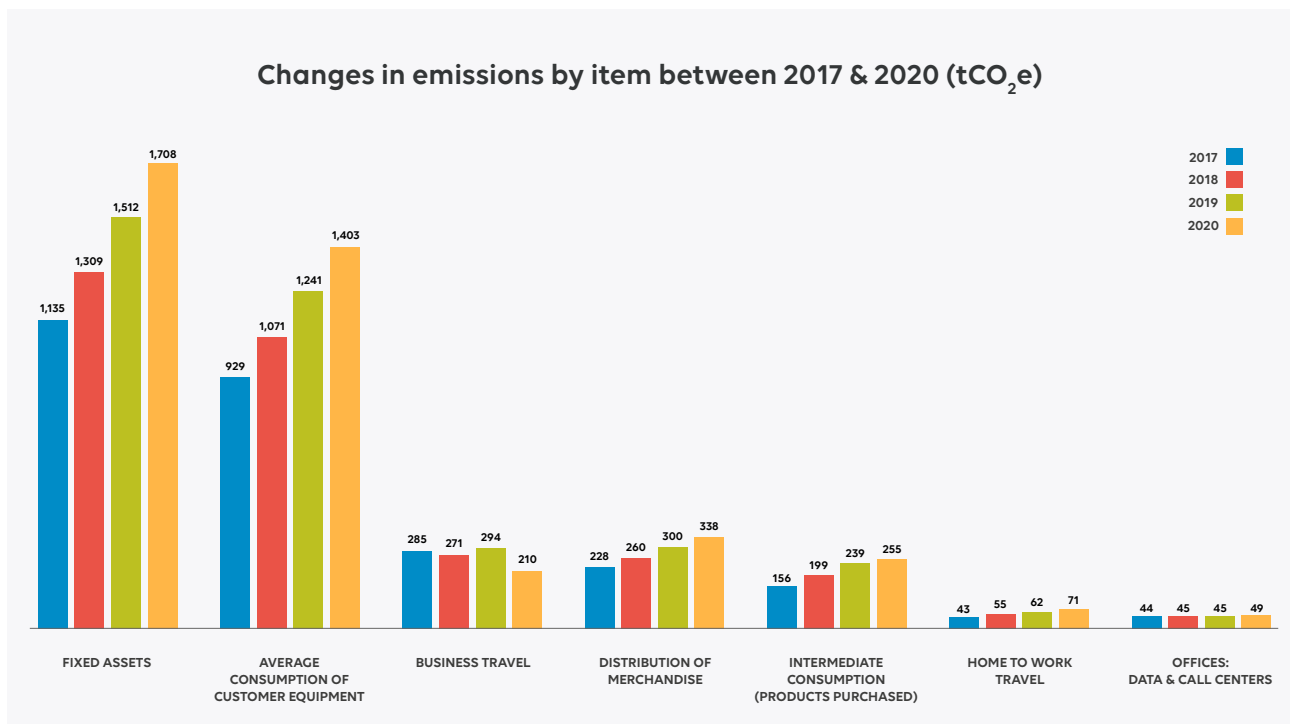
Wifirst's carbon intensity (in 2020)

42 tCO2 / M€ in revenue (scope 1, 2 & 3)*

wifirst

170 tCO2 / M€ in revenue
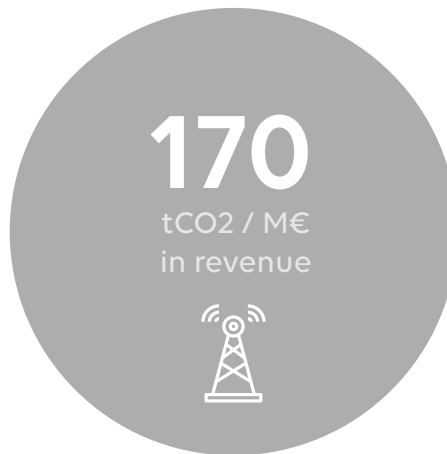
Telecoms average carbon intensity

Source: Ademe
Scope of emission factors used by Ademe (excluding consumption of customer equipment and home / work travel)

