

PROJECT MANAGEMENT FOR SUSTAINABLE INNOVATION AND THE CIRCULAR TRANSITION

MODULE N°5

GREEN  LABS



Co-funded by the
Erasmus+ Programme
of the European Union

Educational objectives of this program



OBJECTIVE 1: Comprehend the fundamentals

Elucidate the fundamental principles of climate, biodiversity, and the circular economy.



OBJECTIVE 2: To contextualize the circular economy within emerging economic models.

Defining the circular economy in the context of the social and solidarity economy, the functional economy, the commons, and the regenerative economy.



OBJECTIVE 3: Navigation with a compass. Resilience.

Applying the principles of robustness to the management of circular projects amid fluctuations.



OBJECTIVE 4: Oversee a circular economy initiative

Define objectives, tasks, indicators, and delineate the challenges by sector within a hybrid budget.



Bonus: Embody the transition!

How can you utilize this self-directed learning course?

Each section is self-contained. The notes accompanying each slide offer further explanations.

With a notebook → Record your reflections and responses to the exercises. This serves as your learning journal.

Self-assessment quiz → At the conclusion of each module. The correct answer is highlighted in green.

Practical exercises → Directly relevant to your organization. Answer keys are included in the accompanying document.

Training framework (24 hours+):

Introduction

- Climate and Biodiversity Fundamentals
- Emerging Economies
- Resilience

- Instruments
- Ecological Design
- Strategic Plan
- European Commission Project Management
- Individual Transition



Climate Transition and Biodiversity

The foundations

Quiz - To begin with, certain orders of magnitude

To navigate effectively!

What is your carbon footprint?

2. Which unit is being measured?
3. What are the three primary sources of greenhouse gas emissions, on average, for an individual in France?
4. What percentage of CO₂ have the oceans and forests absorbed over the past sixty years?
5. What distinguishes an individual's carbon footprint from the CO₂ emissions attributed to each French citizen?
6. What percentage of global CO₂e emissions is France accountable for? (Less than 2%, 2 to 5%, more than 5%)
7. On a global scale, the wealthiest ____% are responsible for 50% of greenhouse gas emissions. (1%, 10%, 20%, 30%)
8. What are the global reduction targets, and what are the specific targets for France?
9. How do these objectives manifest for businesses? What regulations are applicable?

Record your response in your notebook prior to reviewing the answers!



Response 1 — Personal carbon footprint

 On average, we emit approximately 10 tons of CO₂ annually per citizen.

The optimal objective would be to decrease our carbon footprint to approximately 2 tons of CO₂.

Response 2 — CO2 equivalence



CO₂eq = The unit employed to standardize the climatic impacts of various greenhouse gases (GHGs)

Methane possesses a warming potential that is 28 times greater than that of CO₂ over a century.

Primary greenhouse gases: CO₂ (automobiles, energy production), CH₄ (animal husbandry), N₂O (agricultural practices), HFCs (refrigeration systems...)

Answer 3 — Principal broadcasting stations of a French person

- ☒ **Food (meat, dairy items...)**
- ☒ **Transportation (private vehicle, aircraft...)**
- ☒ **Housing (heating, construction, etc.)**

Answer 4 — Absorption by forests and oceans

✓ 57% of CO₂ is absorbed by forests and oceans → 29% Forests + 28% Oceans

A **carbon sink** is a reservoir that **captures more** atmospheric CO₂ **than it releases** into the atmosphere. It permanently sequesters this carbon in liquid, gaseous, or solid states. The primary natural sinks on a planetary scale include oceans, soils, forests, peatlands, and grasslands.



Today, the primary carbon sinks on a global scale are **natural reservoirs**, including oceans and soils that support biomass such as forests, peatlands, and grasslands, exemplified by the verdant oasis of the Third-Lab of Transitions.

Response 5 — Carbon Footprint versus CO2 emissions by French people



Individual carbon footprint: 10t CO2e
CO2 emissions per French citizen: 6t CO2e

Individual carbon footprint: Greenhouse gas emissions associated with our consumption, including imports.

CO2 emissions per capita in France: a national inventory of greenhouse gas emissions that quantifies direct emissions associated with activities within our territory.

Answer 6 — France's proportion of global emissions



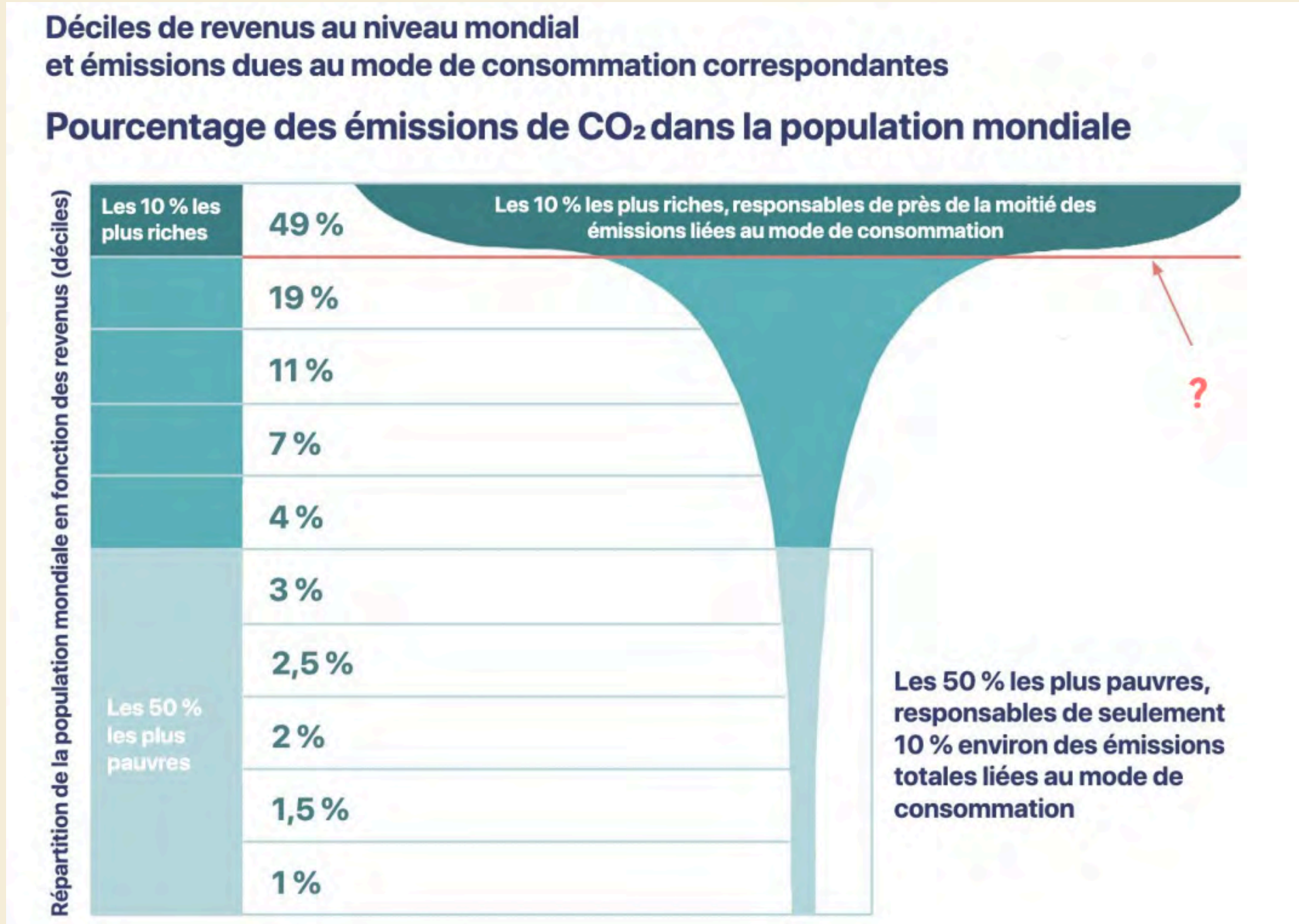
Approximately 1% of global emissions → #20 today / #12 since 1850

