

BENCHMARK GREEN IT 2023 & 2024

benchmark@greenit.fr

AUXILIA
[GROUPE SOS]

IT's on us

ap agilepartner

resilio
Solutions for a sustainable world.

espelia
Conseil pour la performance publique

Zeb & Web

green it

innov'iction



AGENDA

1. Who we are?
2. Intro to Benchmark Green IT
3. Key results and findings 2023
4. Top general recommendations 2023
5. Q&A and Benchmark 2024



Who we are, what we have done, ...

GREEN IT: 3 ORGANISATIONS IN 1

Citizen Collective



Expert Collective



Business Club

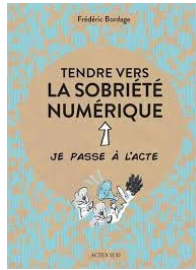


The GreenIT collective gathers experts since 2004 who originally developed frameworks for **digital sobriety**, **responsible digital**, **digital service eco-design** and **slow tech**.

As a Long-standing player and subject-matter expert for **18 years**, rationalising the approach, we offer common concepts and terms, methodologies, assessment systems, best practice guidance and many other tools. By our expertise, we support public authorities and enterprises, and we produce reference studies.

The advocacy of the citizen collective is done on a volunteer basis, thanks to the French association law 1901 for non-for-profit, voluntarily unfunded.

PUBLICATIONS



[Tendre vers la sobriété numérique](#)

ACTES SUD, 2021



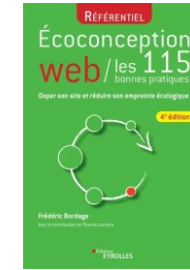
[Digital Technologies in Europe: an environmental life cycle approach](#)

Study #NumEU, 2021



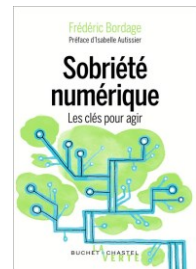
[Référentiel Green IT \(EN version soon\)](#)

74 Best practices, 2022



[Ecoconception Web : les 115 bonnes pratiques](#)

Eyrolles, 4e édition, 2022



[Sobriété numérique, Les clés pour agir](#)

Buchet Chastel, 2019



[Impacts environnementaux du numérique en France](#)

Study #iNum, 2020



[Worldwide environmental footprint of the digital world](#)

Study #EENM, 2019



[The digital environmental footprint in France](#)

Study Ademe-Arcep, 2022

Benchmark Green IT

Introduction



Goals of Benchmark Green IT

1. KNOW

The structure of environmental impacts of your Information System

The maturity of your Organisation regarding Green IT and Sustainable Digital

2. BENCHMARK

Rank your Organisation among all participants and find improvement opportunities

3. ACT

Build your Action plan using a science-based, data-driven analysis

Methodology

2 tracks:

- Environmental impacts evaluated according to the Life Cycle Assessment (LCA) method
- Maturity assessed on a CMMI scale

Life Cycle Assessment

- **Screening-LCA ISO 14040/44 + PEF**
- **Life Cycle thinking:** Manufacturing / Distribution / Use / End of Life (EoL)
- **16 impact indicators** according to ISO and PEF standards: Resource Use, Greenhouse Gas Emissions, Water use and eutrophication...
- **2 scopes:** “partial” (benchmarkable) / “Global” (footprint)
- State-of-the-art **Databases:** NegaOctet / EcoInvent

Maturity Assessment

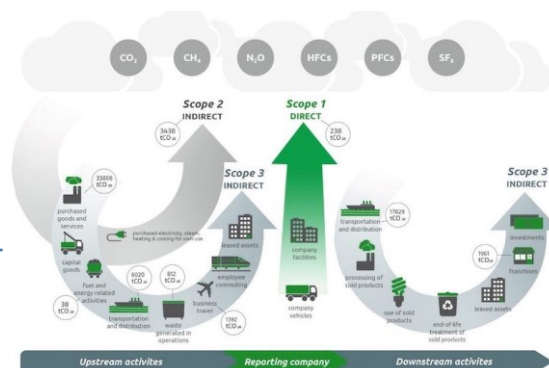
- Assisted self-assessment
- 74 good practice framework
- CMMI scale

1. Initial
2. Managed
3. Defined
4. Quantitatively Managed
5. Optimising

LCA VS. GHG REPORT

Greenhouse Gas (GHG) Emission Report

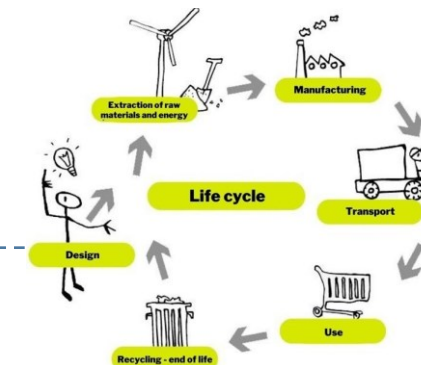
- Aim for Organisation's **Climate** disclosure
- **Single-criterion** assessment: quantity of emitted (or sequestered) GHG into the atmosphere for one year by an Organisation or a territory
- GHG Assessment is based on **ISO 14064**
- GHG Report is an obligation for Companies in-scope of NFRD (CSRD starting in 2025 for the year 2024) – Scope 1, 2 & 3



