DestinE Platform

DIGITAL RESPONSIBILITY ROADMAP EXECUTION

ECODESIGN OF SERVICES TRAINING



Destination Earth
Funded by the European Union
Implemented by ECMWF esa EUMETSAT

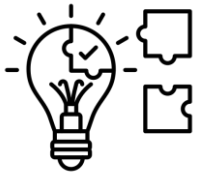
Objective & expectations



GENERAL OBJECTIVE

Understand the ecodesign methodology and approach for application to digital services, through an ecodesign referential tailored to DestinE Platform

THE SKILLS YOU WILL ACQUIRE DURING THIS TRAINING



- Understand what eco-design means for a digital service
- Map the environmental impact of a user journey and identify its key hotspots
- Apply the DESP Ecodesign Referential criteria to design and improve DESP services responsibly



YOUR EXPECTATIONS

- *What do you expect from this training? Are you comfortable with the objectives stated above?*

Recap of Serco's Digital Responsibility Strategy

Destination Earth

Clusters overview

2024
Strategy definition

2025-2026
Implementation for Phase 2

2026-2028+
Scale-up for Phase 3

1. GOVERNANCE AND CHANGE MANAGEMENT
2. AWARENESS AND UPSKILLING
3. COMMUNICATION
4. MEASURE FOOTPRINT
5. COMMITMENT AND REDUCTION PLAN
6. KPI AND REPORTING
7. SUPPLIERS ONBOARDING
8. ECODESIGN OF SERVICES

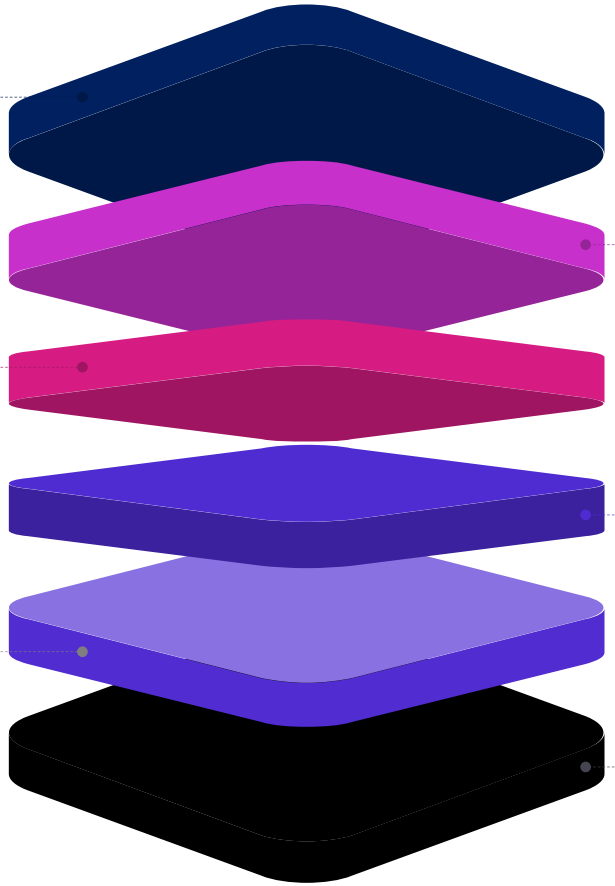
DestinE Platform

From sustainable IT to ecodesign

REMINDER : 6 layers presented during Sustainable IT training

Governance 01

Uses & behaviours 03



02 End user devices

04 Network

Datacenters 05

06 Software

Destination Earth

Training session

- **Foundations : Overview of the key concepts**
- **Exercise : Select a pilot service**
- **DESP Ecodesign Referential**
- **Bloc 1 : “Before you build” criteria**
- **Bloc 2 : “Technical efficiency” criteria**
- **Bloc 3 : “UX/UI & infra” criteria**
- **Conclusion**



What is a digital service ?

Open question : What is a digital service ?

In general

?



In DESP Context

?

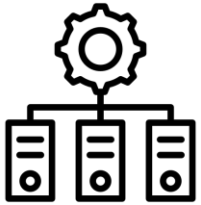
Don’t forget to give examples

Digital service definition

A digital service is the combination of **user devices, software, networks and servers** that work together to deliver a **function to users**





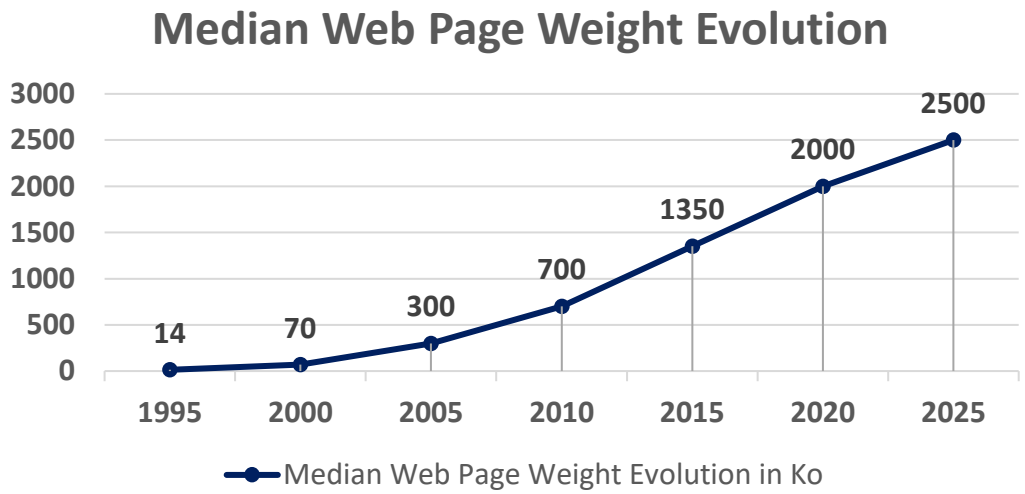


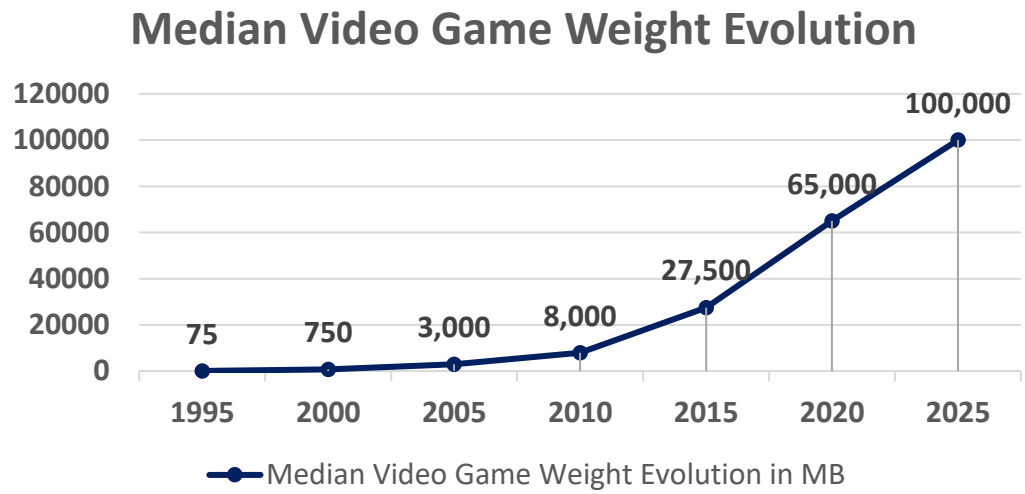
Layers	What it covers	Examples
1 - User devices	End-user hardware	Smartphone, laptop, tablet, screen
2 - Software	**Applications and logic**	**App, website, operating system, APIs**
3 - Network	Data transport	Wi-Fi, mobile network, routers, telecom infrastructure
4 - Servers	Compute and storage	Cloud, data centers, storage, databases

Remember : Digital is not only immaterial, it relies on physical resources

Size evolution of typical digital service

Destination Earth





The evolution of the application layer drives hardware production : Some key figures

Expansion of the digital product

45% of features are rarely or never used

Heavy applications and websites

x171 increase in RAM requirements between Microsoft 10 and Office 19 compared with Microsoft 98 and Office 97

User-side malfunctions

60% of issues are software-related

Device replacement

37% of French people replace their smartphone because it no longer works properly

Fun Fact : Moon landing vs Candy Crush: the Apollo computer ran the lunar mission with roughly **thousands of times less memory** than a casual mobile game like Candy Crush.

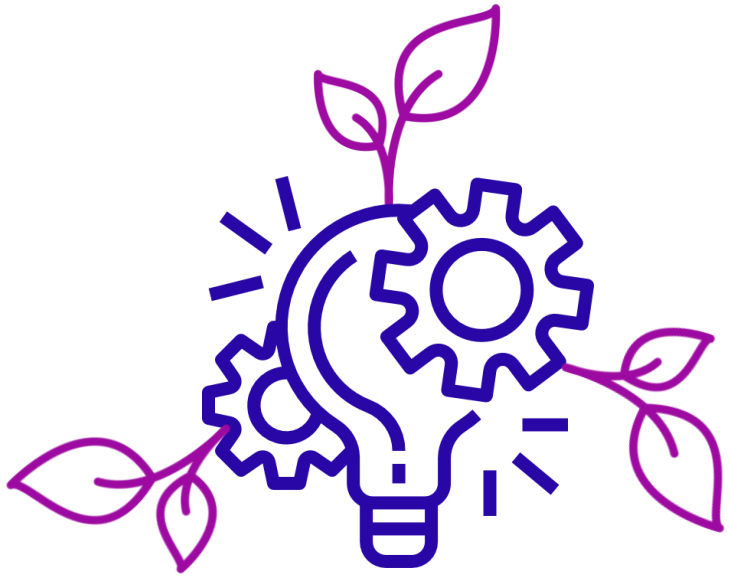
What is ecodesign ?

Open question : What is ecodesign ?

What does “ecodesign” mean for a digital service?

In general

?



In DESP Context

?

Don’t forget to give examples

Eco Design definition

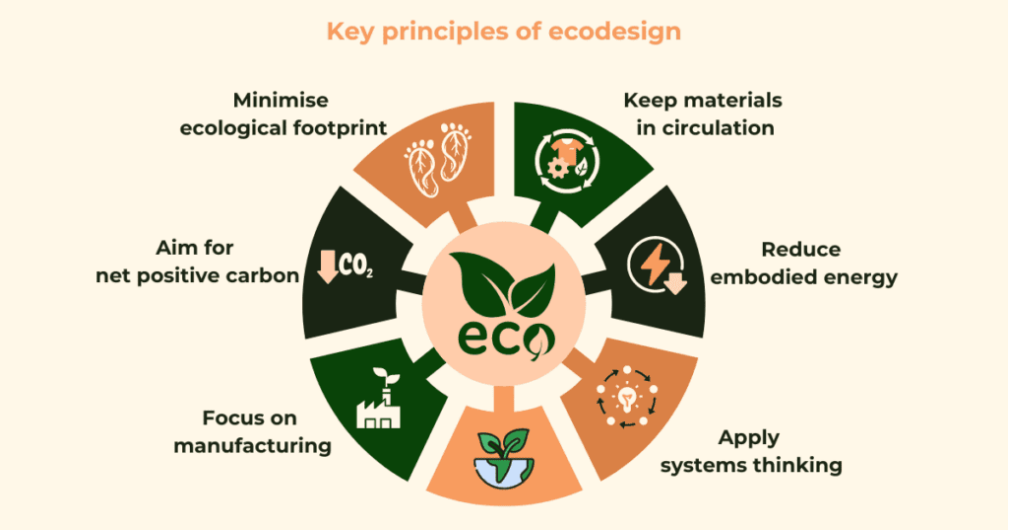
Eco-design is an approach that makes it possible to **continue taking action** to include **environmental** considerations in the **design** of a **product**, **service**, or **product-service system**.

The objective is to meet **users' needs** while **improving** its **environmental impact**, all while **remaining economically viable**.

ℹ️ **ISO 14006** defines eco-design as "a methodological approach that takes into account the environmental aspects of the design and development process, with the aim of reducing negative environmental impacts throughout a product's life cycle."

Applied to digital services, it could for example means:

- Questioning the real need before building
- Reducing the use of computing resources
- Designing for older and less powerful devices
- Limiting data transfers, processing and storage
- Considering user devices, networks and servers
- Measuring several environmental impacts, not only carbon



Beyond ecodesign : eco-social-design

In addition to environmental aspects, a responsible digital service should also consider:

- **Accessibility**
  Can everyone use the service?
- **Inclusion**
  Does it work on old devices, low bandwidth and different contexts?
- **Privacy**
  Are collected data truly necessary?
- **Attention and autonomy**
  Does the service avoid addictive or manipulative patterns?
- **Social impacts**
  Who benefits, who is excluded, who bears the costs?



This training focuses mainly on environmental ecodesign. Accessibility and broader social issues will be addressed later.

A service can be lightweight and still harmful if it excludes, manipulates or creates unnecessary use.