However, that does not imply we are flawless, particularly in a globalized world!
Our consumption footprint significantly exceeds our territorial emissions.

Response 7 – The wealthiest 10%



The wealthiest 10% of the global population are responsible for 50% of greenhouse gas emissions.



Answers 8 and 9 — Goals and Regulations



Europe and France aim to achieve carbon neutrality by 2050.

-55% emissions by 2030 (compared to 1990)

Accession to the Paris Agreement — carbon budgets every five years

For companies:

- DPEF (Statement of Non-Financial Performance)
- CSRD — Corporate Sustainability Reporting Directive
- Required certification from an independent third party (CSR, B Corp...)

Carbon quiz — To complete at home or in the office!

Calculate your carbon footprint or that of your organization and record the results for the subsequent session.



How many planets does it take to sustain your lifestyle?

Calculate your Ecological Footprint. Find out how many planets would be needed if everyone in the world lived like you?

footprintcalculator.org

Quiz — What if we transcended carbon?

Are you acquainted with the concept of **planetary boundaries**?
If I mention "**Donut**," what thoughts does that evoke for you?

3. What constitutes biodiversity?

4. Among these five causes, which exerts the most significant influence on the decline of biodiversity?

- a. Resource over-exploitation
- b. Climate alteration
- c. Modifications in land and marine utilization
- d. Environmental contamination
- e. Invasive non-native species

5. Identify an action that serves the interests of both CLIMATE and BIODIVERSITY.

6. Would these actions also prove advantageous for other planetary boundaries?

7. What is the significance of focusing on greenhouse gases and climate change?

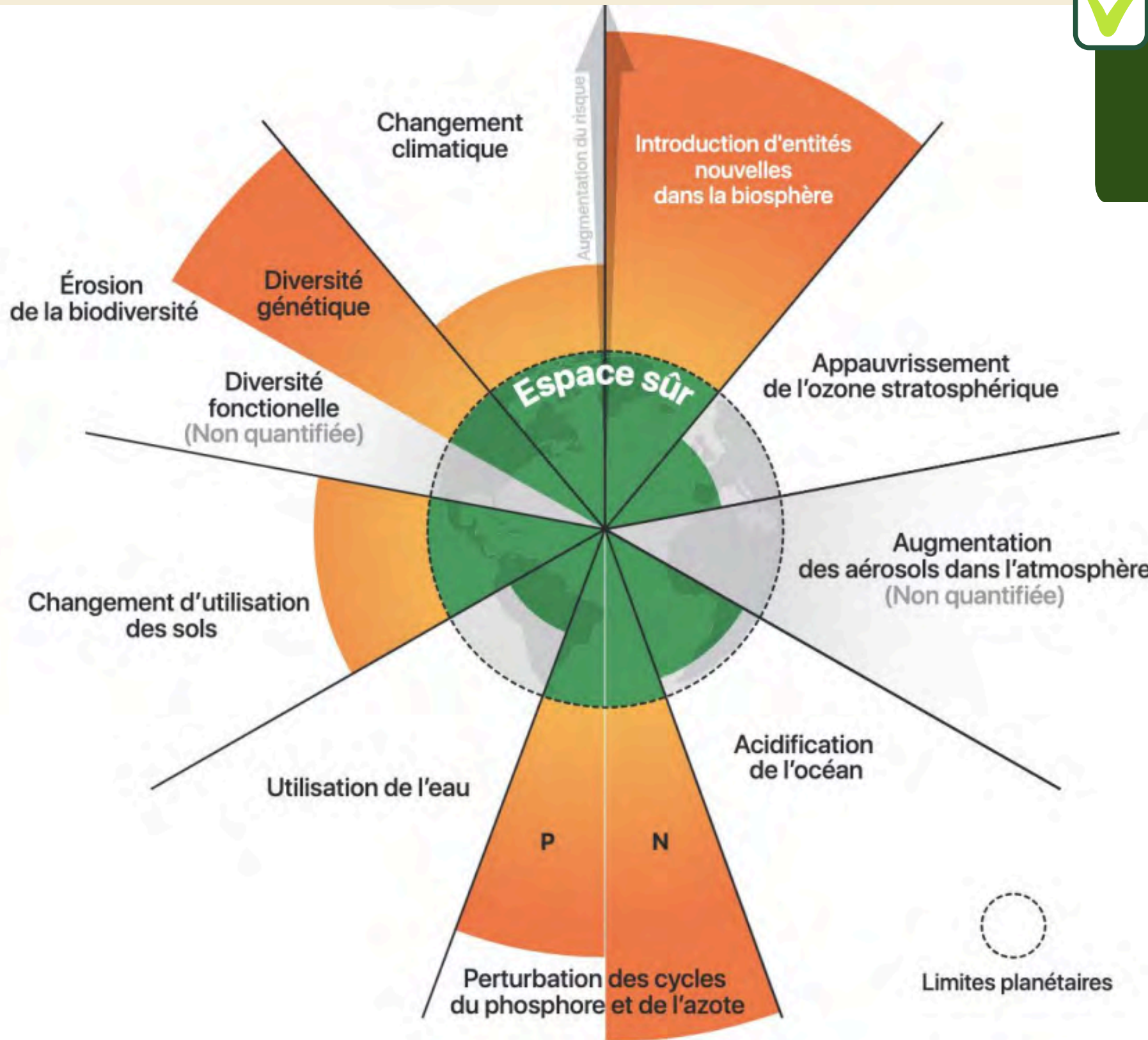
Record your response in your notebook prior to reviewing the answers!