Source: SustainLab

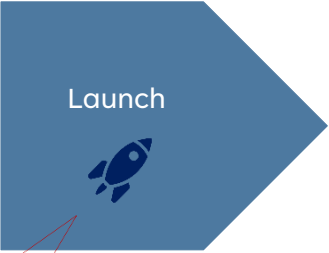
Life Cycle Assessment (LCA)

- Assess key sources of environmental impacts of a Product or a Service, **throughout its life cycle**
- **Multi-criteria** analysis: GHG emissions, Water Use, Resource Use (fossil, mineral, metals), ...
- LCA in accordance with **ISO 14040** and **14044**
- Follows a functional approach
- Note: GHG Report data can be computed from LCA data, but not the reverse

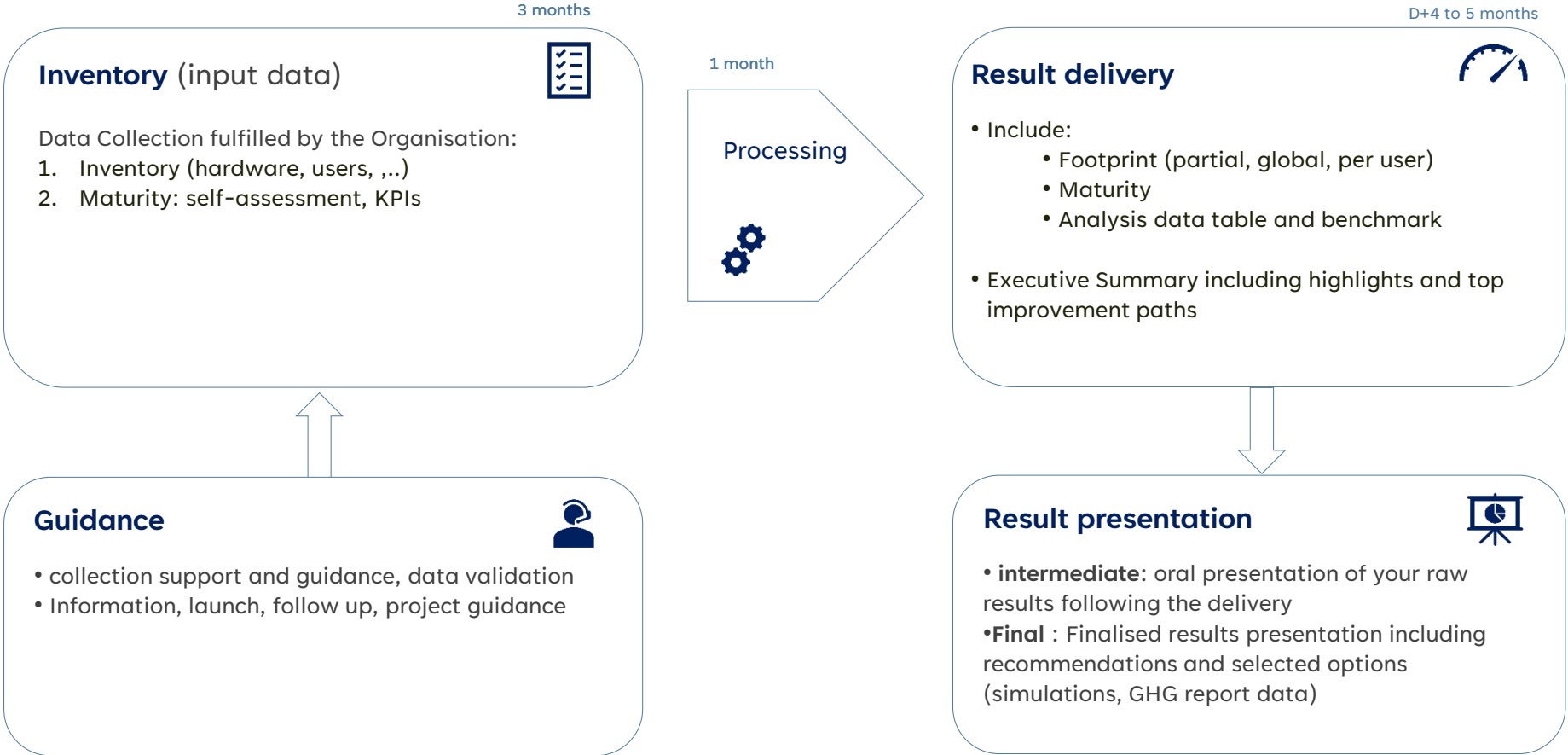


Source: Eco-design and Life Cycle thinking, Youtube

Course of the project



January 2024



DELIVERABLES



RESULTS

Raw data easing exploitation of data: Footprint + Maturity



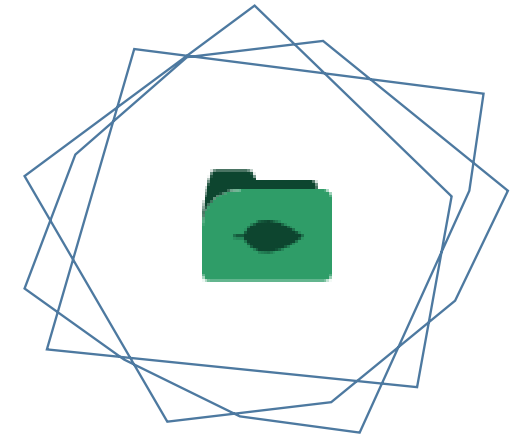
PRESENTATION

Turnkey presentation support:
Executive Summary + Footprint + Maturity + benchmark + Recommendations



PUBLICATION

Public Summary of aggregated data – min, max, averages (benchmark)



RESILIO APP

Inventory and result Dashboards
(Read access – until September)

Benchmark or tailored ?