Ecodesign two majors axis

Reducing the environmental footprint of a digital service requires acting simultaneously on two fronts: the hardware it depends on, and the resources it consumes at every layer of the stack

Equipment

- Avoid introducing new equipment
- Avoid causing hardware obsolescence
- Design for the weakest link
- Think backward compatibility
- Think and use "low-tech"

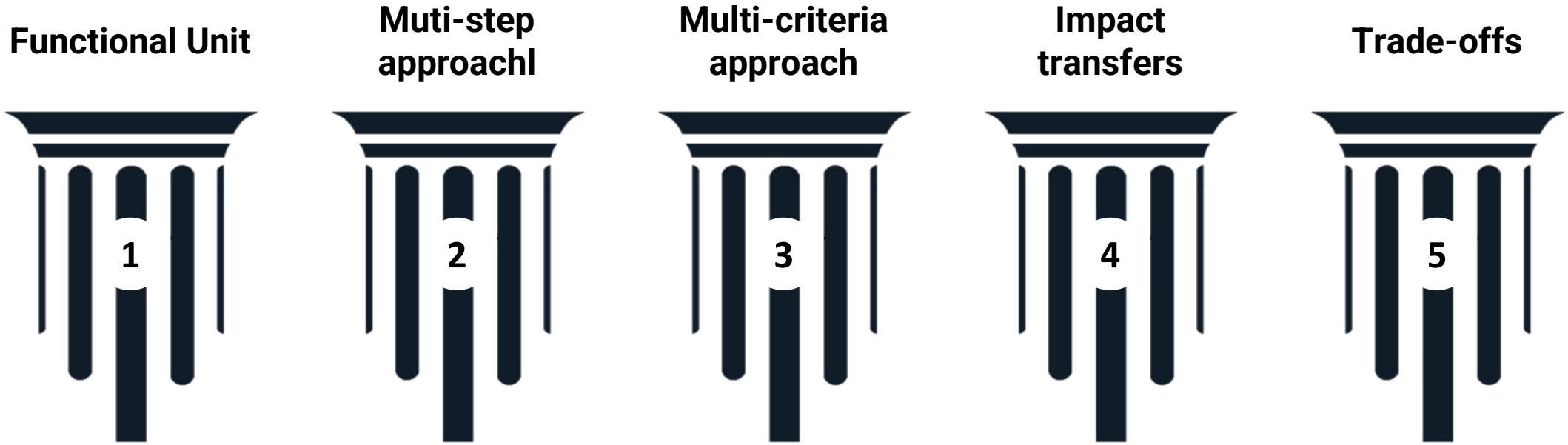
Resource Consumption

- Limit to necessary features
- Reduce infrastructure load
- Develop under constraints (RAM, CPU, network…)
- Switch off unused resources
- Choose the right hosting provider

ECO-DESIGN

5 pillars of ecodesign

Ecodesign relies on 5 key principles



Pillar 1 : Functional Unit

The functional unit describes the service delivered to the user, in a measurable way.

It allows to answer those questions :

- **What is the user trying to achieve?**
- **For whom?**
- **At what quality level?**
- **Over what duration or number of uses?**

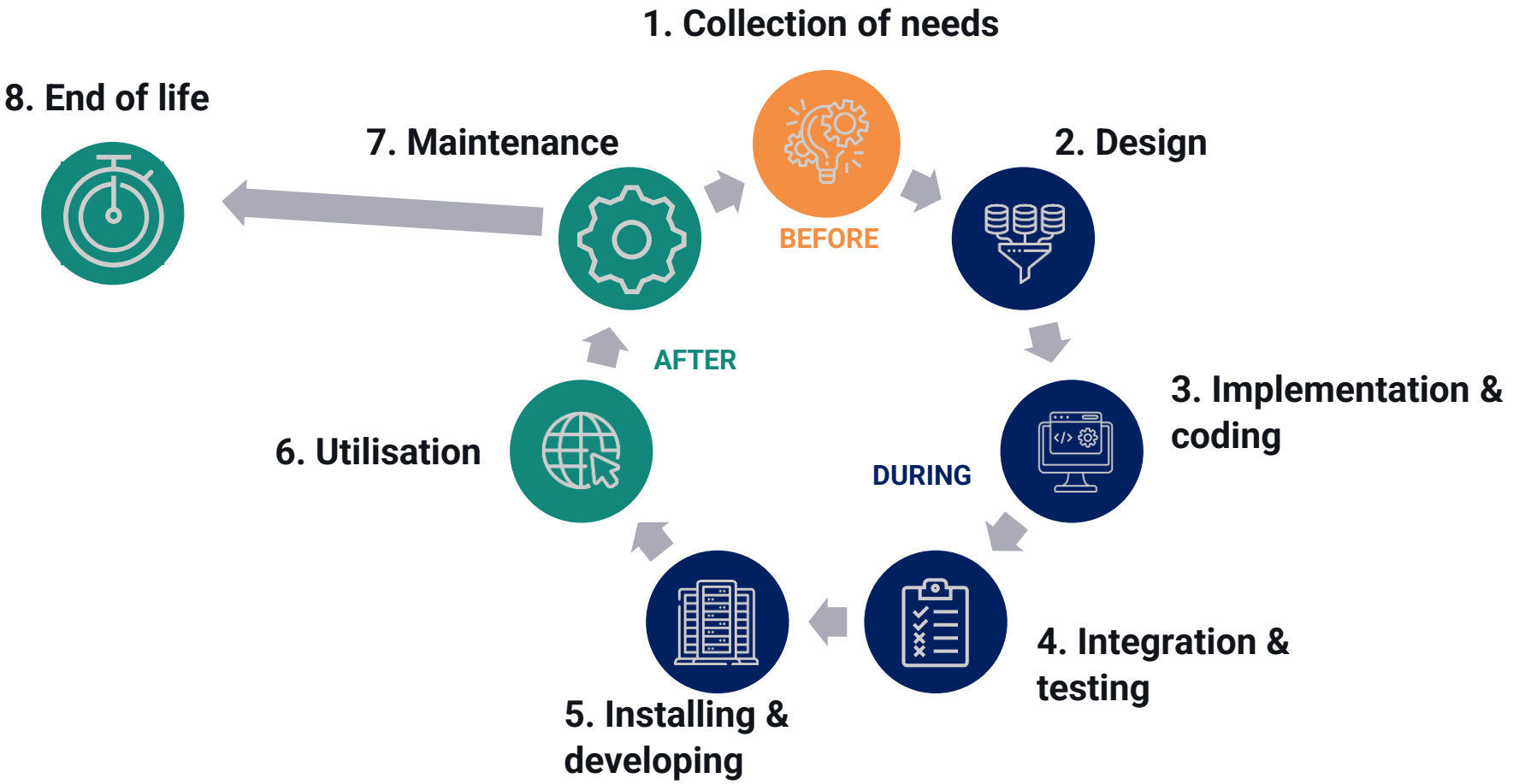
Examples of fictional services :

Service	Poor comparison	Better functional unit
DEA	Compare page load time or number of dashboard widgets rendered	Explore and compare two Earth observation layers on an interactive map for a defined area of interest in one session
HDA	Compare total API calls per month or total data volume served	Discover and download one Earth Observation dataset for a specific geographic region and time range through a standard STAC query
EDEN	Compare total compute hours consumed	Run one Digital Twin simulation for a 24-hour atmospheric forecast at 1 km resolution

Without a functional unit, we may compare things that do not deliver the same value

Pillar 2 : Multi-steps

Rebuild the lifecycle of a digital service. What steps do you see?



⚠ *Most digital impacts are hidden outside the screen*

Pillar 3 : Multi-criteria

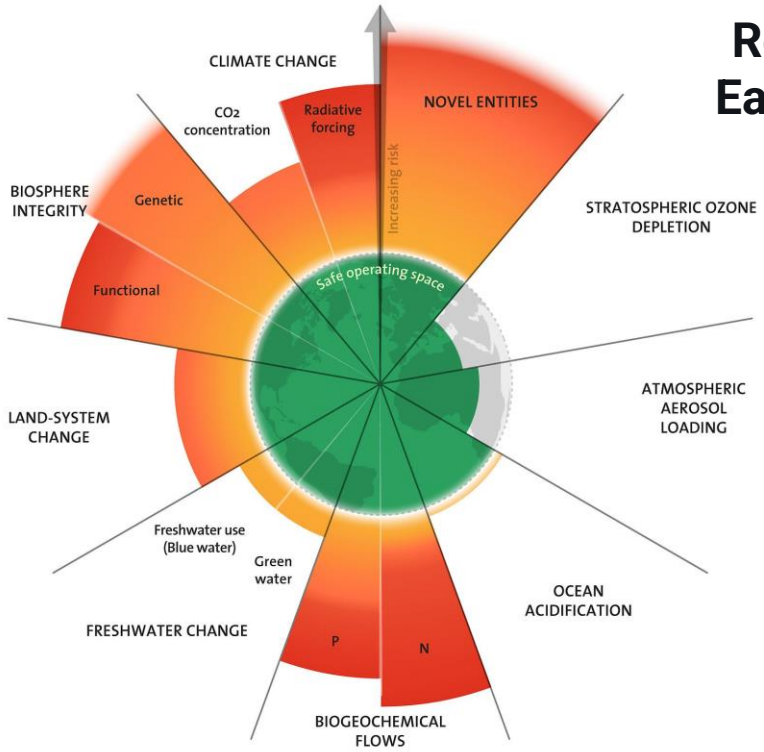
⚠️ *Note: although it is certainly the most frequently communicated criterion, **CO2** emissions should not be the only factor considered in an eco-design approach*

Which impacts are often forgotten when we talk about digital sustainability?

Environmental impacts may include:

- Greenhouse gas emissions
- Energy consumption
- Water consumption
- Electronic waste
- Abiotic resource depletion, including metals and minerals
- Land use and biodiversity pressure
- Pollution and toxic substances

Reminder : the 9 Earth Boundaries



Pillar 4 : Impacts transfer

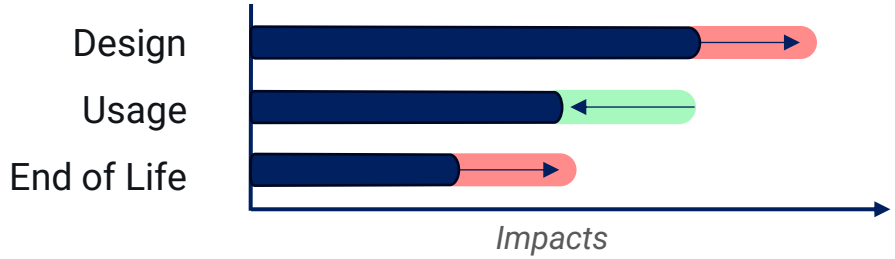
Interdependencies between criteria

⚠ *A solution can reduce CO_2 while increasing pressure on water, metals or equipment renewal*



Interdependencies between life-cycle stages

⚠ *A solution can reduce the impacts on Usage while increasing pressure on Design and End of Life*



An impact transfer happens when reducing one impact increases another impact elsewhere

Examples in digital services

If we…	We may reduce…	But increase…
Move computation from server to user device	Data center energy	Device CPU, battery use, hardware obsolescence
Cache more data locally	Repeated network requests	Storage use and data duplication
Use newer efficient formats	File size and bandwidth	Compatibility issues and software obsolescence
Personalize with more data or AI	User effort or journey length	Data storage, computation and privacy risks

*The goal is not to optimize only one metric → The goal is to **reduce overall impacts** for the same service delivered*

Pillar 5 : Trades

Ecodesign requires explicit trade-offs

A good decision balances:

- User need
- Environmental impact
- Accessibility
- Maintainability
- Business value
- Legal constraints
- Security
- Performance
- Cost

Digital example : Should we add a video tutorial?

Does it solve a real user problem?

Could text and screenshots be enough?

Can it be optional rather than autoplay?

Can quality adapt to the device?

Can we measure usage and remove it if unused?

	User value	Impact	Accessibility	Decision
Text	Medium	Low	High	Preferred
Video autoplay	Medium	High	Medium	Avoid
Optional video	High	Medium	Medium	Possible

Serco Business

The lifecycle of a typical ecodesign project

Before you start

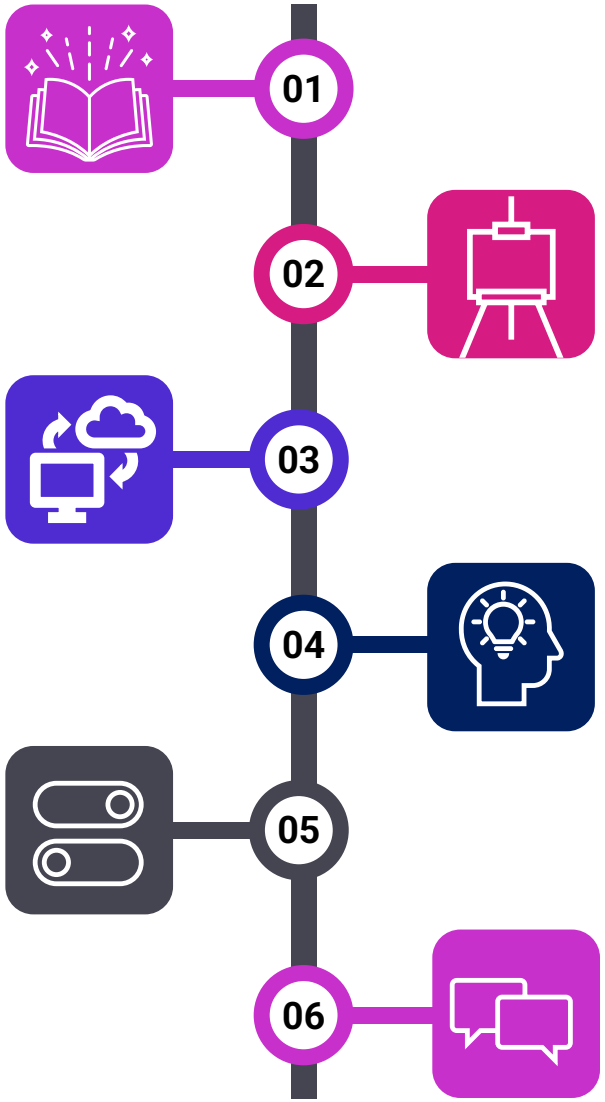
- Build the internal case, secure stakeholder buy-in
- Train the relevant people