Answer 1 — Planetary Boundaries



Thresholds that must not be exceeded to ensure the stability of the Earth system.



Climate change represents **one of the nine** planetary boundaries delineated by scientists.

Exceeding these thresholds poses a risk of triggering **sudden and irreversible** environmental changes on a global scale.

We have recently surpassed the **seventh** planetary boundary.

2009



3 boundaries crossed

2015



4 boundaries crossed

2023



6 boundaries crossed

Answer 2 — The Doughnut Metaphor (Kate Raworth)



A straightforward representation of the social and ecological factors influencing collective human well-being.

- Altering the objective: the 'Donut' **supersedes GDP growth**.
- Integrating the economy with **society** and the **environment**.
- Nurturing human nature.
- A deeper comprehension of systems is essential to address **dynamic complexity**.
- Redesigning to facilitate redistribution: embodying a distributive approach by design.
- Create to rejuvenate: halt degenerative industrial design.
- To maintain an **agnostic stance** regarding growth.

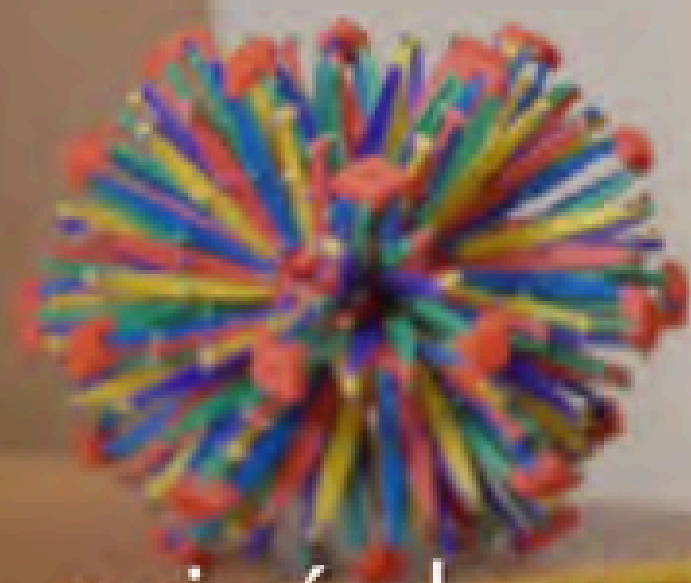


In April 2020, Amsterdam emerged as the inaugural city to adopt its strategy based on the Doughnut model.



Kate Raworth nous explique ce qu'est la théorie du donut, un nouveau modèle écon

Editions Plon



privé de nourriture, d'un logement décent,
de soins, d'une éducation, Watch on YouTube



Answer 3 — What does constitute biodiversity?



Biodiversity encompasses all living organisms and the ecosystems they inhabit. This concept also incorporates the interactions among species and their environments.

The Convention on Biological Diversity, signed in Rio de Janeiro in 1992, acknowledged for the first time the significance of biodiversity conservation for all of humanity.

Biodiversity fulfills **humanity's fundamental requirements**: oxygen, food, potable water, raw materials, and energy.

Answer 4 — Primary cause of biodiversity decline



Habitat destruction is the principal direct cause of biodiversity loss.

Every year, 78,000 km² of forests are destroyed, which is approximately equivalent to the area of a football field every 3 seconds.

When a habitat is destroyed, species are compelled to relocate in search of a new environment or face extinction.