	Benchmark Green IT	Tailored Project
Evaluation of the IS	✓	✓
Evaluation of multiple region or IS	✗	✓
Personalisation of the evaluation scopes	✗	✓
Collective peer meeting	✓	✗
Personalised guidance and support	✗	✓
Forum and FAQ access	✓	✗
Data access in Resilio Tech App	✓ (limited, until September)	Optional
Deliverable - Results in Excel format	✓	✓
Deliverable – PowerPoint Presentation	✓	✓
Deliverable – Summarised action plan	✓	✓
Deliverable – Detailed recommendations	✗	✓
Citation within the public presentation	✓	✗
GHG Report / GHG Protocol Data	Optional	✓
Action plan simulation	Optional	✓
Application for Club Green IT	Optional	Optional

Pricing

2 000 to 20 000€*

20 000 to 300 000 €**

contact us: benchmark@greenit.fr

* Price list depends on the location of your expert. The Pricing is progressive, depending on your size, turnover and activity – public and non-for-profit entities may benefit from a discount

**Indicative price, depends on the location of the execution of the project



DNA & DIFFERENTIATORS

Standard

LCA in accordance with international standards (ISO 14040 – 44) as well as European (PEF 3.0). Impact Factors originated from state-of-the-art DB **NegaOctet**.

Proven

Deployed for more than 12 year. **8th edition** of Benchmark Green IT. Reports available here <https://www.greenit.fr/benchmark-green-it-en/>. Recognised by 50+ Organisations through their participation in the previous editions.

Expert

Worldwide state-of-art in terms of methodologies, impact factors, calculation methods, assistance tools, etc.

Independent

Designed by the collective of independent behind the approaches of Digital Sobriety and Sustainable Digital.