Identify impacts

- Measure current footprint using the Carbon Calculator (quantitative baseline)
- Assess gaps against the DESP Ecodesign Referential (qualitative self-assessment)

Prioritise and decide

- Rank improvements by effort and impact address quick wins first
- Build a roadmap with owners, milestones and measurable targets



Frame the project

- Select the service to pilot based on impact potential and feasibility
- Define the functional unit and assign a DR Referent

Find solutions

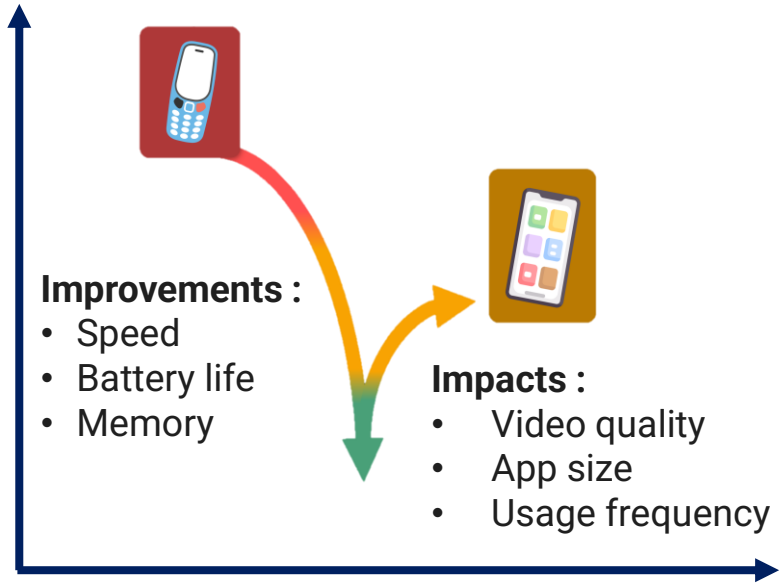
- Map identified gaps to actionable criteria (formats, architecture, UX levers, …)
- Benchmark against similar services and explore quick wins

Communicate & Improve

- Share findings with the platform team and feed into the next iteration
- *See training on communication & greenwashing guidelines*

Rebound effect

A rebound effect occurs when efficiency gains are partly or fully cancelled by increased usage



Other digital examples

- Cloud resources become easier to scale, so teams deploy more environments
- Faster delivery makes it easier to add more features
- Cheaper storage leads to keeping more data

Total impact = impact per use × number of uses

How to minimize the rebound effect by asking the practical question :
If we make this service more efficient, what new usage could it encourage?

⚠️ *Ecodesign must address both efficiency and usage growth*

Serco Business

Measuring environmental impact : quantitative vs qualitative



QUANTITATIVE

Question to be asked *: What is the actual footprint ?*

- **Full LCA** : heavy methodology, not yet relevant for DESP services
- **Light CO2 estimation** : Carbon Calculator (with OVH), toolsuite for back-end / front-end estimations (see following sections)

Output : kgCO2eq per month per user



QUALITATIVE

Question to be asked *: Where are the gaps ?*

- **Ecodesign Referential** : list of ecodesign criteria & recommendations
- **Usage & functional sobriety**: broadly distinguish the essential from the superfluous, without performing calculations, in order to reduce unnecessary features

Output : prioritised action list

Both methodologies are complementary. You can start with qualitative and add quantitative to prove impact

Serco Business

Existing tools to support the GHG assessment

Destination Earth

Service providers' footprint

INPUTS

CO_2

Emission factors from OVH Cloud (per type of resource used)

Resources used per service

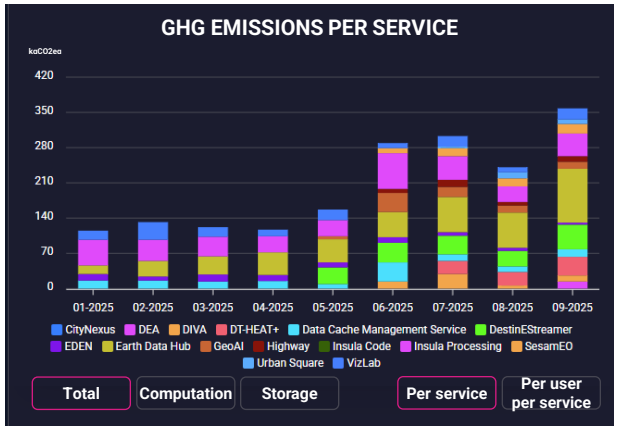
OVHcloud

2 - SERVICE PROVIDERS' FOOTPRINT MANAGEMENT

Add a specific graph on DestinE Platform Dashboard with Service providers' GHG emissions for end-users' awareness



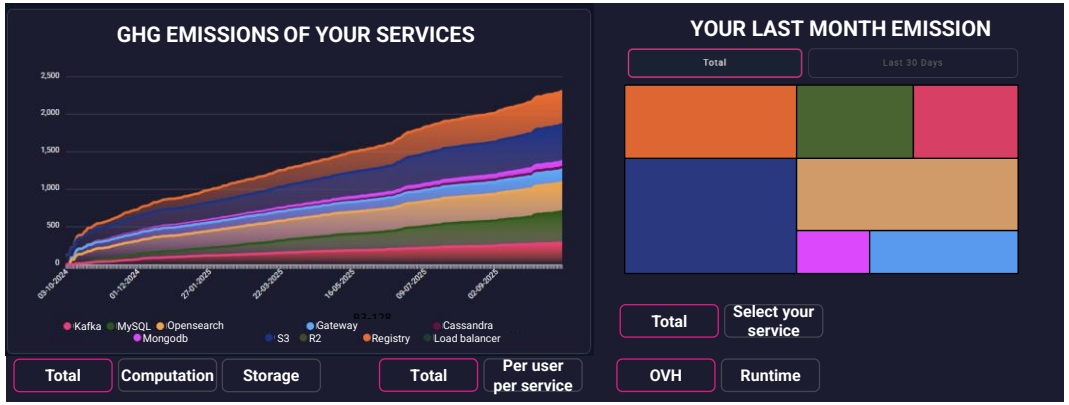
Existing DestinE Platform Dashboard



Additional graph:

- *Detailing monthly GHG emissions per service*
- *With additional filtering capability:*
  - *Total/Computation-related/Storage-related emissions*
- *With additional display capability:*
  - *Per service/per user per service*

(?) Check if Total IaaS-related emissions (from OVH Cloud monthly report) = Sum of SPs emissions. If no, indicate in the same graph the total IaaS-related emissions



New service:

- *Detailing monthly GHG emissions for a dedicated service providers*
- *With filtering capabilities, e.g.:*
  - *Total/Computation-related/Storage-related emissions*
  - *Per service used (if the service provider provides several services)*
  - *Per OVH service used*
  - *Per OVH flavor used (TBC)*
  - *Per environment (OVH/Runtime) (TBC)*
- *With additional display capability:*
  - *Total/per user per service*

3 - SERVICE PROVIDER INDIVIDUAL FOOTPRINT

Provide to each service provider a detailed report with GHG emissions per service deployed or product/flavor used

Destination Earth

Training session (15.06.2026)



- Foundations : Overview of the key concepts
- **Exercise : Select a pilot service**
- DESP Ecodesign Referential
- Bloc 1 : “Before you build” criteria
- Bloc 2 : “Technical efficiency” criteria
- Bloc 3 : “UX/UI & infra” criteria
- Conclusion

Serco Business

Exercise 1 : Select the pilot service

- Context: "Your team has been asked to run a first ecodesign improvement pilot on one of the four services below"
- Goal: test the approach, build the methodology, demonstrate results safely

DataStream

AAS

DataStream is a data distribution service that gives researchers and scientists access to Earth Observation datasets. Users can search, filter and download satellite and climate data for their work.

GlobeView

AAS

GlobeView is a 3D interactive visualisation tool. Users can explore geospatial datasets on a rotating 3D globe, apply filters and export data. It also includes a VR/AR mode for immersive visualisation.

CoreAccess

DMS

CoreAccess provides harmonised access to DESP datasets through a standard API. It is primarily used by developers and technical teams to integrate data into their own applications and pipelines.

SmartEO

AAS

SmartEO is an AI-powered Earth Observation analysis service. It uses machine learning models to automatically detect land use changes, vegetation anomalies and environmental events from satellite imagery.

Additional context visible only through the role cards

Exercise 1 : Role cards

Serco Business

Destination Earth

SERVICE PROVIDER FOCAL POINT

CARBON FOOTPRINT

Service	kg CO2eq per month	Hosting
Datastream	202	OVH France
CoreAccess	89	OVH France
Globeview	48	OVH France
SmartEO	Not available	Custom region unknown

- **DataStream:** any modification requires a formal approval process. Average observed lead time: 3 months.
- **GlobeView:** no formal approval needed. Team is available but has active sprint commitments.
- **CoreAccess:** most energy-efficient service on the platform. Limited room for improvement.
- **SmartEO:** two providers involved in any technical change.

ARCHITECT

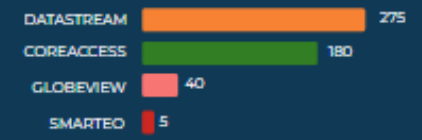
- **DataStream:** 3 provider teams. Any technical change needs a formal approval process: 3 to 4 months minimum.
- **GlobeView:** single internal team. The 3D rendering library loads automatically and is integrated in several parts of the application, not only the homepage.
- **CoreAccess:** well structured. Results caching (storing outputs to avoid repeating the same computation) and response filtering could be added.
- **SmartEO:** custom infrastructure. Two separate cloud providers handle AI model training and serving.

<> DEVELOPER

- **DataStream:** no results caching, meaning every user request triggers a full recomputation from scratch. Switching to a more efficient data format would take several months.
- **GlobeView:** the 3D rendering library loads automatically on every visit. Switching it to on-demand loading takes 1 to 2 days on the homepage. The library also appears in 2 other sections.
- **CoreAccess:** data compression already enabled. Adding response filtering (letting users choose only the data fields they need) could be done in about one week.
- **SmartEO:** AI model is retrained on a fixed weekly schedule with no performance check. Changing this requires coordinating with 2 external cloud providers.

PRODUCT OWNER

MONTHLY ACTIVE USERS



- **DataStream:** fast growing. High visibility. Requires agreement from 3 separate data provider organisations for any change.
- **GlobeView:** used for demos and partner events. Team is willing to improve but currently has limited availability.
- **CoreAccess:** stable. No outstanding complaints.
- **SmartEO:** 4 months since launch. Still searching for its audience.

Exercise instructions

- Each participant receives a role card with information about the four services from their professional perspective
- Information is exclusive to your role: you will need to share and combine to get the full picture
- As a group, choose one service and prepare a 2-minute justification covering:
  - Improvement potential
  - Operational risk
  - Ownership and implementation complexity
- Duration: 10-15 min group discussion + 2 min restitution

Correction : Why GlobeView ?

- Reasons that only emerge through combining all five role cards:

Criterion	DataStream	GlobeView
Operational risk	High - 275 MAU in active production	Low - 40 MAU, internal demos
Ownership	3 data provider teams, formal change process	Single internal team, no external dependencies
Time to first result	Months (format migration, multi-team coordination)	Days (on-demand loading of 3D library = 1 to 2 days on homepage)
CO_2 per active user	0.73 $kgCO_2eq$ / MAU	1.20 $kgCO_2eq$ / MAU : higher than DataStream

- DataStream is a right **long-term target**, not the right **first pilot**
- A first pilot is chosen on feasibility as much as impact. Demonstrate the method first, then tackle the large emitters

- **GlobeView will be our fil rouge service for the rest of the day**



Destination Earth

Training session

- Foundations : Overview of the key concepts
- Exercise : Select a pilot service
- **DESP Ecodesign Referential**
- Bloc 1 : “Before you build” criteria
- Bloc 2 : “Technical efficiency” criteria
- Bloc 3 : “UX/UI & infra” criteria
- Conclusion

Why ecodesign matters?

4%

of global worldwide CO_2 emissions come from digital technology

On a par with aviation, and growing with AI, cloud computing and data-intensive services.