Answers 5 and 6 — Initiatives advantageous for Climate and Biodiversity

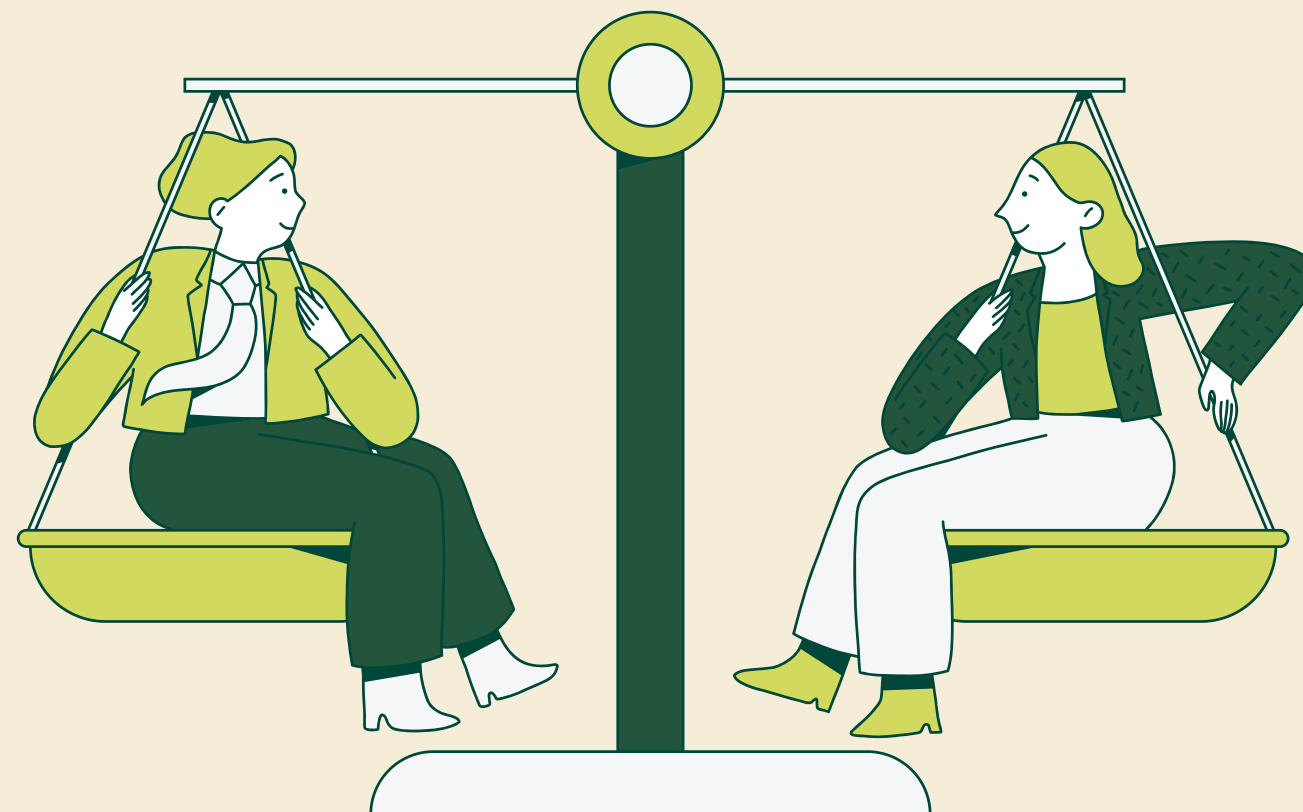


- Rendering fossil fuels perceptible
- Reversing financial investments in banks
- Developing innovative light vehicles
- Establish recycling centers in all locations.
- Minimize the use of chemical fertilizers.
- Initiate citizen conventions focused on food.
- Generalize the Nutri-Score.

These actions also contribute positively to other planetary boundaries, including land use, biogeochemical cycles, and freshwater.

Emerging economic models

Social and Solidarity Economy (SSE), Functionality, Circular Economy, Commons, Collaborative, Regenerative



The Social and Solidarity Economy (SSE)

The social and solidarity economy (SSE) encompasses organizations founded on shared values: social and environmental value, collaboration, community foundations.

Their endeavors are not focused on personal gain but rather on sharing and solidarity for an economy that honors humanity and its environment.

The social and solidarity economy in France:
10.5% of employment in France
•13.9% of employment in the private sector
2.37 million workers
221,325 establishments

The Functional Economy — Restricting Production

A new approach to production and consumption that emphasizes the sale of the service provided by the good rather than the good itself.

The manufacturing firm maintains ownership throughout the product's lifecycle, adhering to environmental principles. This allows the company to generate revenue from its product across various customers, as its lifespan is prolonged. ADEME estimates that more than 150 business leaders have already adopted a functional economy approach.

The Circular Economy — Eradicating Waste

An economic system of exchange and production that seeks to enhance resource efficiency and minimize environmental impact throughout all stages of the product life cycle, while also fostering individual well-being. (ADEME)

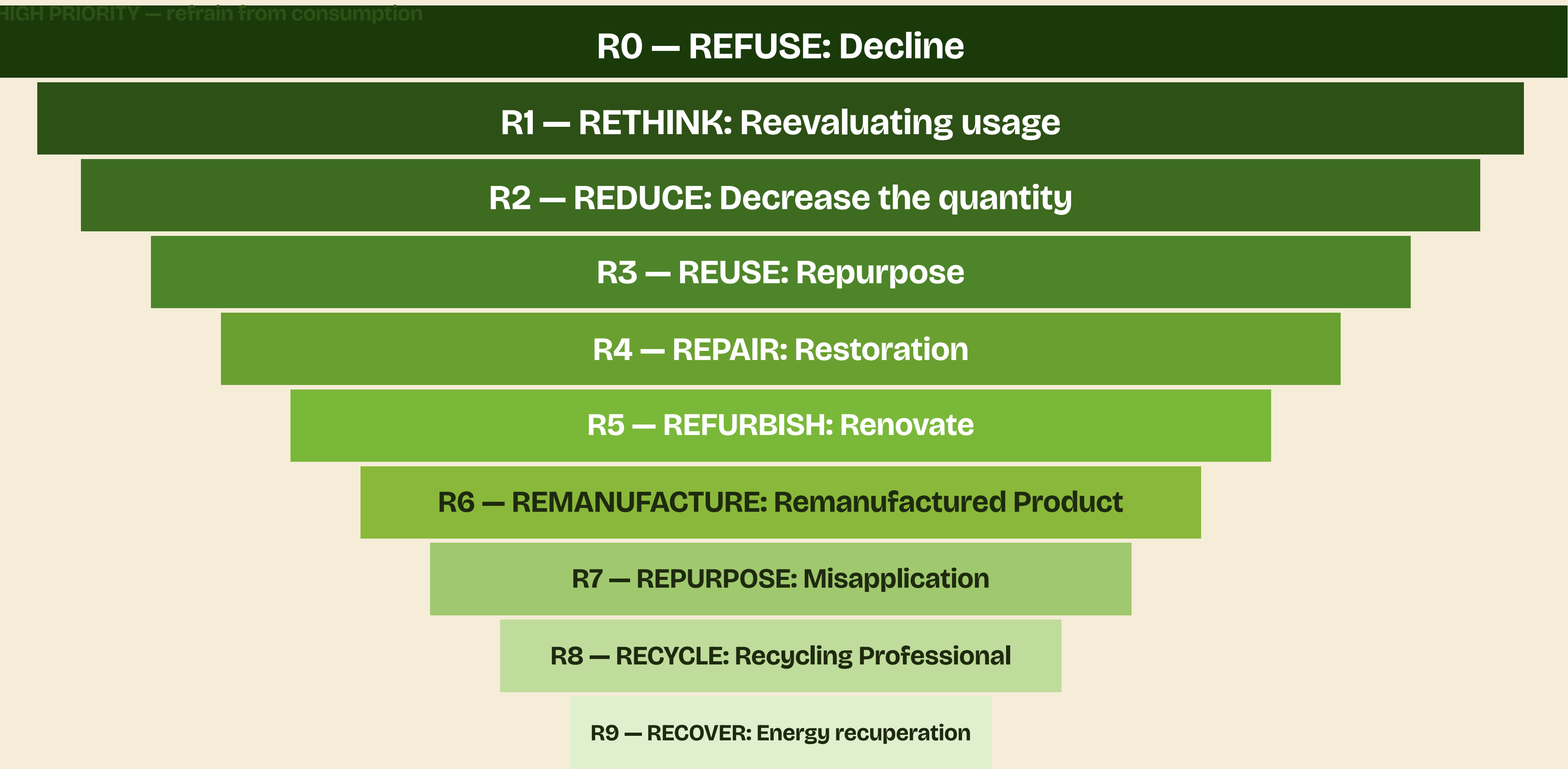
It is founded on three areas:

- The provision from economic agents
- Accountable consumer conduct
- Waste disposal

Total material extraction has more than tripled since 1970 and nearly doubled since 2000, attaining 100 billion tons.