Changes in emissions by item between 2017 & 2020 (tCO$_2$e)

Legend: 2017, 2018, 2019, 2020

FIXED ASSETS: 1,135 / 1,309 / 1,512 / 1,708
AVERAGE CONSUMPTION OF CUSTOMER EQUIPMENT: 929 / 1,071 / 1,241 / 1,403
BUSINESS TRAVEL: 285 / 271 / 294 / 210
DISTRIBUTION OF MERCHANDISE: 228 / 260 / 300 / 338
INTERMEDIATE CONSUMPTION (PRODUCTS PURCHASED): 156 / 199 / 239 / 255
HOME TO WORK TRAVEL: 43 / 55 / 62 / 71
OFFICES: DATA & CALL CENTERS: 44 / 45 / 45 / 49

We note that Wifirst's total emissions **increased by 43%** between 2017 and 2020 while the change in revenue over the same period was **+62%.**

Fixed assets (+51%) and the average consumption of customer equipment (+51%) are mainly responsible for this sharp increase.

We can also see that emissions from scopes 1 & 2 **increased by 53%** between 2017 and 2020. This difference is mainly explained by an increase in the company's vehicle fleet (+82% for this item). Scope 3 emissions meanwhile **increased by 45%** between 2017 and 2020.

All in all, Scope 3 represents 97% of WiFirst's total emissions over the four years analysed. However, work carried out to identify areas for reducing our carbon footprint is bearing fruit since the carbon impact of our activity is on the decrease compared to our growth in revenue over the past four years.

« Scope 3 represents **97%** of Wifirst's total emissions over the four years analysed.

2. Limitations of the study

There is irreducible uncertainty in any carbon footprint assessment. Thus the carbon footprint remains an order of magnitude, which can however be used to inform choices because it enables significant emission items to be identified, and therefore prioritised, as part of an emissions reduction policy.

	SOURCES OF EMISSIONS USED IN ESTIMATIONS	ITEMS NOT TAKEN INTO ACCOUNT
Scope 1	Direct fugitive emissions from processes and from land use	
Scope 2	Electricity consumption and Data Center network	Indirect emissions linked to the consumption of steam, heat or cold
Scope 3	Fixed assets Upstream freight transport	Purchases of goods and services Upstream leased assets Processing of products sold End of life of products sold Downstream leased assets Franchises Investments

AREAS FOR IMPROVEMENT

Wifirst aligns itself with the national low carbon trajectory. Since the Paris Agreement, countries have been coordinating to achieve carbon neutrality by 2050 by transposing this objective with the roll-out of national strategies.

It is to be noted that the aim of carbon neutrality can only be applied at the scale of individual countries. In line with this, Wifirst is developing a strategy consistent with the Paris Agreement by targeting **a drastic reduction in its emissions** and **adopting low carbon consumption.** To do this, we are setting up an internal management system.

«

> I bring to Wifirst and its managers a set of values and transformative actions to which I deeply adhere. This carbon assessment, conducted in a fully transparent way, marks Wifirst's strong commitment to responsible digital technology. This isn't just some opportunistic afterthought to allay any feelings of guilt - far from it! This is rooted in the culture of the company and is at the heart of our business and our corporate strategy.

»

Charlotte Thiollier, CSR manager at Wifirst

Measuring

We analyse our emissions every year in order to feed our strategy and reduce our impact. In particular, Wifirst measures the energy expenditure of the equipment deployed in order to reduce the impact on our stock of equipment.

2020:

Wifirst was rated in 2020 by Ecovadis, which awarded it the "silver" level (significantly higher than the average score in the telecoms sector). This rating stems from the assessment of numerous indicators grouped around four themes: the environment, the social aspect & human rights, ethics and responsible purchasing.

2021:

- Publication of the carbon assessment report
- Wifirst is committed to sustainably integrating the Ten Principles of the United Nations Global Compact into its corporate strategy, in particular by contributing to the Sustainable Development Goals (SDGs)

Designing

We want to propose services that are less energy-consuming and more sustainable thanks to engineering that values eco-design.