40+

services on the DESP platform - and growing

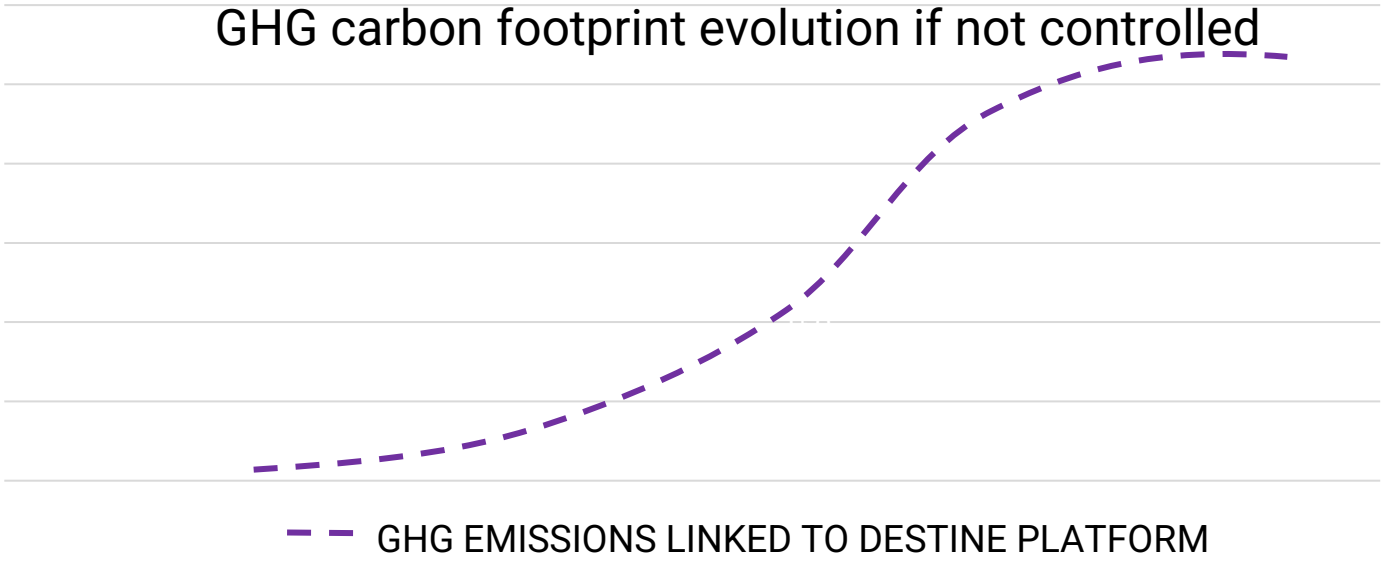
EO analytics, climate simulation, AI processing, 3D visualization: each service adds to the platform's cumulative footprint.

80%

of environmental footprint is determined before the first line of code

Design decisions lock in most of the impact. This is where eco-design acts.

Digital's environmental footprint is real, growing and largely determined before development begins



Note: Exact figures cannot be anticipated so far; this graph only shows the expected trend

Ecodesign in practice : DESP Ecodesign Referential

Destination Earth

DestinE Platform

serco

DestinE Platform Ecodesign Referential



Destination Earth Funded by the European Union implemented by ECMWF esa EUMETSAT

DestinE Platform

Role/Title	Name	Signature	Date
Author			
Verified			
Approved			

Version/Rev.	Date	Change	Reason
1.0	22/04/2026	First version	Version 1.0

Table of Contents

1 - Introduction 4
1.1 Context & Rationale 4
1.2 Scope 4
1.3 Objectives 5
1.4 Structure 5
1.5 How to use this referential 8
1.5.1 Criteria description 8
1.5.2 Priority levels 8
1.5.3 Roles and Responsibilities 8
1.6 Relationship to broader environmental standards 9
2 – Ecodesign Criteria 10
2.1 Strategy & Governance 10
2.1.1 Ecodesign training and Digital Responsibility referent 10
2.1.2 SMART environmental targets 10
2.1.3 Supplier environmental requirements 11
2.1.4 Decommissioning and growth strategy 11
2.2 Specifications 12
2.2.1 User needs and feature justification 12
2.2.2 Open standards and FAIR compliance 13
2.2.3 SLA adaptation 14
2.2.4 Compatibility with older devices and clients 14
2.2.5 Environmental impact transparency 15
2.3 Architecture 16
2.3.1 Elastic architecture and right-sizing 16
2.3.2 Caching and event-driven design 16
2.3.3 Reuse of DESP platform services 17
2.3.4 Test and development environment hygiene 18
2.4 Data, Backend & AI 19
2.4.1 Appropriate data formats 19

DestinE Platform

2.4.2 Partial data access 20
2.4.3 API response optimisation 20
2.4.4 Data lifecycle management 21
2.4.5 AI lifecycle impact measurement 22
2.4.6 AI sobriety and design 22
2.4.7 Query and code efficiency 23
2.5 User interface 24
2.5.1 Navigation path optimisation 24
2.5.2 Minimalist interface design 25
2.5.3 On-demand GPU and 3D rendering 25
2.5.4 Frontend efficiency 26
2.6 Hosting and Infrastructure 27
2.6.1 Hosting environment 27
2.6.2 Compute right-sizing 28
2.6.3 Compute scheduling 29

Index of Figures

No table of figures entries found.

Index of Tables

No table of figures entries found.



Ecodesign referential : how it was built

Destination Earth

The Ecodesign referential has been built on proven frameworks and then filtered for accessibility

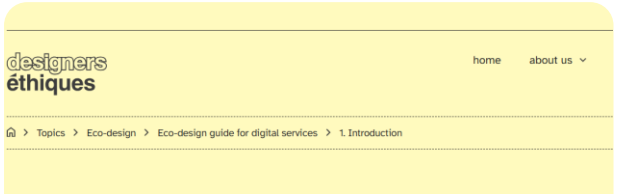
BUILT FROM MULTIPLE REFERENCE SOURCES



RGESN

FRAMEWORKS FROM PREVIOUS MISSIONS

Existing frameworks from previous industry missions



ETHICS DESIGNER GUIDE



DestinE Ecodesign Referential

This is a living document : share your feedback to help improve the next version and shape its evolution

Overview : 6 dimensions, 27 criteria

Serco Business

A structured, role-specific framework covering the full-service lifecycle from strategic decisions to infrastructure choices

1 **Strategy & Governance - 4 criteria**
Governance, environmental targets and supply chain requirements

2 **Specifications - 5 criteria**
User needs, open standards, SLA and impact transparency

3 **Architecture - 4 criteria**
Elastic design, caching and reuse of DESP platform services

4 **Data, Backend & AI - 7 criteria**
Geospatial formats, data lifecycle and AI model sobriety

5 **UX/UI & Frontend - 4 criteria**
Minimalist design, on-demand rendering and frontend asset efficiency

6 **Hosting & Infrastructure - 3 criteria**
Carbon intensity, PUE/WUE and compute right-sizing

Applicable to all service types AAS DMS

How to read a criterion?

Live example : Criterion 2.1.1– Ecodesign training and DR referent

Each criterion contains:

Criterion question
Direct yes/no; self-evaluation entry point

Objective
Why the criterion matters environmentally

Priority
●●● Required or ●●○ Recommended

Main Role
Who is primarily accountable

How to Implement
DESP-specific actionable guidance

How to Verify
Observable audit-ready evidence

Tools & Resources
Platform-native tools listed first

"Are all roles involved in the service trained on ecodesign principles, and has a Digital Responsibility (DR) referent been identified within the team?"
Objective

Ensure the human conditions for ecodesign are in place before any technical work begins.

Priority : ●●● Required
Main Role : Product Owner

How to implement

- ➢ Identify a DR Referent before the service reaches production, ideally at onboarding: one person responsible for championing the referential (in sprint / design reviews)
- ➢ Ensure that all team members involved in design, architecture and development have completed at least a training / webinar on Digital Responsibility and read the relevant criteria of this referential
- ➢ For services with external development teams, the DR Referent acts as the central ecodesign point of contact

How to verify

- ✓ Training completion records exist for team members covering ecodesign fundamentals.
- ✓ A named DR Referent is documented

Tools & resources
DESP Ecodesign Referential training programme (SERCO)
RGESN referential to go further

Criteria by role

No one is responsible for everything; everyone is responsible for something. The DR Referent connects all roles

Product Owner

CRITERIA

1.1 1.2 1.3 1.4 2.1 2.3
2.5 3.3 4.6 5.1

■ Required ■ Recommended

Architect

CRITERIA

2.2 2.3 2.4 3.1 3.2 3.3
3.4 4.2 4.7 5.3 6.1 6.2

■ Required ■ Recommended

Developer

CRITERIA

2.2 2.4
2.5 3.2 4.1 4.2 4.3 4.5
4.6 4.7 5.2 5.3 5.4 6.3

■ Required ■ Recommended

UX/UI Designer

CRITERIA

2.1 2.5 5.1 5.2

■ Required ■ Recommended

DataOps Engineer

CRITERIA

3.1 4.1 4.4 4.5 6.2 6.3

■ Required ■ Recommended

Service Lead

CRITERIA

1.3 6.1

■ Required ■ Recommended

Required vs Recommended

A two-level priority system designed for progressive adoption

Required

13 criteria

- High environmental impact
- Must be integrated as a **standard requirement → non-negotiable**
- Applies to all services entering the DESP catalogue

e.g. SMART targets · Elastic architecture · Appropriate data formats · Hosting environment

Recommended

14 criteria

- Real environmental benefit, but context-dependent by service type
- **Apply where feasible;** document when and why a criterion does not apply

e.g. SLA adaptation · API response optimisation · Minimalist interface design

① REQUIRED
Adress all 13

② RECOMMENDED
Apply & document

③ CONTINUOUS IMPROVEMENT
Review annually, raise targets

Serco Business

How to use the referential day-to-day

The referential is most powerful when embedded in existing team rituals

IN SPRINT REVIEWS

3 quick questions on the criteria relevant to the work in progress

- Select the 2-3 criteria that touch the current sprint features
- Ask for each: "Have we addressed this criterion in the current sprint?"
- Flag any gap before the sprint closes and assign an owner

AT SERVICE ONBOARDING

Complete the self-assessment grid before first production deployment

- Work through all Required criteria with the full service team
- Document current state, gaps and assigned owners
- Define SMART targets for each identified gap

IN AN AUDIT

Use the "How to verify" items as a checklist

- Each criterion includes observable, documentable evidence items
- Gather artefacts before the audit review session
- Track progress on gaps flagged in the previous assessment

Ecodesign Maturity Assessment / Excel self-assessment tool

Operationalises all 27 criteria with scoring, dimension scores, completion tracking and SMART target monitoring. Use it at onboarding and revisit at each audit cycle

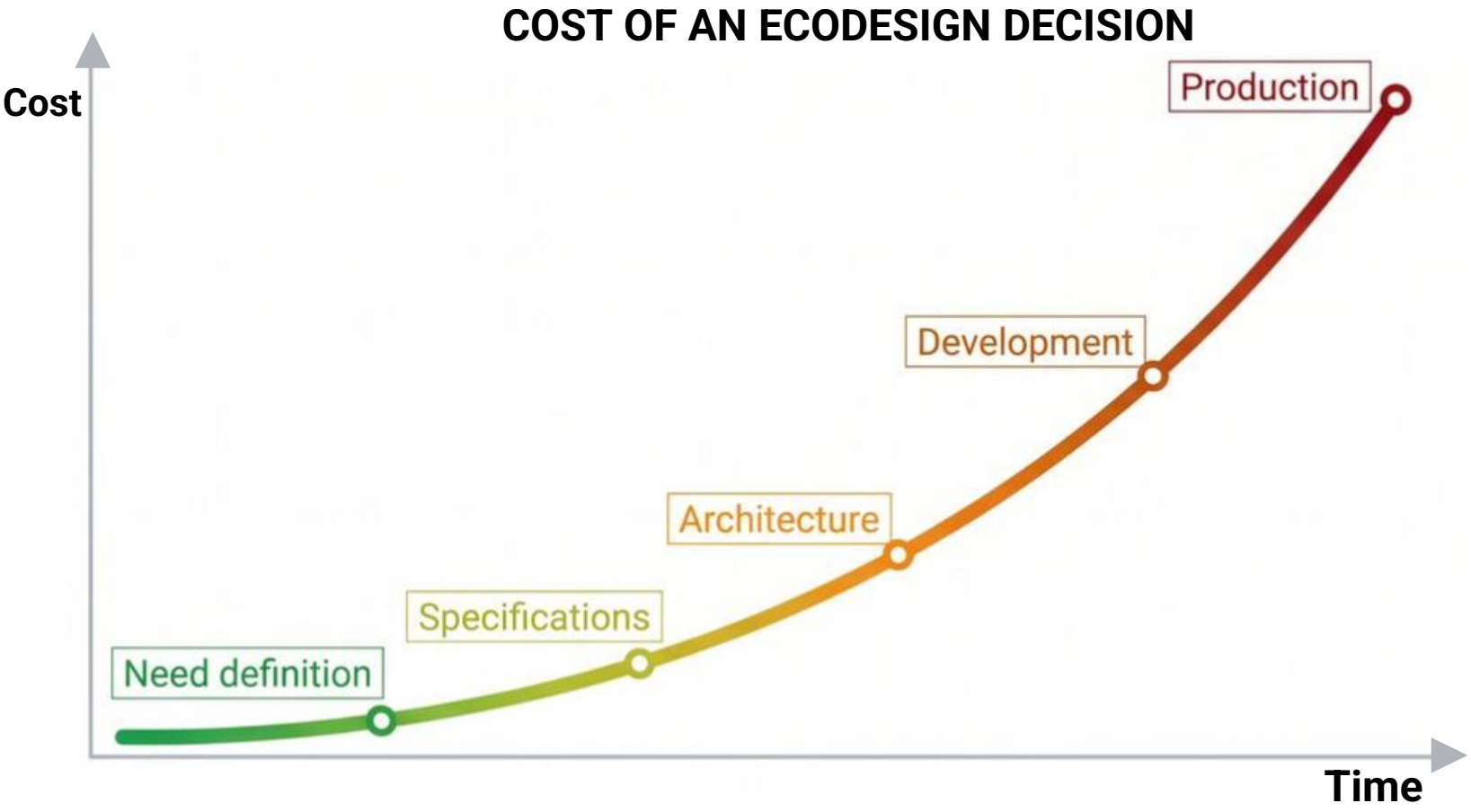


Destination Earth

Training session

- Foundations : Overview of the key concepts
- Exercise : Select a pilot service
- DESP Ecodesign Referential
- **Bloc 1 : “Before you build” criteria**
- Bloc 2 : “Technical efficiency” criteria
- Bloc 3 : “UX/UI & infra” criteria
- Conclusion

Before you build : Core Idea



80% of a services's footprint is locked before the first line of code

The earlier you intervene, at need definition, design, wireframing, the stronger the lever for reducing environmental footprint

How to specify the right need ?