BENCHMARK GREEN IT 2023

Key Results and Findings



PARTICIPANTS OF THE 2023 EDITION



LIST



European Parliament



Tenergie



EasyCash



Ifremer



AXA Luxembourg



Banque de Luxembourg



Kiabi



Consort Group



Roole



France Médias Monde

IN-SCOPE



22

Organisations



64 901

Users



5 219

IT Department
collaborators



37 657 m²

of IT Department
Offices



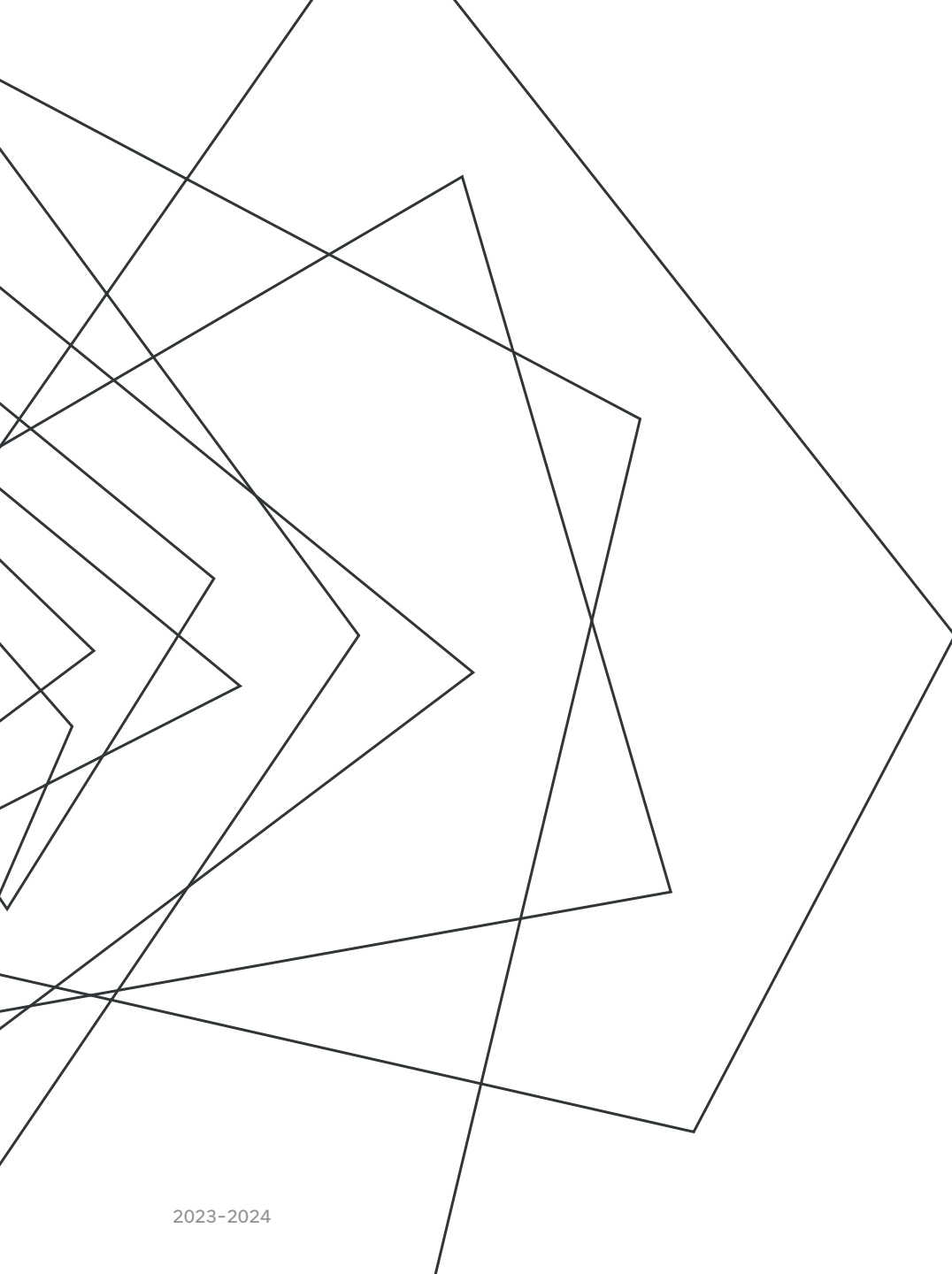
42 km

Daily travelled by an
IT collaborator



331 636

IT equipment



TAKE AWAY

AVERAGE FOOTPRINT IS SLIGHTLY LOWER

37 TO 48%

Of the sustainable budget of a European

SLASH BY 4 TO 10

The contribution of the Information System to become sustainable

ANNUAL USER FOOTPRINT

3 500 KWH



PRIMARY ENERGY

16 equivalent 1000W heaters on all the time

364 KG EQ CO2
GHG EMISSION



2.983 km travelled by car

220 M3 WATER



88 bathes

15,3 G
RESSOURCE USE



422 dug Olympic pools

INFORMATION SYSTEM FOOTPRINT

Significant variations between Organisations

- ADPf** : Resource use, fossils (MJ)
- ADPe** : Resource use, minerals and metals (kg Sb eq.)
- AP** : Acidification (mol H+ eq.)
- CTUe** : Ecotoxicity, freshwater (CTUe)
- GWP** : Climate Change (kg CO₂ eq.)
- IR** : Ionising radiation, human health (kg U235 eq.)
- PM** : Particulate matter (disease occurrences)
- TPE** : primary Energy Demand (MJ)
- WU** : Water use (m³ eq.)

Indicator	ADPe	ADPf	AP	CTUe	GWP	IR	PM	TPE	WU
<i>Unit</i>	<i>g Sb eq.</i>	<i>GJ</i>	<i>mol H+ eq.</i>	<i>CTUe</i>	<i>kg CO2 eq.</i>	<i>kBq U235 eq.</i>	<i>Disease occurrence (per 10,000)</i>	<i>GJ</i>	<i>m3 eq.</i>
Minimum	7.84	5.2	0.71	2,813	112	191	0,04	4,7	51
Mean	19.7	16.5	2.37	10,014	514	680	0,17	18,1	253
Weighted average	15.3	12.6	2.03	7,841	364	554	0,14	13,8	220
Maximum	61.2	68,4	6.02	26,432	1,772	3,316	0,47	74,6	807

TRENDS

LONGER LIFESPAN

- Up to 10 years in User environment, including reuse
- Few available data regarding disposal and refurbishment