2021: 1st site deployed with an eco-responsible service offer.

The «green WiFi» offer, which is based on the use of 100% reconditioned professional equipment to deploy dedicated fibre. The goal: to save energy and bring down expenses for our customers by giving a second life to terminals that have been previously used but are in good condition. This type of sustainable WiFi will meet bandwidth needs while limiting the ecological impact of the network infrastructure, its added value residing in our know-how and in the software layer built by our R&D teams.

> An excellent experience working with Wifirst, whose teams have proven themselves to be very professional at all stages of project planning and implementation. Well done for the idea of using reconditioned equipment, which, in addition to the undeniable financial gain, is really in line with our desire for ecological frugality at Yes We Camp.

Raphaël Haziot, Buropolis project coordination

Organising

We manage our internal organisation responsibly to limit our consumption of products and services that are costly for the environment, to reduce air transport, and to integrate a responsible purchasing approach.

Since 2020: introduction of a responsible purchasing grid.

2021: remodelling of the premises following a «design to carbon» principle, which translates into thoughtful consumption that is less costly for the environment. All objects are kept, moved, donated or recycled. What is added for the well-being of employees is thought about in the same terms (choice of materials, eco-responsible technologies and favouring local sourcing).

Process of emptying the premises, with collection, recycling and reuse of furniture by Trycicle Environnement (Circular Economy and Social and Solidarity Economy company)

SOCIAL IMPACT

5
workers from social/solidarity-based economy organisations

X

35
hours of insertion

ENVIRONNEMENTAL IMPACT

0.95
tonnes of reused furniture

&

1.98
tonnes of recycled furniture

Managing

Wifirst assesses the energy expenditure of the equipment deployed in order to reduce the impact on the equipment stock (which consists of over 200,000 active supervised pieces of equipment). Energy savings have already been achieved through the following actions:

Since 2016

- Change of proprietary network controllers. Result: change from 250 Watts down to 30 Watts per server; ongoing study for the introduction of a passive mode;
- Use of less energy consuming WiFi terminals. Result: from 13 Watts down to 5 Watts / unit.
- Virtualisation of Natbox equipment, the functions of which have been embedded in the Wifirst box, in order to limit the equipment deployed and energy consumed

Optimising

When it is not possible to reuse the equipment, we handle it in such a way as to respect the collection and recycling channels for WEEE (electronic and electrical waste). Wifirst has indeed implemented circular management of its equipment by reconditioning it whenever it can be reused. By working on the return of equipment, we are implementing a circular economy process and we are limiting our carbon impact by favouring the local recycling centre when possible for the following:

Sorting equipment
The equipment to be reconditioned has been identified and validated by the technical teams

Reconditioning equipment
A return process has been developed to ensure quality thanks to suitable packaging and to facilitate the monitoring and traceability of the equipment