A FEW FACTS

45% of requested features are never used*

70% are not essential*

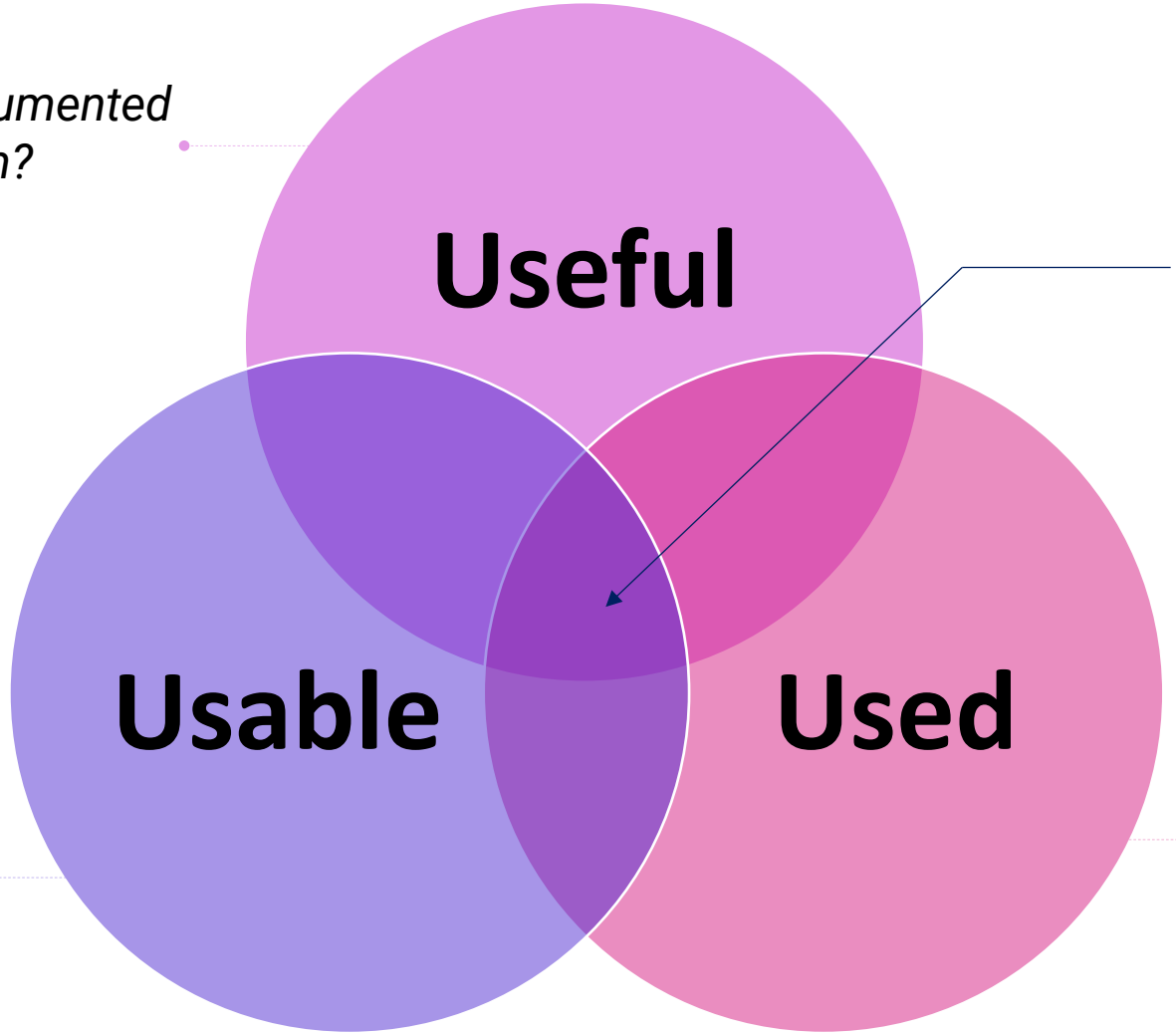
BEFORE BUILDING ANY FEATURE, ASK YOURSELF

- Is this feature truly necessary ?
- What would happen if it didn’t exist ?
- What is the minimum that meets user needs ?
- Does the value added justify the resources required ?
- Can we do it differently ?

*Web ecodesign studies (2021)

How to specify the right need ?

Does it solve a documented user problem?



Right feature « Juste besoin »

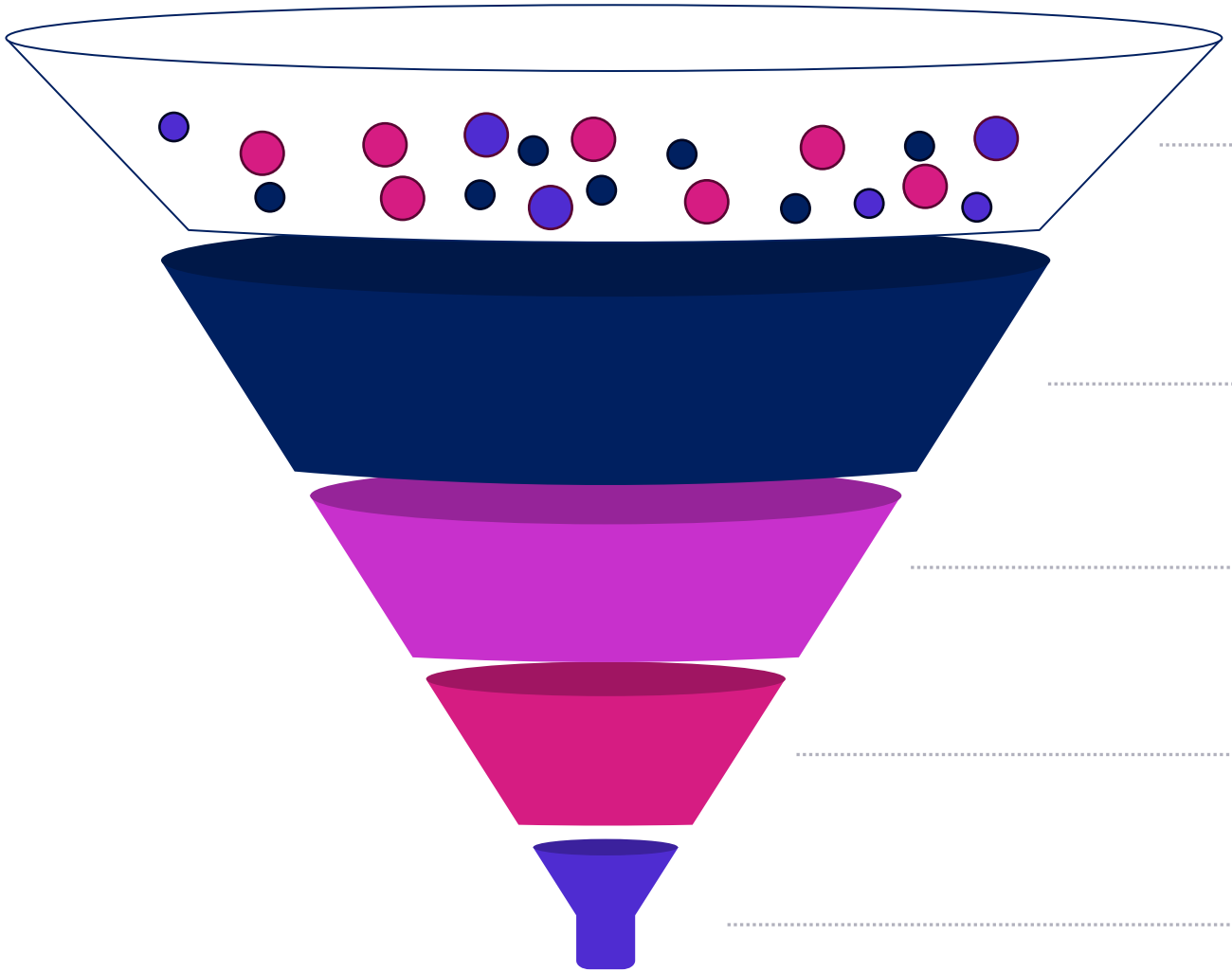
Can users achieve their goal without friction?

Do users return to use it? Are you tracking it?

> *Only features that pass all three tests deserve to be built and maintained.*

How to specify the right need ?

Serco Business



Features worth building & keeping

ALL IDEAS AND FEATURES REQUESTS

Design Thinking
Eliminates solutions to non-existent problems

Personas & UX Research
Eliminates features irrelevant to actual users

MoSCoW / KANO
Prioritises and decides what NOT to build

Agile validation
Tests & detects unused features

Dimension 1: Strategy and Governance

4 CRITERA OVERVIEW

1.1 Ecodesign training & DR Referent

ASSESSMENT QUESTION

Are all roles involved in the service trained on ecodesign principles, and has a Digital Responsibility (DR) referent been identified within the team?

Why ? Without a named DR Referent, ecodesign practices have no owner.

1.2 SMART environmental targets

ASSESSMENT QUESTION

Has the service defined SMART environmental targets based on a documented baseline, with a regular review cadence (quarterly / annually)?

Why ? Make environmental progress measurable and accountable, anchored in real baseline data.

1.3 Supplier environmental requirements

ASSESSMENT QUESTION

Does the service require its suppliers and third-party components to address their environmental impact?

Why ? Extend environmental responsibility down the supply chain.

1.4 Decommissioning and growth strategy

ASSESSMENT QUESTION

Does the service have a documented MAU growth trajectory and a decommissioning plan?

Why ? Ensure infrastructure is always aligned with actual usage, avoiding both premature over-provisioning and indefinite accumulation of unused assets.

Focus on “1.1 Ecodesign training & DR Referent”

One person in your team who is responsible for keeping ecodesign in the room across every decision.

Sprint Planning

"This feature : do we have actual user evidence behind it, or are we building it because someone asked?"

Design review

"This feature : do we have actual user evidence behind it, or are we building it because someone asked?"

Architecture decision

"Before we build this: have we checked whether a DESP platform service already covers it?"

6-month retrospective

"Two features we shipped last quarter have under 5% adoption. What do we do with them?"

> *The result is a service that keeps improving because someone is tracking it.*

Dimension 2: Specifications

5 CRITERA OVERVIEW

2.1 User needs and feature justification

ASSESSMENT QUESTION

Are user needs formally documented before development, and is each feature justified by evidence?

Why ? Clearly define and document the business needs and expectations of target users to meet their needs effectively and prevent unnecessary development

2.2 Open standards and FAIR compliance

ASSESSMENT QUESTION

Does the service use open and interoperable standards for all data access and API exposure?

Why ? Enable efficient data access patterns, reduce integration complexity, and ensure long-term technical sustainability (other services and tools can connect to yours without custom development)

2.3 SLA adaptation

ASSESSMENT QUESTION

Does the service differentiate SLA tiers by component criticality, avoiding over-provisioning for non-critical functions?

Why ? Prevent unnecessary infrastructure redundancy by matching availability levels to actual user requirements.

2.4 Compatibility with older devices and clients

ASSESSMENT QUESTION

Does the service function correctly on devices and client environments at least 7 years old, with no essential functionality lost on older hardware?

Why ? Limit the service's contribution to hardware obsolescence, manufacturing accounts for 65 to 92% of the environmental footprint of digital technologies.

2.5 Environmental impact transparency

ASSESSMENT QUESTION

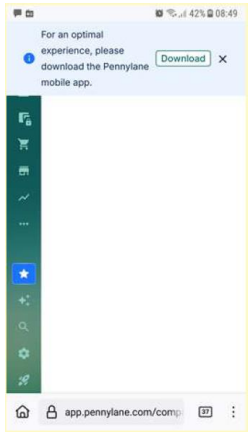
Does the service inform users of the estimated environmental cost of their actions before or during execution?

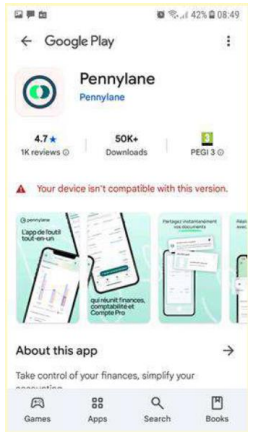
Why ? Make the environmental cost of using the service visible to users, enabling more informed and sober usage decisions.

Focus on “2.4 Compatibility with older devices”

65 to 92% of a device's lifetime environmental footprint comes from manufacturing. Every extra year of device life matters more than years of service optimization.

Software obsolescence : some examples





Example 1 : Pennylane comptability app
The app recommends installing the mobile version for an "optimal experience." On devices older than 4 years: "Your device isn't compatible with this version."