MASSIVE ENERGY CONSUMPTION

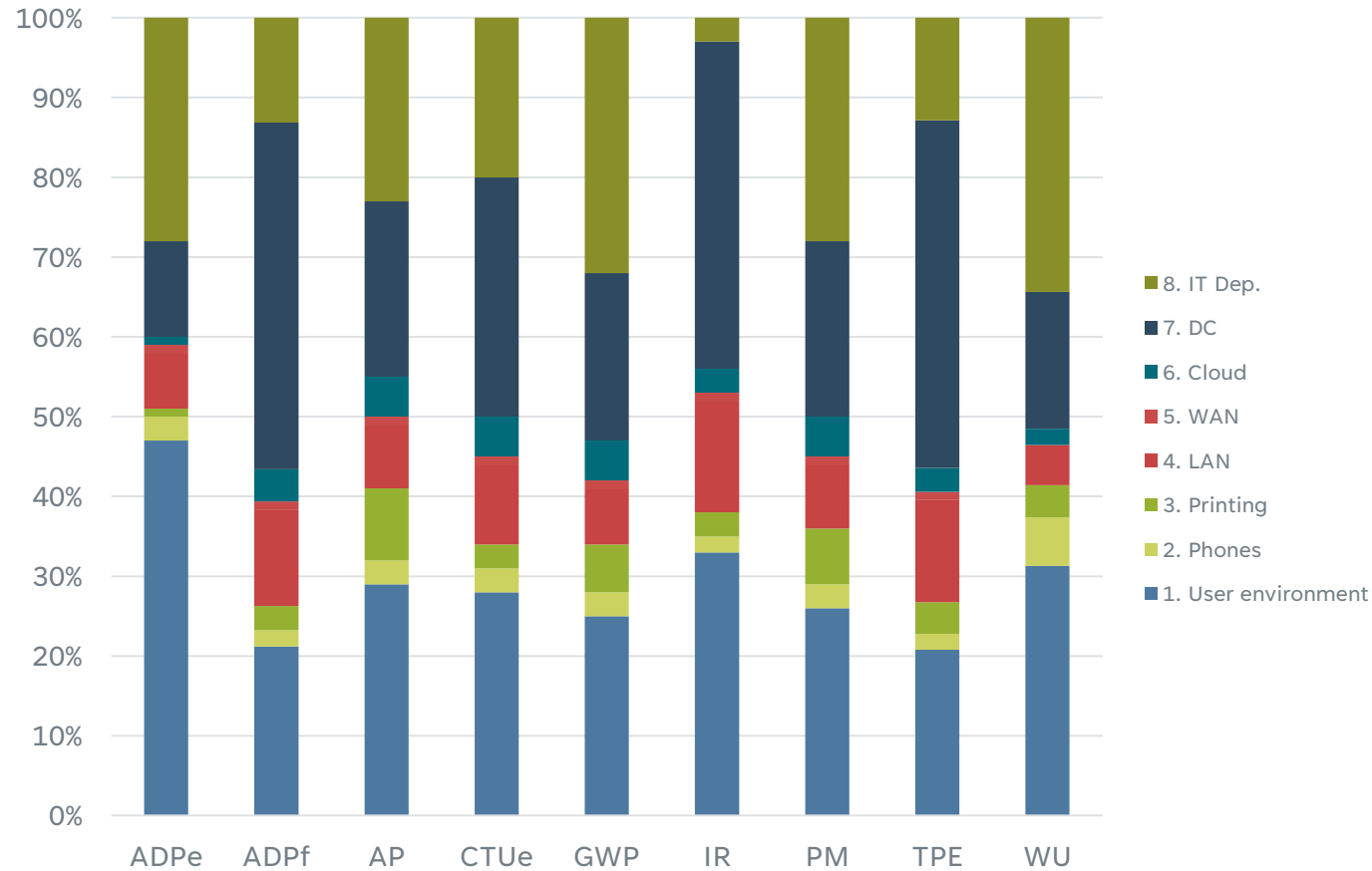
- Lot of travels
- Carbon-intensive electricity

BIG DATA CENTRES

- Few Cloud usage within the sample this year
- Data centres located outside France
- More servers than in existing general reports and studies

FOOTPRINT

Allocation by IT Domains

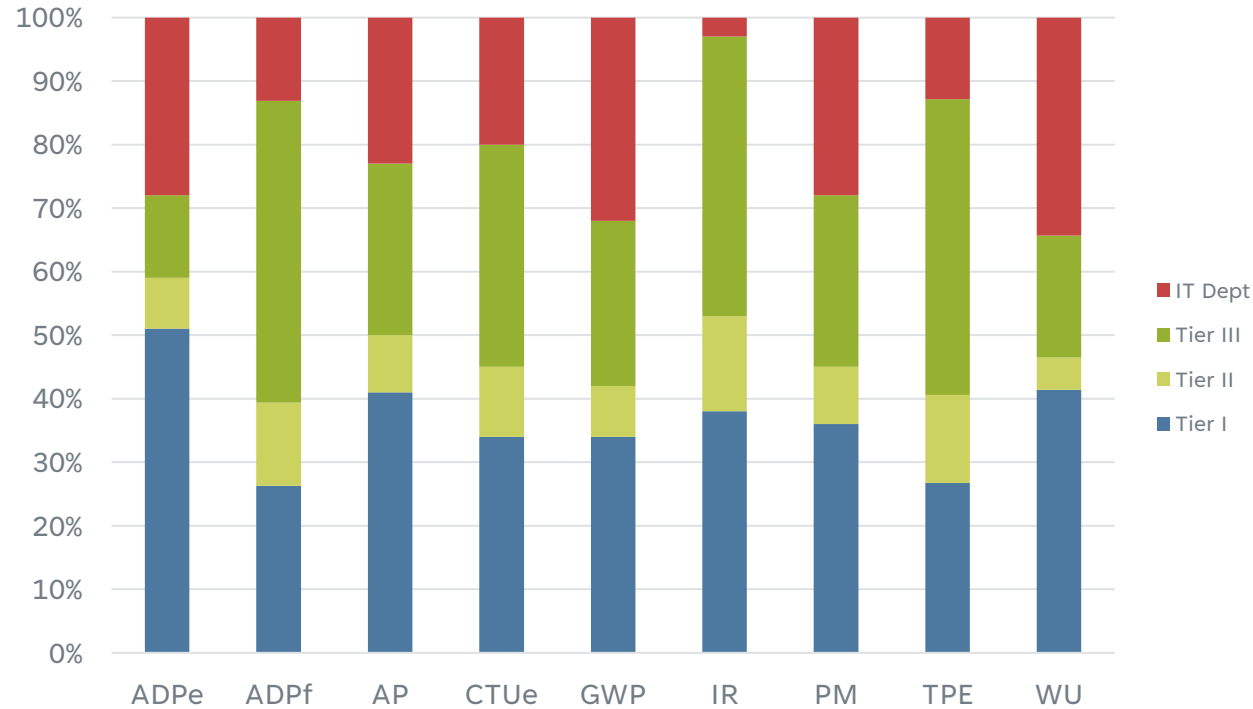


ADPf : Resource use, fossils (MJ)
ADPe : Resource use, minerals and metals (kg Sb eq.)
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PM : Particulate matter (disease occurrences)
TPE : primary Energy Demand (MJ)
WU : Water use (m³ eq.)