Recycling obsolete equipment
Local waste collection centres have been identified to enable the recycling of equipment and to reduce the carbon impact of travel.
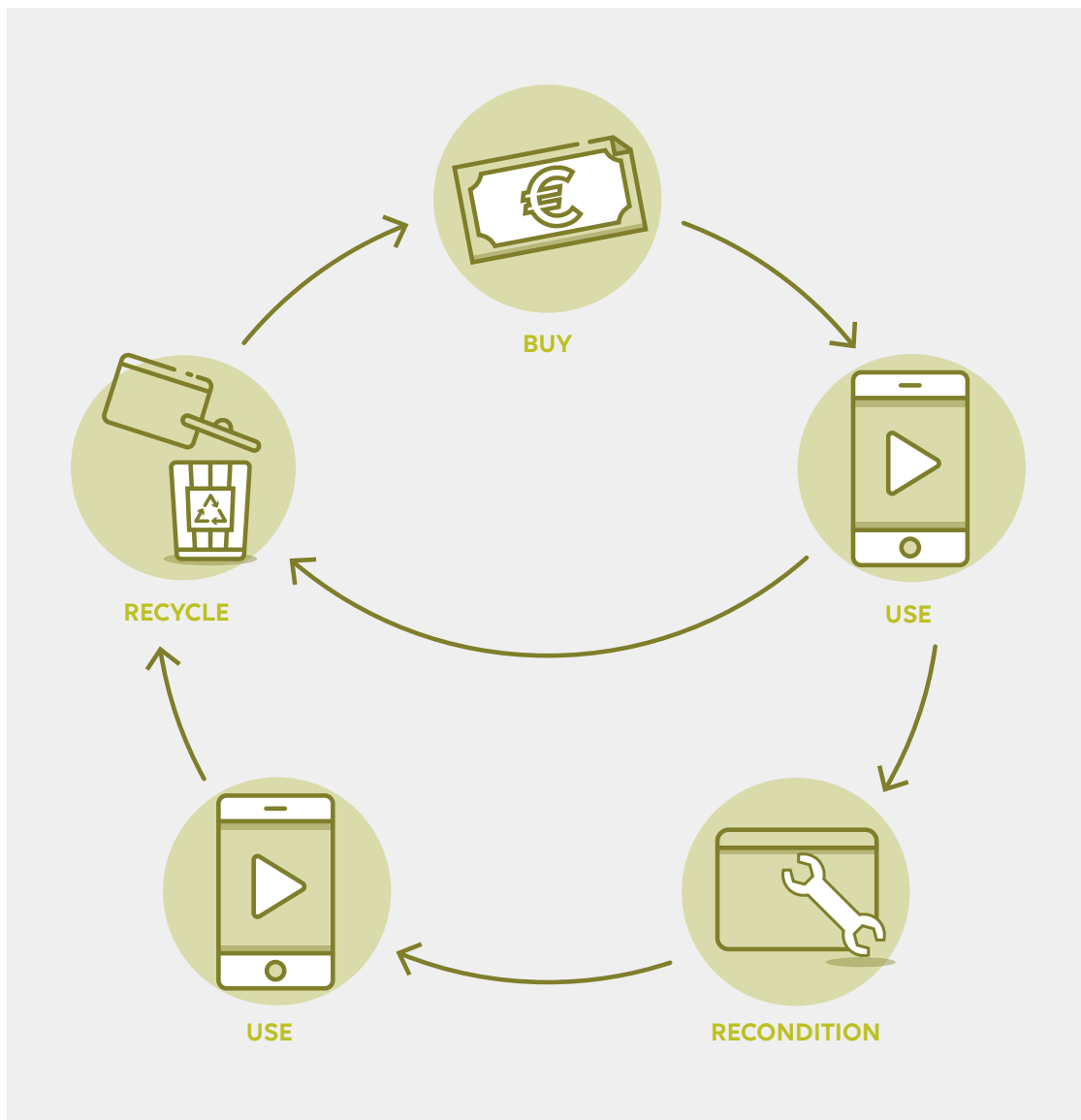
2021 figures:

- Equipment reconditioned in Q1 2021: 902 (including 600 WiFi terminals, 100 proprietary network controllers and 120 modems))
- Reconditioned equipment sent back into use on site in Q1 2021: 847 (including 378 WiFi terminals, 95 proprietary network controllers and 154 modems)