Example 2 : Globeview fictionous service
CesiumJS, the 3D rendering library used by GlobeView, requires a modern GPU. Researchers on workstations from 2017 and earlier cannot load the map. A static 2D preview would serve the same purpose



Good practices examples

- Test critical features on hardware at least 7 years old
- Provide a 2D or degraded-mode fallback for any GPU-intensive feature
- For APIs: maintain backward compatibility across at least 2 major versions

> *Compatibility is also an equity issue. Not every researcher working with DESP services has access to recently purchased hardware*



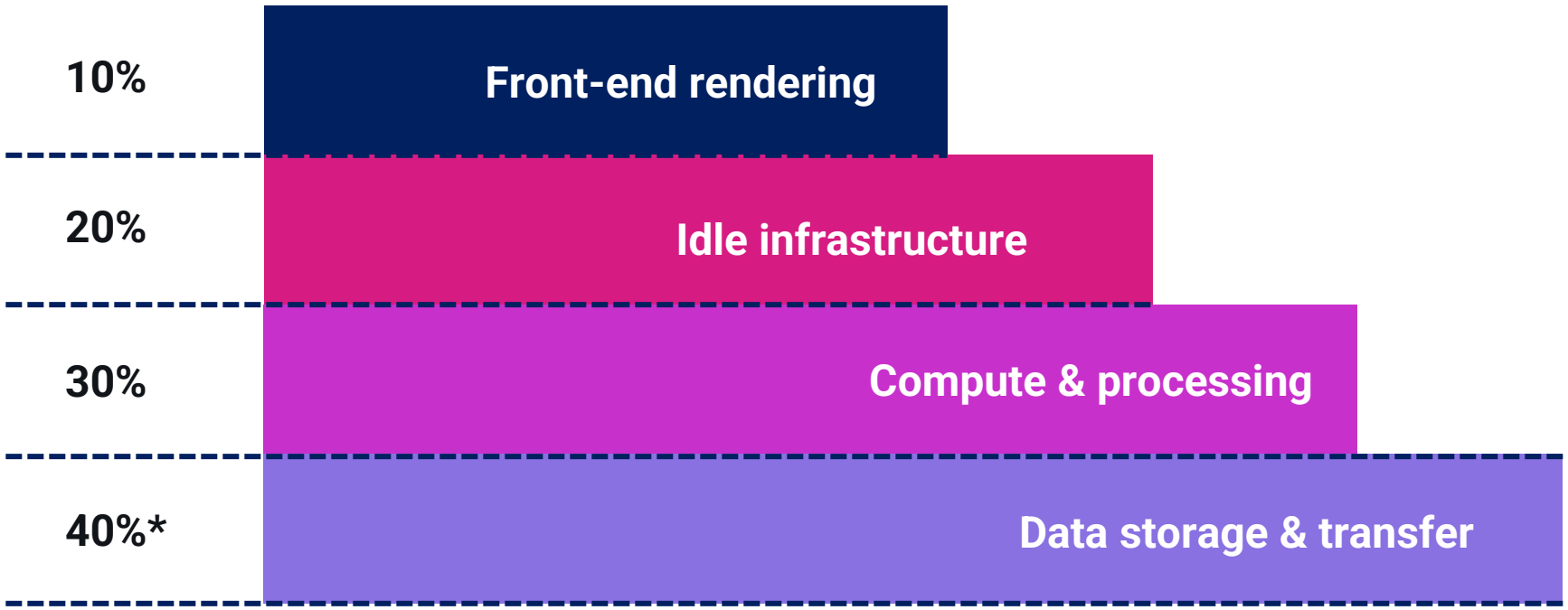
Destination Earth

Training session

- Foundations : Overview of the key concepts
- Exercise : Select a pilot service
- DESP Ecodesign Referential
- Bloc 1 : “Before you build” criteria
- **Bloc 2 : “Technical efficiency” criteria**
- Bloc 3 : “UX/UI & infra” criteria
- Conclusion

Technical efficiency: Core Idea

Where does energy go in a DESP service?



For geospatial services : data transfer is typically the dominant cost. Serving the right format to the right user is one of the highest-impact technical action

** Indicative distribution : varies by service type and usage pattern*

Serco Business

Exemple from the fictionous service DataStream

- Remember DataStream service from this morning : 275 MAU, raw NetCDF files, no compression
- Let’s run the numbers :

1 DataStream API Call
2 Mo: no compression enabled

x 275 active users

X 12 calls per day x 30 days

= 200 GB / month

Wasted on single endpoint before any architecture or format change

DataStream is not an extreme case, it is a typical unoptimized service

To support the GHG assessment – CodeCarbon

Destination Earth

Open-source and free, CodeCarbon is a python package created in 2020 by AI researchers to estimate and **track carbon emissions** produced by computing workloads.

It measures **energy consumption** from CPU, GPU and RAM in real time and **converts it to CO_2e** using the local electricity grid's carbon intensity.

LINK
CODECARBON

CodeCarbon methodology

1 Install & integrate

Add **2 lines of Python** to any existing script or pipeline. Compatible with all major ML frameworks (TensorFlow, PyTorch, Scikit-learn) and CI/CD tools. **No infrastructure change** required.

2 Measure in real time

Periodically samples CPU, GPU, and RAM power draw. Multiplies hardware energy consumption (kWh) by the carbon intensity of the local electricity grid (updated per region and cloud zone)

3 Report & optimise

Outputs an **emissions log** (kg CO_2e per run, per function, per experiment). Integrates with dashboards (Weights & Biases, CometML) for **tracking and comparison across runs** or developers.

⚠ *CodeCarbon only measures Python compute workloads. It does not cover storage, networking or non-python services. For DestinE, it is complementary to the OVH calculator, not a replacement: CodeCarbon fills the real-time, develop-facing gap*

CodeCarbon supporters

clever cloud · DATA FOR GOOD · GitHub · moz://a

CodeCarbon is made freely available to the community as an opensource tool

To support the GHG assessment – Scaphandre

Destination Earth



Open-source and free, **Scaphandre** is a monitoring agent built to measure and expose **server-side power consumption** at process and container level.

It sits natively in the modern OPS stack, providing **continuous energy visibility** across all components without modifying application code

LINK
SCAPHANDRE

Scaphandre methodology

1 Install & integrate

Add **Scaphandre as a monitoring agent** to your server infrastructure. Compatible with **Prometheus, Grafana, Docker and Kubernetes**. No application code change required; runs at OS level.

2 Measure in real time

Continuously samples power consumption **per process and Docker container**. Provides macro-level visibility across all stack components (API, database, gateway…) using Prometheus scraping.

3 Report & optimise

Outputs **power metrics per process** (W per component). Integrates with **Grafana dashboards** for real-time visualisation and targeted resource optimisation decisions.

⚠ *Scaphandre currently supports **Intel CPUs and Linux OS only**. It is not suited for unit-test scenarios (Grafana becomes unstable below 2 s measurement frequency). Custom dashboard creation requires Grafana expertise.*

Native OPS stack integrations

Prometheus · Grafana · kubernetes · docker

To support the GHG assessment – APM (Dynatrace)

Destination Earth



dynatrace

APM (Application Performance Management) tools provide end-to-end visibility into digital service performance by instrumenting applications at runtime to trace user journeys and detect contention points.

They surface performance issues **virtually impossible to identify** through standard monitoring.

LINK
DYNATRACE

Dynatrace methodology

1 Install & integrate

Install the **APM agent at runtime** on your application. The agent runs alongside your code with **no source modification required**, automatically capturing execution traces & performance data across the full stack.

2 Measure in real time

Continuously traces **user journeys** end-to-end. Pinpoints **contention points** in real time — slow SQL queries, code hotspots, API bottlenecks, memory pressure — across front-end and back-end layers simultaneously.

3 Report & optimise

Surfaces **issues virtually impossible to detect** through conventional monitoring. Provides actionable reports to prioritise optimisation efforts and **reduce unnecessary resource consumption** at the identified bottlenecks

⚠ *Licence costs are significant (Dynatrace, AppDynamics are commercial products) and teams require dedicated expertise to configure instrumentation and interpret dashboards effectively.*

Typical Stack coverage

- AWS/Azure/GCP
- CI/CD pipelines
- Kubernetes
- JVM / .NET
- SQL / NoSQL

Serco Business

Comparative overview of some evaluation tools

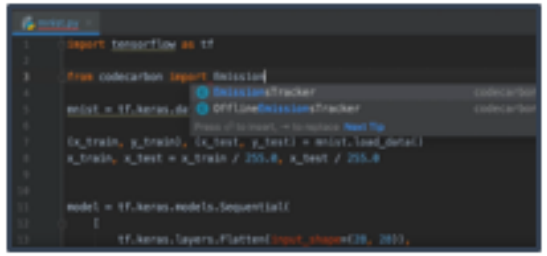
	CodeCarbon	Scaphandre monitoring agent	APM (Dynatrace)
TYPE	Python package	OS-level agent	Runtime agent
SCOPE	Python compute workloads (CPU, GPU, RAM)	Server-side per process & Docker container	Front-end & Back-end full-stack audit
MEASURES	Energy (kWh)	Power per process (W)	Performance metrics (latency, CPU, SQL…)
AUDIENCE	Dev Back	Dev BackOPS	Dev BackArchiOPS
EXPERTISE LEVEL	Novice	Intermediate	Expert
LICENCE	Open source	Apache 2.0	Commercial
KEY INTEGRATIONS	TensorFlow, PyTorch, Scikit-learn, CI/CD	Prometheus, Grafana, Docker, Kubernetes	AWS/Azure/GCP, K8s, JVM/.NET, SQL/NoSQL
MAIN STRENGTH	CO_2e tracking per function / experiment + ideal for AI/ML pipelines	Continuous macro-level energy monitoring across all stack components	Detects bottlenecks virtually impossible to find otherwise
MAIN LIMITATION	Python workloads only + no storage or networking coverage	Intel CPU/Linux only + Grafana expertise needed	Intrusive overhead + high licence cost + steep learning curve

Existing tools to support the GHG assessment

Destination Earth

The two initiatives are **consistent**, as they **do not answer to the same need**, and each one **covers the potential gaps** of the other

CODE CARBON PACKAGE



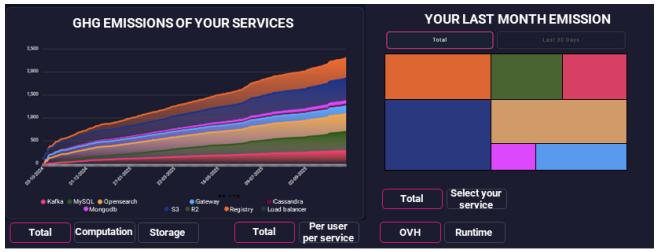
+

- Can be used for real-time estimation, to raise user's awareness on their impact
- Enable parametrization at service provider's level
- Already available

–

- Only for Python
- Requires an effort to be integrated by Service Providers
- Not based on OVH figures

USE CASE 3 - SERVICE PROVIDER INDIVIDUAL FOOTPRINT



+

- Enabling pragmatic and accurate analysis of hotspots view an aggregated monthly view
- Ensures homogeneous so comparable figures between service providers, whatever their code language
- Provide accurate figures from OVH (e.g. market-based), with a detailed granularity (flavor)
- No effort of integration from Service Providers

–

- Do not cover real-time estimations, not focused on users
- Same tool for all services (but with filtering capabilities)
- To be implemented (specifications to be co-built with pilot SPs)

AI impact

AN UNPRECEDENTED SCALE OF INVESTMENT & RESOURCE CONSUMPTION

€20bn + $500bn	×3	×275	×2	80%
publicly announced investment in AI infrastructure (EU + US)	cloud storage capacity increase in 6 years	compute power growth every 2 yrs	data centre global energy use in 2 years	of existing data centres inadequate for AI needs

GENERATING MEASURABLE ENVIRONMENTAL IMPACTS

Water

AI water footprint by 2027 = ½ of the UK's total water consumption

CO_2e

×7 actual emissions vs. officially disclosed GAFAM figures driven by AI

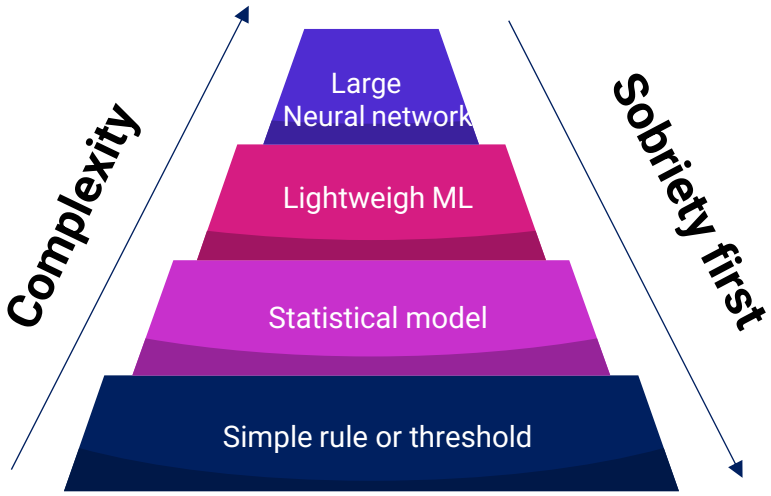
E-waste

+1 to 5 million tonnes of additional e-waste by 2030 linked to AI
+82% e-waste growth in 10 years

Energy Risks

New plants built to power data centres resulting in potential drought, wildfire risk, river alteration local conflicts over water & power

CHOOSE THE RIGHT TOOL



Generative AI has a local and a global impact. Sobriety in model choice is the first lever.