- IT Dep.: impacts on travel
- Data Centre: sample includes bigger DCs
- User Environment: stable equipment rate

FOOTPRINT

Allocation by tier

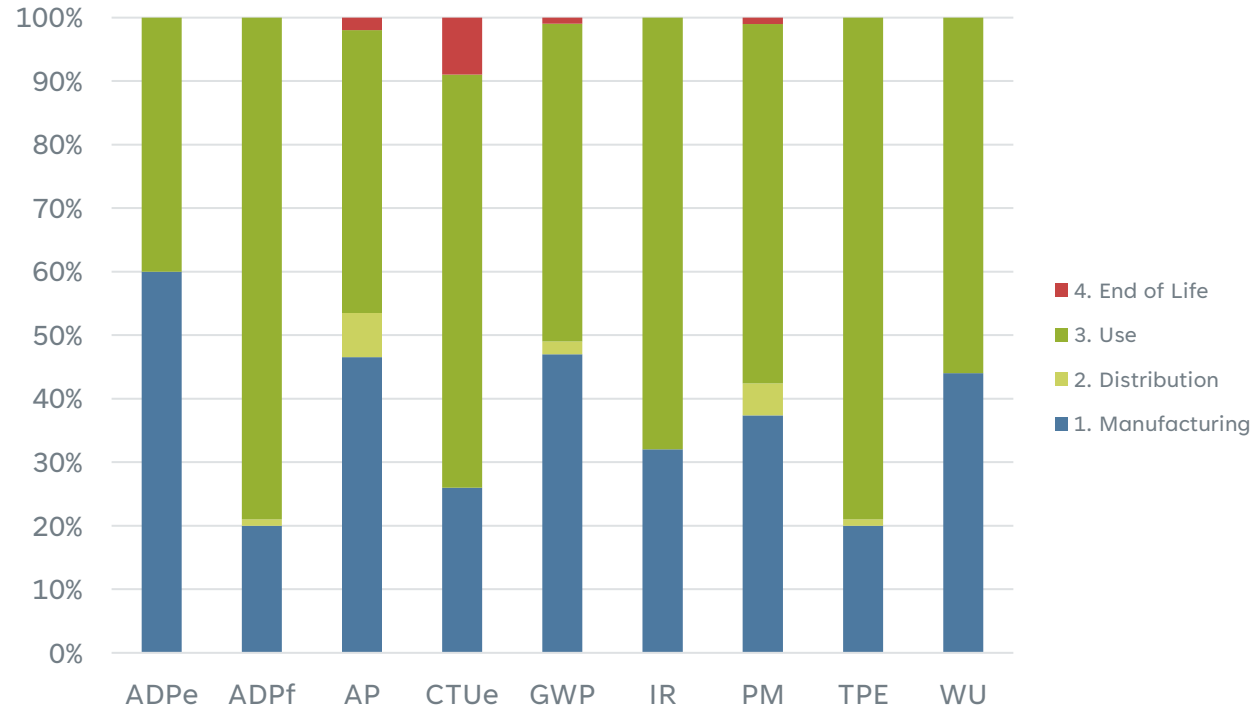


ADPf : Resource use, fossils (MJ)
ADPe : Resource use, minerals and metals (kg Sb eq.)
AP : Acidification (mol H+ eq.)
CTUe : Ecotoxicity, freshwater (CTUe)
GWP : Climate Change (kg CO₂ eq.)
IR : Ionising radiation, human health (kg U235 eq.)
PM : Particulate matter (disease occurrences)
TPE : primary Energy Demand (MJ)
WU : Water use (m³ eq.)

- Tier I (User environment): impact of user equipment manufacturing
- Tier II (Network): lower impact but this scope is less managed
- Tier III (DC & Cloud): affected by power consumption of DCs

FOOTPRINT

Allocation by Life Cycle Stage



ADPf : Resource use, fossils (MJ)
ADPe : Resource use, minerals and metals (kg Sb eq.)
AP : Acidification (mol H+ eq.)
CTUe : Ecotoxicity, freshwater (CTUe)
GWP : Climate Change (kg CO₂ eq.)
IR : Ionising radiation, human health (kg U235 eq.)
PM : Particulate matter (disease occurrences)
TPE : primary Energy Demand (MJ)
WU : Water use (m³ eq.)

- Use stage is high
 - Increasing equipment lifespan
 - Substantial number of IT staff outside France
- The energy mix in power production is a prominent part of the results

FOOTPRINT

Allocation by IT Domain and by Life Cycle Stage

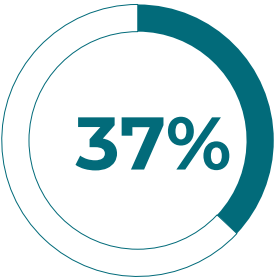
ADP_f : Resource use, fossils (MJ)
ADP_e : Resource use, minerals and metals (kg Sb eq.)
AP : Acidification (mol H+ eq.)
CTU_e : Ecotoxicity, freshwater (CTU_e)
GWP : Climate Change (kg CO₂ eq.)
IR : Ionising radiation, human health (kg U235 eq.)
PM : Particulate matter (disease occurrences)
TPE : primary Energy Demand (MJ)
WU : Water use (m3 eq.)