The utilization of virgin materials is projected to attain 190 billion tonnes by 2060.

The 9R Hierarchy — Visualization by Level of Impact



The Commons Economy — Reengaging as an active participant in society

It promotes the collective ownership of resources among its members, representing a third alternative between the market and the state.

Self-organization of communities for the management of shared resources:

- Natural environments (forests, rivers...)
- Asset (property, vehicle...)
- Intangible assets (knowledge, software, internet...)

Common good:

- **RIVAL**: cannot be simultaneously consumed by multiple individuals without disrupting their consumption.
- **INEXCLUDABLE**: it is impossible to prevent an individual from consuming it.

Oslo is employing this model to reclaim its sovereignty.

The Commons Economy — Theorists

Elinor Ostrom (Nobel Prize in Economics 2009): Eight fundamental principles — rules tailored to the local context, cooperation, mutual oversight among users, and graduated sanctions.

Michel Bauwens advocates for the commons economy, emphasizing the free and collaborative generation of knowledge and infrastructure through peer-to-peer interactions. This approach aims to foster a **post-capitalist model** in which the market aligns with the principles of the commons.

Bernard Stiegler theorizes the concept of the **contributive economy**: The individual autonomously identifies and presents their skills to the community. He strives to acquire knowledge, disseminate information, and broaden his collaborative network.

- Backed by contributory revenue (e.g., Plaine Commune initiative)

The Collaborative Economy — Revitalizing our environment

An economy centered on sharing and exchanging goods, services, knowledge, or time, with or without monetary transactions. Interactions occur through a digital platform.

- Private leasing
- Carpooling (BlaBlaCar, etc.)
- Private vehicle rentals (OuiCar, etc.)
- Development of AMAPs (La Ruche qui dit oui, Super Cafoutch...)
- Sales of goods between individuals (Le Bon Coin, Vinted...)

The global market was valued at \$15 billion in 2016 and currently stands at approximately \$335 billion.

Regenerative Economy — Restoring the Environment (1/2)

Economic activities are intricately linked to the ecological and social foundations upon which they rely. If the ecological foundation deteriorates, all aspects are adversely affected.

50% of global GDP is reliant on biodiversity.

Five fundamental principles:

1. Consider the broader implications of climate and embrace complexity.
2. Reestablishing connections with life across the value chain
3. Fundamentally reshape its business model
4. Create product and service offerings that are compatible with living organisms.
5. Centering individuals in organizational transformations

Regenerative Economics (2/2) — Illustrations

"Transitioning to an economy driven by an alternative engine that, rather than disrupting planetary balances, contributes to their restoration and supports ecosystems."

— Isabelle Delannoy, agricultural engineer

- Installation of green roofs and beehives (e.g., Les Terrasses du Port, Marseille)
- Singapore: enhancing biodiversity through green walls and roofs
- Establish gardens within your organization's green spaces.
- Training employees for new roles in the ecological transition (e.g., Pochecho)

New Paradigms

Robustness versus Performance



Fostering Resilience

A concept inspired by nature and a novel guiding framework for organizations.

"Drawing inspiration from living organisms entails cultivating an environment conducive to sustainability, thereby fostering a resilient and harmonious world."

— Olivier Hamant, INRAE Researcher at the École Normale Supérieure in Lyon

Robustness — What is its origin?

A concept inspired by nature and a novel guiding framework for organizations.

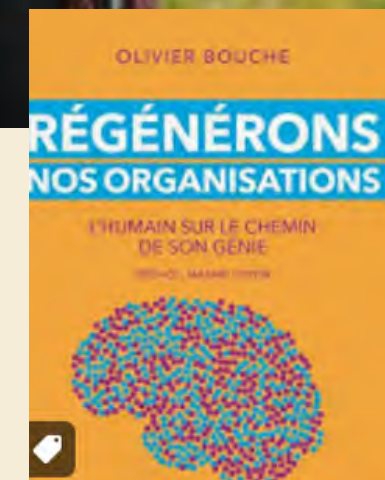
Modern robustness has once again taken center stage due to interdisciplinary collaboration that integrates biology, systems science, neuroscience, and management in response to contemporary crises.

Extensively theorized by Olivier Hamant (INRAE), particularly in:

Antidote to the performance cult

The tertiary mode of existence

Olivier Bouche (Belgian entrepreneur) plays a pivotal role in the dissemination and implementation of Robustness, transitioning from theoretical contemplation to a practical framework for leaders.



Robustness — The cornerstone of research

Physiology (Olivier Hamant): organisms are not optimized for a singular objective. They sustain inconsistencies, losses, slowness, and overcapacities to ensure viability in an unstable environment.

Biology & Ecology: Robert May (stability of complex systems), food webs → diversity and redundancy enhance stability. Contribution: robustness arises from non-optimization, incorporating margins, diversity, slowness, and redundancy.

Complexity sciences (**Prigogine, Morin, Meadows**): non-linearity, threshold effects, interdependencies, structural uncertainty → an excessively optimized system becomes vulnerable to unexpected shocks.

Ecological economics (**Raworth, Jackson**): systems focused exclusively on growth and performance tend to become structurally unstable. Resilience emerges as a strategic guide in a world of limited resources.

Agronomy (INRAE): Sustainability arises from diversity, gradualness, and heterogeneity—not from a singular optimization. (e.g., quantitative resistance, genetic diversity in agriculture)

Robustness: what does it entail?

Robustness refers to a system's capacity to sustain its stability and viability in the face of fluctuations.

Living organisms exemplify **resilience**, having adapted and thrived through 3.8 billion years of fluctuations.

Living systems exhibit **inefficiency, randomness, redundancy, inconsistency, and incompleteness**. In summary, living systems are far from efficient; it is likely within this established suboptimality that their resilience is rooted.

Robustness — Illustrations from Life

Photosynthesis: Yield of 1% compared to 15% for a photovoltaic panel. **Plants squander 99% of the solar energy they absorb.**

Photosynthesis is **not intended to be maximally efficient**; rather, it is designed to **operate effectively under a wide range of conditions**. This exemplifies the essence of a robust principle.

Fever: A regulated increase in body temperature initiated by the immune system as a response to infection. Fever serves as a resilience strategy: the body willingly endures a **temporary decline in performance to enhance its likelihood of survival** when confronted with uncertainty.

In both instances, the system sacrifices **optimal efficiency** to ensure its continuity and **long-term sustainability**.

Our performance wages a battle against life.