Dimension 3: Architecture

4 CRITERA OVERVIEW

3.1 Elastic architecture and right-sizing



ASSESSMENT QUESTION

Is your service designed to use only the computing resources it actually needs at any given moment?

Why ? Eliminate idle infrastructure by matching compute capacity to real-time usage

3.2 Caching and event-driven design



ASSESSMENT QUESTION

Does the service avoid repeating the same computation or data transfer when the result has not changed?"

Why ? Eliminate unnecessary repeated computation and data transfer. Storing the output of expensive operations so they do not need to be recalculated for identical requests is one of the simplest and most impactful optimisations available.

3.3 Reuse of DESP platform services



ASSESSMENT QUESTION

Has the team evaluated existing DESP platform services before building any new data access, processing, compression, or storage capability?

Why ? Avoid duplicating shared infrastructure, reducing overall platform footprint.

3.4 Test and development environment hygiene



ASSESSMENT QUESTION

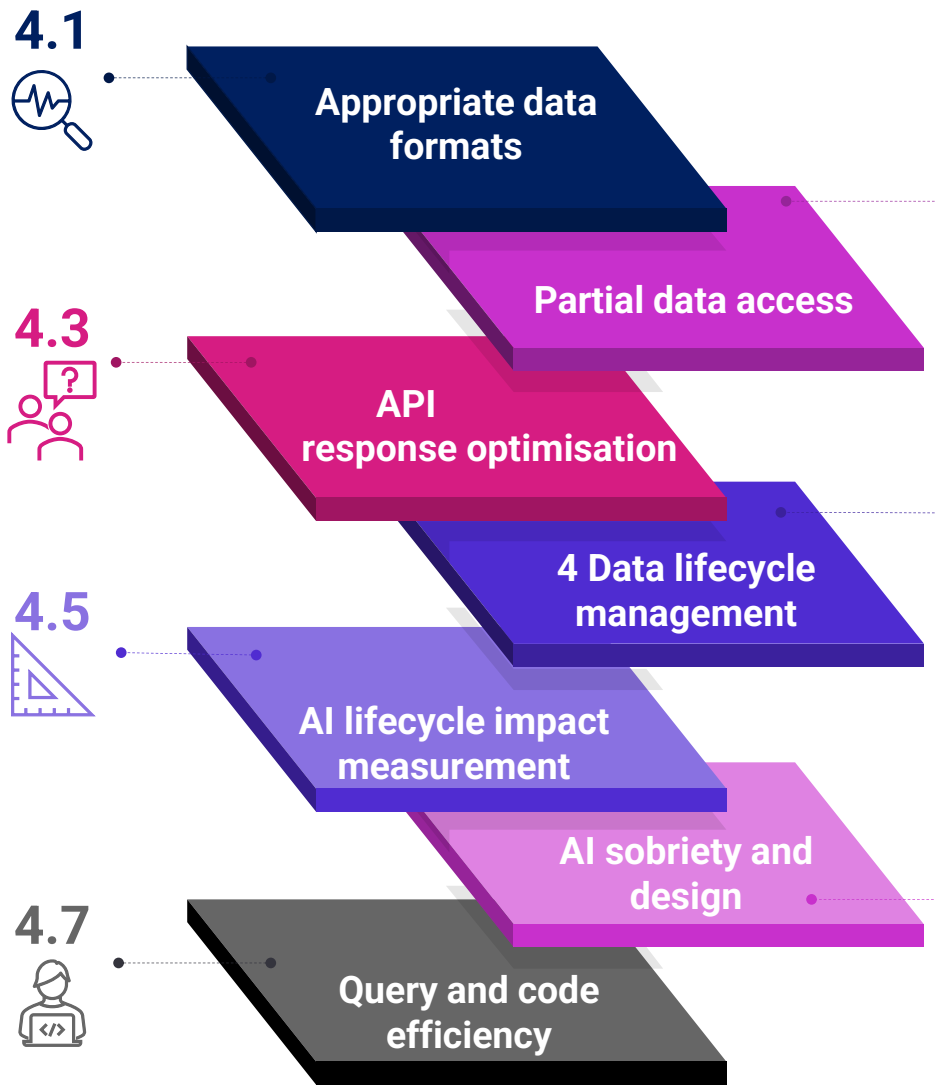
Are development, testing, and staging environments shut down when not actively in use, and is there a policy preventing them from running indefinitely?

Why ? Non-production environments often represent 20-40% of a service's total infrastructure. When left running after a test cycle ends or a developer stops working, they consume energy continuously while producing no user value.

Dimension 4: Data, Backend and AI

Destination Earth

7 CRITERA OVERVIEW



ASSESSMENT QUESTION
Does the service use the most efficient data format for each task, avoiding formats that transfer or store far more data than necessary?

Why? Minimise transfer volume and processing overhead through appropriate format selection.

ASSESSMENT QUESTION
Are compression, pagination, and field selection enabled on all primary API endpoints?

Why? Minimise API response weight for every user, on every request

ASSESSMENT QUESTION
Is each model training run instrumented with an energy measurement tool, and is the result documented?"

Why? Make AI energy consumption visible and comparable across model versions and across services.

ASSESSMENT QUESTION
Are database queries and server-side operations designed to retrieve and process only what is needed, avoiding unnecessary computation on every request?

Why ? Inefficient code that retrieves too much data, runs the same operation repeatedly, or performs unnecessary calculations wastes server energy on every single request, multiplied across all users and all time.

ASSESSMENT QUESTION
Do all data endpoints support partial access, spatial, temporal, or field-level, avoiding full dataset downloads?

Why? Enable users to retrieve only the data subset they need

ASSESSMENT QUESTION
Does the service have a documented data lifecycle policy covering how long data is kept, where it is stored based on access frequency, and how unused data is identified and deleted?

Why? Align storage energy consumption with actual data access frequency and enforce data lifecycle management, eliminating accumulation of expired or unused data.

ASSESSMENT QUESTION
Does the service choose the simplest approach that meets its needs, document why a lighter alternative was not sufficient, and condition model retraining to measured performance degradation rather than a calendar schedule?

Why? Ensure AI is used only where necessary and runs at minimum cost for actual performance requirements.



Destination Earth

Training session

- Foundations : Overview of the key concepts
- Exercise : Select a pilot service
- DESP Ecodesign Referential
- Bloc 1 : “Before you build” criteria
- Bloc 2 : “Technical efficiency” criteria
- **Bloc 3 : “UX/UI & infra” criteria**
- Conclusion

Zoom on hosting

PUE Power Usage Effectiveness
Ratio of total energy used by a data centre vs. energy delivered to IT equipment.

WUE Water Usage Effectiveness
Litres of water consumed per kWh of IT equipment energy. Measures the cooling water footprint of the infrastructure.

CUE Carbon Usage Effectiveness
Carbon emissions per kWh of IT energy. Reflects the carbon intensity of the electricity mix powering the data centre.

REF Renewable Energy Factor
% Share of energy from renewable sources. 100% REF means all electricity consumed is matched by renewable generation.

KPI	OVH	AWS (Amazon)	Microsoft Azure
PUE *lower = better*	1.24	1.15	1.17
WUE *lower = better*	0.34 L/kWh	0.15 L/kWh	0.27 L/kWh
CUE lower = better	0.13 $kgCO_2e/kWh$	Not disclosed as ISO metric	Not disclosed as ISO metric
REF Close to 100% = better	100%	Not published as ISO REF	Not published as ISO REF
Standards & certifications	ISO 50001 + ISO 30134-2/3/8/9 + ISO 14001 + EU Code of Conduct + CSRD	ISO 50001 (EU regions) + EU Code of Conduct 2025	ISO 14001

OVH is the only provider with ISO-certified metrics across PUE, WUE, CUE and REF, and the only one with a validated SBTi trajectory. Yet no provider, including OVH, discloses a full PEF-aligned LCA.

Zoom on UX/UI : web-content best practices

Images

- Chose the right format depending on image type. For example : SVG instead of PNG, WebP or AVIF instead of JPEG (with JPEG fallback)
- Compress the images, redimension and adjust quality

Videos

GIF

Very inefficient

5 MB animated GIF = 500 KB as MP4

Don’t use GIF for animation

MP4 / H.264

Standard

Good compression, widely supported

Baseline for web video

WebM / AV1

Recommended

30 to 50% lighter than MP4. Should use for all new web video content

> *Images account for 50 to 60% of an average webpage weight*

Zoom on UX/UI : image resolution



1,4 Mo



121 Ko (x12 less impact)

What should you aim for ?

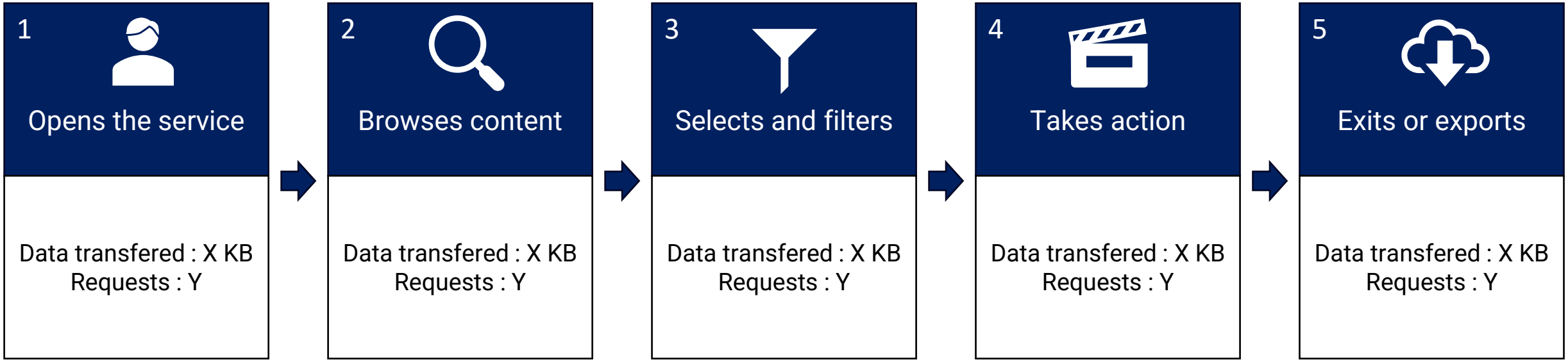
Metric	Definition	Target
Server requests	Number of round trips to load the page	< 40
Page weight	Total data transferred in KB	< 1,000 KB
DOM complexity	Number of elements in the page	< 600

- Examples of ecodesigned websites vs non-ones
  - https://lowww.directory/

The User journey as an ecodesign diagnostic tool

Destination Earth

A **user journey** maps the **sequence of steps** a user takes to complete a **specific goal**. In ecodesign, each step is also a data transfer / server request and thus an **energy cost**



Plugin extensions to measure the impact of these steps in real time

> *The journey becomes an environmental audit.*

Existing tools to support UX/UI – Greenspector

Destination Earth

Greenspector

Founded in 2010, **Greenspector** provides SaaS solutions for managing **environmental impact** and performance of web, IoT, or mobile services.

The company is labelled by Solar Impulse, and has **contributed to ISO**, Afnor, and W3C working groups, as well as to multiple scientific publications

Greenspector footprint methodology

1 Describe the user journey

2 Launch the measuring on the test bench

3 Pilot sobriety and performance



⚠ *Only the frontend is being assessed → need for DestinE to cross with computation/storage data*

Greenspector users

ACCOR, LVMH, KERING, PARIS 2024, CA Technologies & Services, BPCE Solutions Informatiques, BNP PARIBAS, SOCIETE GENERALE, orange, bouygues, Ministère de l'Intérieur, Ministère des Solidarités et de la Santé, Ministère de la Transition écologique et de la Cohésion des territoires, ENEDIS, SNCF Connect & Tech, AIRFRANCE, Leclerc, DECATHLON, fortuneo Banque, Belfius, ING, AVIVA, SNCF, AIRBUS, bruxelles environnement, Bordeaux Métropole, Nantes Métropole, france.tv

Existing tools to support UX/UI – GreenIT - Analysis

GreenIT-Analysis

- Free browser extension (Chrome / Firefox / edge) created by collectif GreenIT
- Open source (*https://github.com/cnumr/GreenIT-Analysis*)
- Based on EcoIndex methodology and the 155 web ecodesign best practices

GreenIT footprint methodology

1 Navigate to the page or start your user journey



2 Click **Launch Analysis** in the plugin panel



3 Read the EcoIndex score and identify the highest-impact imrpvoements



⚠ *Only the frontend is being assessed → need for DestinE to cross with computation/storage data*

Criteria

Requests | Page weight | DOM

Score

A to G + gCO2eq + water (cl)

https://addons.mozilla.org/en-US/firefox/addon/greenit-analysis/

Dimension 5: UX/UI and Frontend

4 CRITERA OVERVIEW

5.1 Navigation path optimisation

ASSESSMENT QUESTION

Have primary user journeys been mapped with step counts and data transferred, and has a maximum step count target been defined?

Why ? Minimise interactions required to complete primary tasks, reducing page loads, API calls, and assets transferred.

5.2 Minimalist interface design

ASSESSMENT QUESTION

Has a UI weight audit been conducted, and are decorative elements, unused fonts, and auto-playing media removed or justified?

Why ? Design interfaces with minimum necessary visual complexity, reducing page weight and device energy consumption.

5.3 On-demand GPU and 3D rendering

ASSESSMENT QUESTION

Is GPU-intensive rendering (3D globes, WebGL, VR/AR) never initialised automatically on page load, and only triggered by explicit user action?