Indicateur Etape du CV	ADPe				ADP _f				AP				CTU _e				GWP				IR				PM				TPE				WU			
	BLD	DIS	USE	EOL	BLD	DIS	USE	EOL	BLD	DIS	USE	EOL	BLD	DIS	USE	EOL	BLD	DIS	USE	EOL	BLD	DIS	USE	EOL	BLD	DIS	USE	EOL	BLD	DIS	USE	EOL	BLD	DIS	USE	EOL
1. IT Dep.	1%	0%	27%	0%	4%	0%	9%	0%	9%	0%	14%	0%	2%	0%	17%	0%	12%	0%	20%	0%	0%	0%	2%	0%	5%	0%	23%	0%	4%	0%	9%	0%	1%	0%	33%	0%
2. User Env.	45%	0%	2%	0%	9%	0%	12%	0%	21%	1%	5%	1%	14%	0%	8%	6%	19%	1%	5%	1%	22%	0%	12%	0%	18%	1%	6%	1%	8%	0%	12%	0%	27%	0%	4%	0%
3. Phones	2%	0%	0%	0%	1%	0%	1%	0%	3%	0%	1%	0%	2%	0%	1%	1%	2%	0%	0%	0%	1%	0%	1%	0%	2%	0%	1%	0%	1%	0%	1%	0%	6%	0%	0%	0%
4. Printing	1%	0%	0%	0%	2%	0%	0%	0%	4%	5%	0%	0%	2%	0%	0%	1%	5%	1%	0%	0%	2%	0%	0%	0%	3%	4%	0%	0%	3%	0%	0%	0%	4%	0%	0%	0%
5. LAN	4%	0%	2%	0%	1%	0%	11%	0%	3%	0%	5%	0%	2%	0%	8%	1%	2%	0%	5%	0%	3%	0%	11%	0%	2%	0%	6%	0%	1%	0%	11%	0%	1%	0%	3%	0%
6. WAN	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
7. Cloud	0%	0%	1%	0%	0%	0%	3%	0%	1%	0%	4%	0%	1%	0%	4%	0%	1%	0%	4%	0%	0%	0%	3%	0%	1%	0%	4%	0%	0%	0%	3%	0%	1%	0%	2%	0%
8. DC	4%	0%	8%	0%	3%	0%	41%	0%	6%	0%	16%	0%	4%	0%	26%	1%	6%	0%	15%	0%	3%	0%	38%	0%	5%	0%	17%	0%	3%	0%	41%	0%	4%	0%	13%	0%

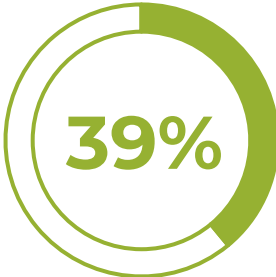
BLD : Build / Manufacturing
DIS : Distribution
USE : Use
EOL : End of Life

FOOTPRINT WITHIN THE PLANET BOUNDARIES

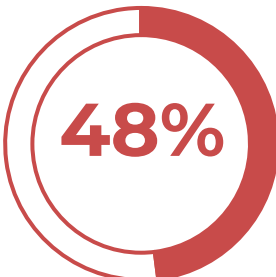
IS contribution of the annual budget of a European



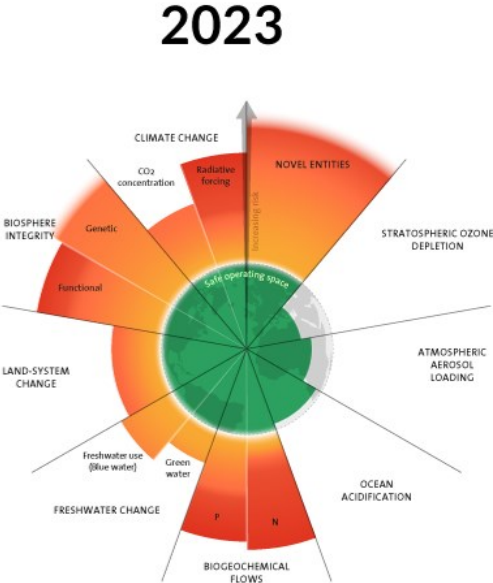
Climate Change (GWP)



Resource Use, Fossil (ADP_f)