**70% of wild animals
have been lost over the
past fifty years.**

**Three concurrent
crises:
Climate · Biodiversity ·
Pollution**

**1.7 times the Earth's
biocapacity is consumed
annually.**

Performance denotes optimal short-term efficiency. This, too, constitutes a form of violence against the system.

A system that is excessively optimized and devoid of margins becomes structurally vulnerable when confronted with shocks.

Resource scarcity, climate change, and the extinction of species are manifestations of a performance-oriented economy.

Performance versus Robustness — The Significant Transition!

LOGICAL EFFICIENCY		LOGICAL ROBUSTNESS
Optimal efficiency	↔	Sustained viability
Optimisation continues	↔	Voluntary non-optimization
Control and Prediction	↔	Adaptation and seasonal variability
Resource exhaustion	↔	Preservation of margins
Short-term perspective	↔	Long-term vision / cycles
Systemic vulnerability	↔	Continuity in the face of disruptions

“Performance is now ephemeral. Resilience is the new strategic compass.” — O. Hamant

Focus — Public Health

The ability of a system or organization to operate sustainably while preserving the equilibrium among its components (human, material, social, environmental).

Physical and mental well-being, prevention of burnout, and the capacity to act and collaborate.

Quality of interactions, solidarity, trust, and cohesion among teams and the community.

Preservation of ecosystems, biodiversity, and minimal ecological impact.

Objective: To sustain a harmonious balance among these three dimensions to ensure resilience and adaptability.

Linking **robustness**: a cohesive strategy fosters stability, responsible innovation, and sustainability in times of crisis.

Resilience — Illustrations in Organizations

Gore-Tex (W.L. Gore & Associates)

- A highly decentralized organization
- Role redundancy
- Robust team autonomy and modularity → Mitigates domino effects and fosters local adaptation

Patagonia

- Incorporation of ecological limitations
- Acknowledgment of supplementary expenses
- Long-term vision, dismissal of short-term optimization → Greater resilience against reputational, social, and climate disruptions.

Buurtzorg (healthcare, Netherlands)

- Highly autonomous, small teams
- Minimal hierarchy, robust modularity
- Very resilient, not easily affected by HR crises

In all three instances, robustness arises from a framework of non-optimization, diversity, and flexibility, rather than an emphasis on maximum short-term efficiency.

Robustness — The Ten Fundamental Principles

1. Intentional **non-optimization** to prevent systemic fragility

Redundancy is essential for maintaining operations in the event of a failure.

3. **Diversity** to enhance adaptability

4. **Flexibility** to accommodate without fracturing

5. **Decoupling** and modularity to mitigate critical dependencies

6. Deliberate **pacing** to prevent systemic errors

7. Ongoing **education** to enhance the system progressively.

8. Continuous **inquiry** to prevent strategic myopia

9. Overall **system integrity** to be maintained in a constrained environment.

10. Embracing **uncertainty** to be equipped without anticipating every detail.

A new compass for companies: Resilience

A company adept at reimagining its structure in response to its vulnerabilities, substituting extractions with interactions, and opting for suboptimality rather than optimization and control. In essence, a company equipped to confront the unpredictable and uncertain world that lies ahead.

"How can one remain relevant, vibrant, and capable of action despite the fluctuations?" — that is the essential inquiry.

The Resilience of the Economic Model

The resilience of the business model demonstrates its capacity to generate value sustainably. A strong business model is sufficiently adaptable to endure market fluctuations, crises, and disruptions.

- It is founded on a diversified, high-quality **value chain** aimed at mitigating the risks linked to addictions.
- It integrates criteria for **social and environmental sustainability**, thereby contributing to 'common health.'
- The organization of costs and prices considers the risks of fluctuation, providing adequate **elasticity**.
- Ensures competitive **distinction** and cultivates enduring **relationships** with customers.

Integrating resilience into your business: 3 steps

Take the time to articulate your problem clearly before seeking solutions. Understood. Please provide the text you would like me to update.

2 — Develop a project that promotes human, social, and environmental well-being → The three dimensions are inherently interconnected. Environmental health serves as the foundation.

3 — Conduct fluctuation tests → Develop fluctuation hypotheses (e.g., a 30% increase in oil prices, site flooding...) and construct scenarios.
If the model successfully navigates the three stages, it will result in a robust business model. Otherwise, one must begin anew.

From adaptation to adaptability

Anticipation → Foreseeing the future and leveraging one's strengths to prepare accordingly.

Adaptability → Leveraging one's weaknesses to cultivate a range of solutions in an unpredictable world.

By not striving for the maximum or even the optimum, suboptimality provides the opportunity to reduce risks and establish resilient systems.

A factory operating at 80% of its capacity retains a margin for potential breakdowns or substantial orders.

Workshop 1

From a culture of performance to resilience

Duration: 20 minutes — Engaging walk with an individual from your organization or affiliated with the project.

Procedure:

- 5 min: attentive listening / succinct speaking (initial role)
- 5 min: exchange roles
- 10 min: overview of your group discussions

Questions for contemplation:

1. Reflect on your past experiences: where did you stand in relation to performance logic? What effects did you observe?
2. Considering the fundamental principles of Robustness, how can you now foster resilience in your life and projects?

Workshop 2

Workshop: Resilience of my organization/project

- **Assess these vulnerabilities and deficiencies.**
- **Enumerate the effects of climate change and biodiversity loss on my organization and the reciprocal influences.**
- **Imagine and construct multiple three-year scenarios, such as how you would endure a financial shock or a human, political, or territorial crisis.**

The Third Laboratory for Transitions — A Dynamic Model of Resilience

For partner organizations, this signifies:

- **A venue to witness resilience in action**
- **A trial environment prior to implementation**
- **A secure environment for testing innovative organizational models**
- **A genuine laboratory, rather than a theoretical one**

Modularity of spaces and services → mitigating domino effects, robust reconfiguration capability

Spaces deliberately made available, capacity to accommodate the unexpected

Increased capacity for adaptation and innovation → diversity of uses and audiences

Shared governance and collective intelligence lead to diminished blind spots and more resilient decision-making.

Climate Transition and Biodiversity

The instruments



Carbon Footprint — What constitutes a Carbon Footprint?

The total greenhouse gas (GHG) emissions produced directly or indirectly by an organization during a specified timeframe.

GHGs quantified: CO₂ (energy, transportation), CH₄ (livestock production), HFCs (air conditioning), N₂O (agriculture)...

The global distribution of emissions encompasses energy production, transportation, industry, agriculture, buildings, and waste.

Why perform a carbon footprint assessment?