Why ? Ensure GPU-intensive engines are not loaded by default, eliminating their energy cost for users who do not request them.

5.4 Frontend efficiency

ASSESSMENT QUESTION

Are interface assets compressed and served in modern formats, and does the initial page load include only the resources needed for the current page?

Why ? Reduce the volume of data sent to users' devices and ensure their browser does not download code or images it does not need.

Dimension 6 : Hosting & Infrastructure

3 CRITERA OVERVIEW

6.1 Hosting environment

ASSESSMENT QUESTION

Is the service's hosting environment documented, and do its carbon intensity, PUE, and WUE meet the referential thresholds?

Why ? Ensure the platform infrastructure has a low environmental footprint, leveraging the sustainability advantages already provided by OVH Cloud France.

6.2 Compute right-sizing

ASSESSMENT QUESTION

Is compute utilisation monitored per service component, and are resource allocations set based on what the service actually uses rather than the theoretical maximum it could ever need?

Why ? Allocate compute resources based on actual usage, not theoretical peak, eliminating idle capacity.

6.3 Compute scheduling

ASSESSMENT QUESTION

Are all deferrable workloads scheduled during off-peak hours, with a documented scheduling policy?

Why ? Reduce the environmental impact of batch workloads by avoiding simultaneous peak loads and aligning with periods of lower grid carbon intensity.

DestinE Platform

CLOSING : MISSION REPORT

FROM ASSESSMENT TO COMMITMENT



Destination Earth
Funded by the European Union
Implemented by ECMWF esa EUMETSAT

Individual exercise : action card

- Write your one ecodesign commitment for your own role in the next 30 days. Try to be specific: which criterion, which action, which measurable outcome.
- 5 min individual writing
- Round table: each participant reads their commitment in one sentence



Resources & next steps

Resources

Frameworks & Standards

- **RGESN** : French Ecodesign Referential
- **Web sustainability guidelines** : https://www.w3.org/TR/web-sustainability-guidelines/
- **Ecodesign guide for ethics designer :** https://designersethiques.org/en/topics/eco-design/eco-design-guide-for-digital-services

Tools & Measurement

- **Climate Product Leaders** :https://climateproductleaders.org/playbook/
- Scaphandre, CodeCarbon, GreenIT, EcoIndex

AI

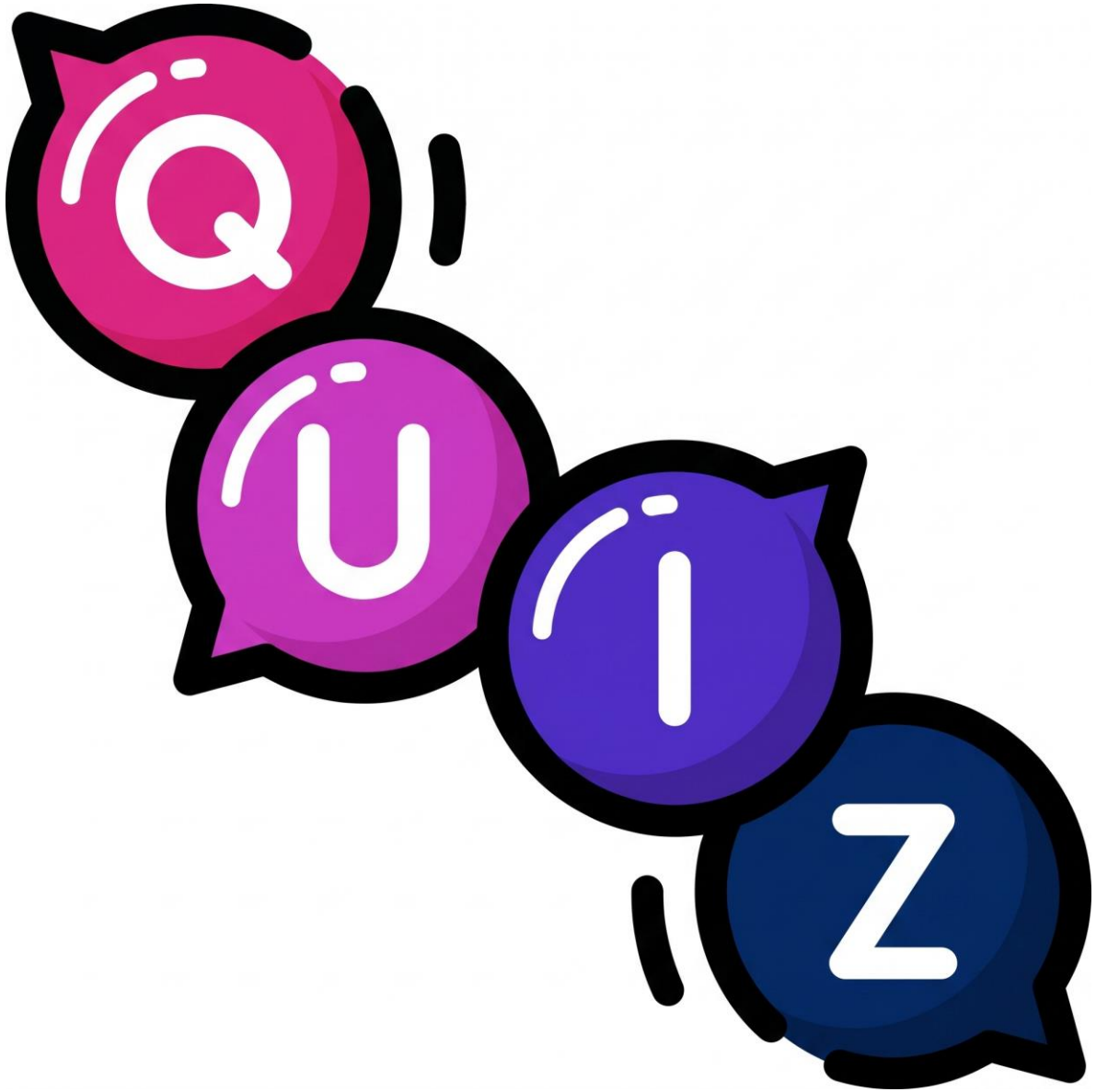
- **Frugal AI framework :** https://frugal-ai.org/
- **Cartography of GenAI impacts :** https://cartography-of-generative-ai.net/genai_cartography.pdf



Next steps

1. Read through the referential and provide your comments & feedback
2. Start applying some of the criteria on a specific, well defined scope
3. Deploy the framework more globally within DestinE platform ecosystem

Conclusion - Quiz



Quiz Question (1/5) – Functional Unit



GlobeView wants to define its functional unit for ecodesign measurement purposes. Which definition is the most appropriate?

A. Provide a 3D globe visualisation tool to DESP users

B. Host a web application on OVH Cloud France for 40 monthly active users

C. Enable a climate scientist to visualise and export a spatially filtered Earth observation dataset in one session

D. Reduce GlobeView's monthly carbon footprint below 40 $kgCO_2eq$

Quiz Answer (1/5) – Functional Unit

Serco Business



GlobeView wants to define its functional unit for ecodesign measurement purposes. Which definition is the most appropriate?

A. Provide a 3D globe visualisation tool to DESP users

B. Host a web application on OVH Cloud France for 40 monthly active users

C. Enable a climate scientist to visualise and export a spatially filtered Earth observation dataset in one session

D. Reduce GlobeView's monthly carbon footprint below 40 $kgCO_2eq$

A functional unit describes the service provided to the user, not the technology or the internal objective.

Quiz Question (2/5) – MoSCoW



In the MoSCoW method applied to ecodesign, what is the primary purpose of the "Won't Have" category?

A. To flag technically impossible features

B. To eliminate features that generate environmental impact without sufficient user value

C. To defer features to a future release for budget reasons

D. To comply with GDPR data minimisation principles

Quiz Question (2/5) – MoSCoW



In the MoSCoW method applied to ecodesign, what is the primary purpose of the "Won't Have" category?

A. To flag technically impossible features

B. To eliminate features that generate environmental impact without sufficient user value

C. To defer features to a future release for budget reasons

D. To comply with GDPR data minimisation principles

In the context of eco-design, 'Won't Have' does not mean 'impossible' or 'later', but 'deliberately excluded' because the environmental cost outweighs the value it brings.

Quiz Question (3/5) – Architecture & Data



GlobeView transfers 8.4 GB of data to the user's browser, even though the spatial filter covers only 5% of the dataset. What is the most direct fix?

A. Compress the dataset with Gzip before sending it

B. Add a loading spinner so users know the transfer is happening

C. Implement server-side spatial filtering using an OGC API bbox parameter

D. Switch the export format from GeoTIFF to GeoParquet

Quiz Question (3/5) – Architecture & Data



GlobeView transfers 8.4 GB of data to the user's browser, even though the spatial filter covers only 5% of the dataset. What is the most direct fix?

A. Compress the dataset with Gzip before sending it

B. Add a loading spinner so users know the transfer is happening

C. Implement server-side spatial filtering using an OGC API bbox parameter

D. Switch the export format from GeoTIFF to GeoParquet

The problem is that the filter is applied on the client side after the data has been fully transferred. The straightforward solution is a server-side filter which reduces the volume of data transferred

Quiz Question (4/5) – UX/UI & Frontend



CesiumJS is loaded automatically every time a user opens GlobeView, even if they never interact with the 3D globe. Which best practice directly addresses this issue?

A. Serve the library via a CDN to improve download speed

B. Minify the JavaScript bundle to reduce its size

C. Switch from CesiumJS to a lighter library such as Leaflet

D. Lazy loading: load CesiumJS only when the user explicitly requests the 3D view

Quiz Question (4/5) – UX/UI & Frontend



CesiumJS is loaded automatically every time a user opens GlobeView, even if they never interact with the 3D globe. Which best practice directly addresses this issue?

A. Serve the library via a CDN to improve download speed

B. Minify the JavaScript bundle to reduce its size

C. Switch from CesiumJS to a lighter library such as Leaflet

D. Lazy loading: load CesiumJS only when the user explicitly requests the 3D view

CDNs and minification reduce the loading cost, but do not eliminate it. Lazy loading removes the need to load content for all users who do not use 3D

Quiz Question (5/5) – Measure & Pilot

Destination Earth



GlobeView emits 48 $kgCO_2eq$/month for 40 monthly active users. DataStream emits 202 $kgCO_2eq$/month for 275 MAU. Which metric allows a fair environmental efficiency comparison between the two services?

A. CO_2eq per Monthly Active User ($kgCO_2eq$/MAU)

B. Total monthly CO_2eq emissions

C. Number of API calls per month

D. Page weight in megabytes at first load

Quiz Question (5/5) – Measure & Pilot

Destination Earth



GlobeView emits 48 $kgCO_2eq$/month for 40 monthly active users. DataStream emits 202 $kgCO_2eq$/month for 275 MAU. Which metric allows a fair environmental efficiency comparison between the two services?

A. CO_2eq per Monthly Active User ($kgCO_2eq$/MAU)

B. Total monthly CO_2eq emissions

C. Number of API calls per month

D. Page weight in megabytes at first load

Although GlobeView has a smaller overall footprint, it is less efficient per user. The metric per MAU is the standardised indicator that allows for a fair comparison between services of different sizes.

Key Takeaways

Ecodesign starts before a single line of code

The most impactful decisions happen at the **specification and scoping stage**. Feature prioritisation, functional unit definition and user journey mapping are your primary environmental levers.

Start with 2 or 3 criteria and iterate.

You don't need to address all 27 criteria at once. Pick the highest-impact ones for your service, make progress, then revisit. **Ecodesign is a continuous improvement journey,** not a one-time compliance exercise.

Sobriety is the most powerful lever

Before adding a feature, a dataset, an animation or a model, ask: **is this truly necessary?** The best ecodesign decision is often not to build something at all.

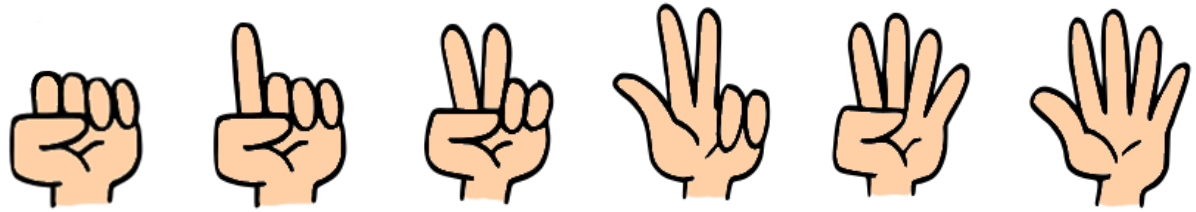
REMINDER OF ECODESIGN REFERENTIAL STRUCTURE

Dimension	Criteria
1. Strategy & Governance	*4 criteria*
2. Specifications	*5 criteria*
3. Architecture	*4 criteria*
4. Data, Backend & AI	*7 criteria*
5. UX/UI & Frontend	*4 criteria*
6. Hosting & Infrastructure	*3 criteria*

27 criteria · 6 dimensions · Self-assess your service at your own pace

Review of expectations & feedback





- On a scale from 0 to 5, how was the training ? Was this time well invested & valuable ?

DestinE Platform

PLATFORM.DESTINE.EU



Destination Earth

Funded by the European Union

Implemented by ECMWF esa EUMETSAT

serco

aliaspace B-Open CGI deimos elecnor group exprivia FlyPix AI

GAEL SYSTEMS GeoVille MEEO OVHcloud ThalesAlenia Space