«

The average lifespan of the hardware at a Wifirst site is **8 years, as opposed to 4 years** on average for our competitors.
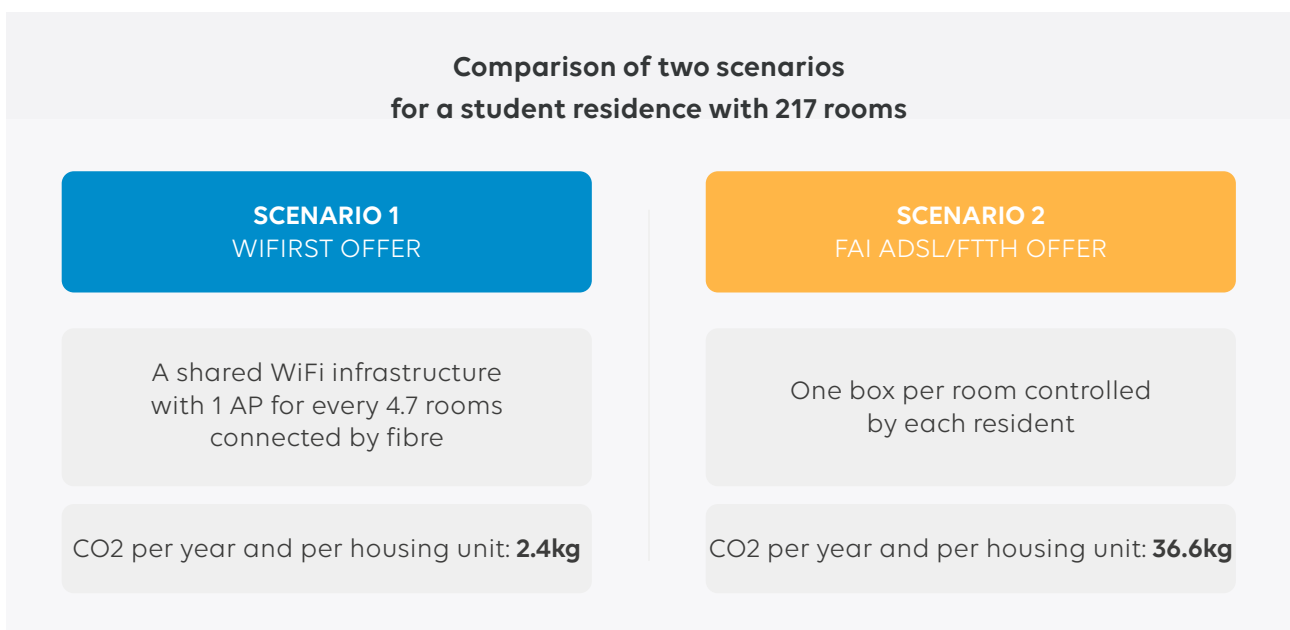
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CONCLUSION

We are convinced that digital technology can be a facilitator for ecological transition. By putting the carbon footprint at the heart of our strategy, we are deploying sustainable networks. And it's not just a question of WiFi standards. The key to quality lies more in the advice we provide to customers (helping them to project over 10 years) and in the ultra-precise design of the network. In the context of our activity, so-called "intelligent" digital tools make a real contribution to the decarbonisation of the system. In particular, we can see this in the residential sector, in which we have been operating for almost 20 years.

Wifirst connects student residences using WiFi (more than 3 out of 4 of all student halls of residence in France, both public and private), hotels and apartment hotels, serviced residences for seniors and more recently a new type of residence with co-living on the rise.

Behind all these types of residence, the same principles can be found: community, sharing, pooling and flexibility with a similar objective: rethinking the way of seeing real estate through active and service-based asset management. This enables facility managers to provide their residents with an integrated offer (water, energy, WiFi network, access to common areas, maintenance, insurance and other services) for their private rooms or apartments.

Where an **individual box offer generates 36.6 kg of CO2 per year and per housing unit***, by responding solely to the issue of internet access in individual homes, **Wifirst's "as a service" approach only represents 2.4 kg of CO2 per year and per dwelling** to supply the digital services of residents and optimisation of the infrastructure both in terms of collective experience and building management.

*Source: Virtus Management study

Comparison of two scenarios
for a student residence with 217 rooms

SCENARIO 1 WIFIRST OFFER	SCENARIO 2 FAI ADSL/FTTH OFFER
A shared WiFi infrastructure with 1 AP for every 4.7 rooms connected by fibre	One box per room controlled by each resident
CO2 per year and per housing unit: **2.4kg**	CO2 per year and per housing unit: **36.6kg**

While the intelligence of our networks allows for controlled energy consumption, the introduction of ever more responsible digital technology must also involve raising users' awareness of the impact of their use.

The development of shared WiFi architecture, now concentrated in the professional sphere, will also be beneficial on a large scale in the domestic sphere. This is the bet we are making and which, we believe, will have a lasting impact on the energy optimisation of the networks of the future.