Energy efficiency and process enhancement

Cultivating your brand identity and employer brand → Over 90% of consumers prefer brands that demonstrate social responsibility → 2/3 of candidates are attuned to a company's commitment.

Enhancing investor relations →
Mandatory carbon reporting →
Subsidized loans for dedicated companies

Contributing to global emergency efforts → France's targets: -30% emissions by 2030 / -80% by 2050

Addressing customer inquiries → B2B: tenders, references, Ecovadis... → B2C: demands for transparency regarding impact

Respect for and anticipation of regulations
→ Broad implementation of carbon footprint evaluations → Growingly rigorous sector-specific regulations

The trajectory of reduction in France — SNBC

National Low Carbon Strategy (SNBC): sector-specific guidelines to attain reduction targets, with carbon budgets established every five years leading up to carbon neutrality by 2050.

2015-2018: Budget not adhered to → Expenditures on transport and construction were not sufficiently curtailed.

2019-2023: Budget adhered to, primarily as a result of COVID-19.

Progress in: construction, manufacturing, energy transition.
Delays in transportation and agriculture.

How are greenhouse gas emissions calculated?

Formula: Activity data multiplied by Emission factor equals Emissions (kg CO2e)

Source	Data	Postman	Result
Electricity France	1 kWh	0,0607 kg CO2e/kWh	0,061 kg CO2e
Electricity in Poland	1 kWh	0,781 kg CO2e/kWh	0,781 kg CO2e
Natural gas	1 kWh	0,227 kg CO2e/kWh	0,227 kg CO2e
Residential Heating Oil	1 kWh	0,324 kg CO2e/kWh	0,324 kg CO2e

How to Calculate Emissions – Emphasis on Transportation

Transportation method	Data	Postman	Result
Typical automobile	15 km	0,218 kg CO2e/km	3,27 kg CO2e
Moto	15 km	0,076 kg CO2e/km	1,14 kg CO2e
Electric bicycle	15 km	0,011 kg CO2e/km	0,165 kg CO2e
Metro	15 km	0.00274 kg CO2e per passenger kilometer	0,041 kg CO2e

Emissions in g CO2eq per passenger.km: Car > Motorcycle > Electric bike > Metro (Includes vehicle manufacturing. Source: ADEME Carbon Database)

Comprehending the scopes

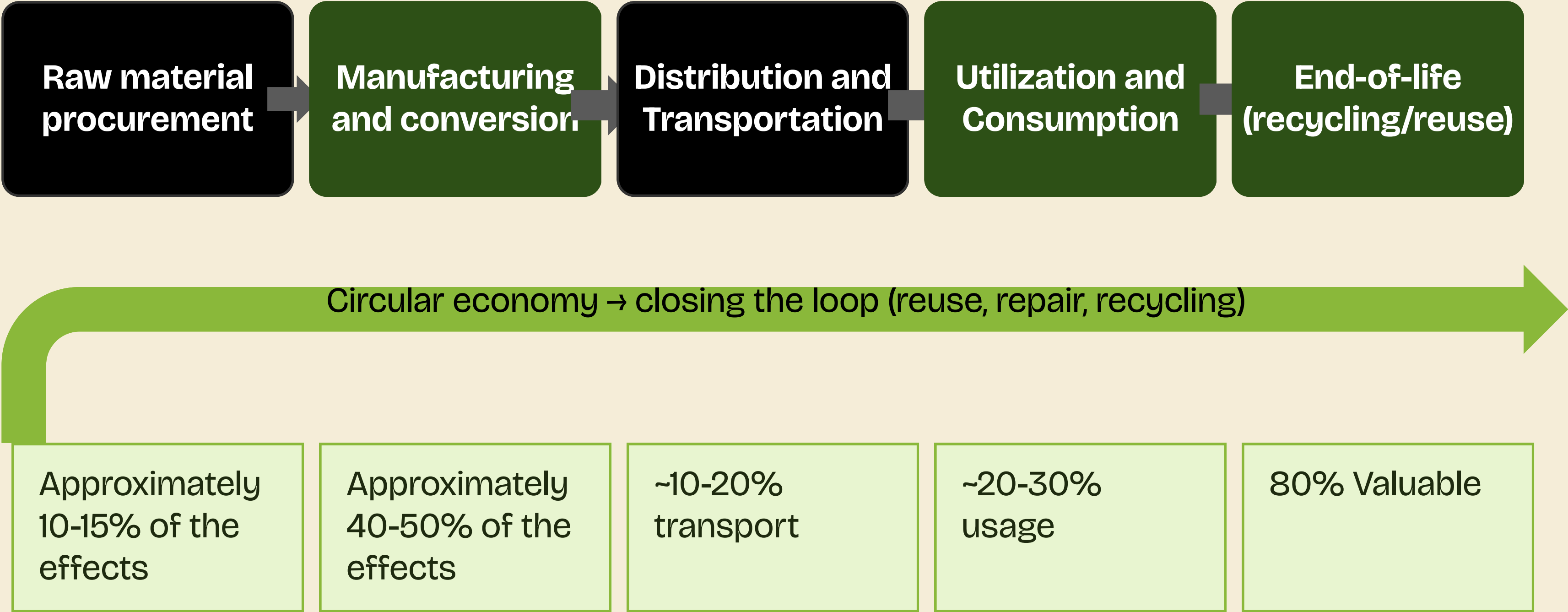
Scope 1: Direct emissions → Combustion of fossil fuels on-site, emissions from company vehicles, refrigerant leaks

Scope 2: Indirect energy-related emissions → Electricity usage, district heating, cooling, steam

Scope 3: All other emissions within the value chain (upstream and downstream) → Acquisitions, transportation of goods, employee commuting, utilization of sold products, end-of-life disposal...

**Scope 1 & 2: emissions associated with activities directly managed by the company.
Scope 3: generally accounts for 70 to 90% of the overall footprint.**

Life Cycle Assessment (LCA) — From cradle to cradle.



Eighty percent of the impacts are established during the design phase—taking action early is consistently more effective.

Understanding Scopes 1, 2, and 3 — Visual Representation

SCOPE 1 Direct Emissions

- On-site fuel sources
- Corporate vehicles
- Refrigerant leaks
- Manufacturing procedures

SCOPE 2 Acquired Energy

- Electricity
- Heat
- Steam
- Cold

SCOPE 3 Value Chain

- Procurement & Vendors
- Cargo transportation
- Employee travel arrangements
- Utilization & conclusion of life
- Investments

Scope 3 generally accounts for 70 to 90% of an organization's overall footprint — this is where significant reductions occur.