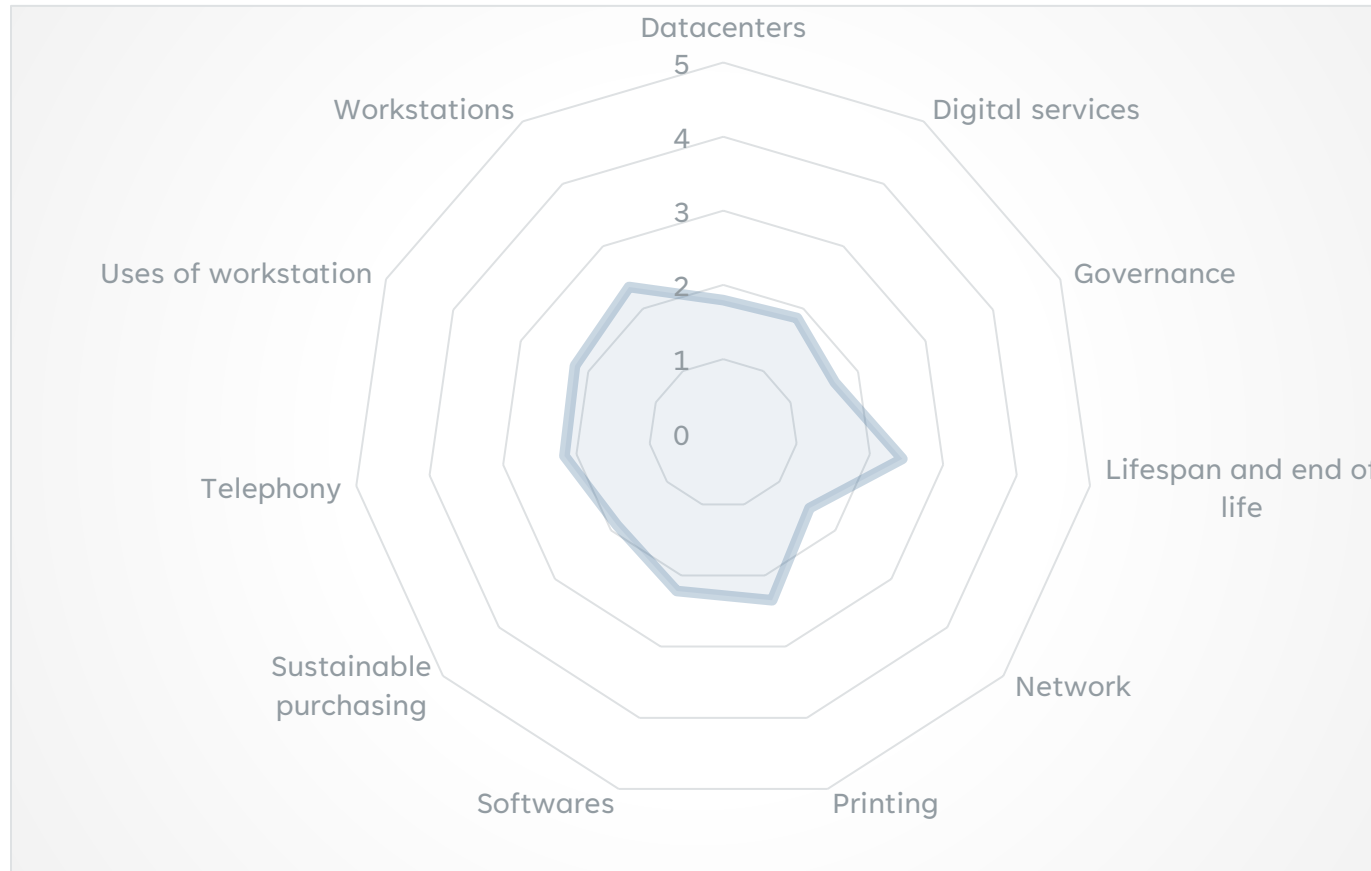


Resource Use, minerals and metals (ADP_e)



6 boundaries crossed

MATURITY



- No significant progression since the inception of the Benchmark
- Stricter application of the CMMI scale
- Participating Organisations at early stage of their journey

Recommendations



RECOMMENDATIONS

User environment

WATCH OUT FOR SCREEN TECHNOLOGY!

- Avoid systematic 2nd Monitor
- Watch out for OLED, significantly more impactful
- Limit the increase in screen size

DON'T RENEW THE MONITORS!

- Monitor can run up to 10 years and beyond
- Keep them running as long as they can

MAINSTREAM THE SECOND LIFE!

- 80% of our equipment exits Organisations while it still works
- Systematise internal or external reuse
- Identify ITAD (IT Asset Disposition) actors, including abroad

RECOMMENDATIONS

Printing and Telephony

PREFER RECYCLED AND LABELLED PAPER

- Aim 100% of non-blached recycled paper
- Prefer Blue Angel and FSC labels

DON'T RENEW LANDLINE PHONES

- Switch to softphone system
- Refurbish the fixed phones

MAINSTREAM A SECOND LIFE FOR YOUR SMARTPHONES

- Mainstream internal or external reuse practices
- Find and integrate ITAD (IT Asset Disposition) actors, including abroad

RECOMMENDATIONS

DC and Network

STANDBY THE EQUIPMENT

- Prefer equipment « Energy Efficiency Ethernet »
- Configure standby of equipment

MAINSTREAM CLASSES ASHRAE A3 & A4

- Improve efficiency of DCs
- Reduce the need for cooling

TAKE MIGRATION TO CLOUD WITH CAUTION

- Check real location of the servers
- Beware of the rebound effect
- Setup archiving and decommissioning policies

RECOMMENDATIONS

IT Dept

IMPLEMENT A MOBILITY PLAN

- Reduce the amount of kilometers (ex : carsharing)
- Improve quality of kilom (ex: public transport, « soft-mobility »)

SUPPORT AND ENCOURAGE WFH

- Reduce travels and commutes
- Beware of rebound effects

Benchmark Green IT 2024

Join the 9th edition and learn more about
your Information System!

For All details: <https://www.greenit.fr/benchmark-green-it-2024-en/>

Contact us: benchmark@greenit.fr