Eco-design and Innovative Models



Eco-design: a multifaceted challenge

80% of environmental impacts are established during the design phase.

The amount of information necessary for a Life Cycle Assessment (LCA) escalates over time, while the potential for environmental enhancements diminishes.

Consequently, it is imperative to initiate action as early as possible in the design process.

5 kg CO₂ equivalent per low carbon tire compared to 10 kg CO₂ equivalent for a standard tire.

That amounts to 25 kg compared to 10 kg of CO₂ equivalent for a distance of 5000 km.

Eco-design: via a diagnostic assessment

**Distribution of the influence of the primary components on climate change:
→ Identify the primary sources of environmental impact → Ascertain which
eco-design initiatives to prioritize**

Textile example: transformation processes (dyeing, weaving), raw materials, component transportation, accessories, and transportation of the finished product.

The diagnosis assists in pinpointing the areas of significant impact to effectively channel efforts where they will yield the greatest results.

Example of a tent available at Decathlon

By analyzing the environmental data of the tent:

→ Ascertain the primary sources of environmental impact → Recognize key eco-design initiatives

Distribution of the impact of a tent by its components:

Raw materials and manufacturing processes typically constitute the most significant elements.

This analysis enables the precise identification of areas where actions can be implemented to mitigate the product's environmental footprint.

Eco-design: several examples

Recycled polyester in fleece apparel

'Minimal Waste Design' to minimize material consumption and production waste

Testing the elimination of the dyeing process on 'Undyed Minimal Editions' products.

These strategies contribute to minimizing environmental impact while preserving product performance.

Eco-design: Prolonging Durability

**Extending the lifespan of products is a primary objective of eco-design.
The equilibrium to be achieved: to create a product that endures the longest while minimizing its impact.**

Technical durability → The product exhibits enhanced technical durability → Comprehensive analysis of defects to preemptively address them from the design phase.

Non-technical durability → The product is utilized for an extended period → Mitigating the impact of trends by creating timeless products.

Eco-design: Enhancing Repairability

A design conducive to repair (such as through repairability indices, for instance)

2. Spare parts are available (distributed as extensively as possible to streamline logistics — single repair patch)

3. DIY or workshop repairs are feasible (repair skills, documentation, tutorials)

4. A competitive price that encourages customers to opt for repair instead of purchasing a new product (estimated at a maximum of 30% of the new price).

Eco-design: Recyclability

Complex products that require design modifications to enhance their recyclability!

Recovery and recycling of intricate materials (combinations of materials) to produce new products.

Under evaluation: production of fins and additional product components utilizing recycled materials.

Recyclability should be taken into account from the design phase.

→ Select compatible materials → Enable disassembly at the end of its lifecycle

From eco-design to eco-innovation.

ECODESIGN: Same use, same product
(Optimize — Components & materials,
Product structure) → Optimize to
minimize impact while maintaining use

ECO-INNOVATION: Redefining and
reimagining usage → Service system
(functional economy) → Technological
disparity, novel functions, new product for
identical use

The transition from eco-design to eco-innovation necessitates a reevaluation of the current model and a reimagining of its application.

Scale of change: Component and materials → Product architecture → Similar application, new product → Reconceive the application

Eco-design and economic performance?

The environment is central to product design, as resources are essential for the creation of any product.

The four dimensions: Cost — Environment — Values — Time → The environment as a design constraint among others.

ADEME study (2023): eco-design can align with economic performance and even create competitive advantages.

New models: an ideal opportunity!

Second Life Resale of products previously destroyed or discarded (returned, discounted, tested items), second-hand in retail establishments.

Acquisition of products from our athletes for subsequent resale as second-hand items in-store.

Trocathlon facilitates the resale of second-hand products via a consignment system.

These models contribute to prolonging product lifespan, minimizing waste, and enhancing accessibility to sports for a broader audience.

New models: available for rental!

**'We play circular' — an initiative aimed at becoming the Netflix of sports!
→ Subscription for children's bicycles → Seasonal items (e.g., tent utilized 1 week/year): what is the rationale for purchasing them?**

Renting enhances accessibility to sports while minimizing the creation of new products.

Renting — Quantified Influence

Among our customers, merely 20.2% would have acquired the equipment in the absence of the service.

For 38.6% of customers, this was their inaugural experience in the sport. The Rental department is seeking to recruit new members.

31.9% of customers identify environmental motivation as their primary reason.

The objective is to make sports accessible while minimizing environmental impact!

Workshop

Eco-design, eco-innovation, and novel models

Select three products:

1: Enhance the product manufacturing process.

Eco-innovate a product of your selection.

What innovative models will be employed for its marketing?

Bonus: Which product should you discontinue using?

"We require a model that incorporates planetary boundaries, emphasizes use value, and prioritizes cooperation over competition."

— Jean-Baptiste Fressoz

Managing my climate strategy

The primary phases of the transition



My climate roadmap — The six key steps

1. Collection of data and assessment of the environmental footprint

2. Examination of footprints and identification of reduction levers

3. Establishing reduction trajectories and committing to goals

4. Formulation of an action plan, impact assessment, and prioritization

5. Implementation of transition measures in the field

6. Evaluation and documentation of the resources utilized and their effectiveness in impact mitigation.

What constitutes a climate roadmap?

The series of measures that an organization will implement to enhance its resilience to climate change.

A cohesive strategy, governance, and resources aligned with the aspirations.

Business aligned with a decarbonizing and warming economy.

What does it signify to possess resilience?

Comprehending and addressing climate-related risks.

Liability risks → Claims for damages by individuals who have incurred losses as a result of climate change impacts.
Legal proceedings against Shell and Total.

Impact on the company of a transition to a low-carbon economy.
stricter regulations, market disruption, carbon tax, human resources risk, reputation...

Physical consequences of climate change.
droughts, heatwaves, floods, increasing sea levels...

What measures should be implemented?

Pillar A — Mitigating personal emissions → Executing measures that directly decrease the organization's emissions.

Reducing emissions associated with travel by implementing carpooling.

Pillars B & C — Mitigate emissions from external sources → Commercialize low-carbon solutions or finance low-carbon initiatives beyond the value chain.

Contribute to the enhancement of global natural and technological carbon sinks.

Climate awareness → Enhance awareness among stakeholders (customers, suppliers, employees, etc.). Provide carbon footprint evaluations to your suppliers.

Note: Only Pillar A directly influences the company's carbon footprint.

Focus on Pillar A: reduction.

1 — SOBRIETY: The foremost objective is to diminish the necessity above all else.

2 — EFFICIENCY: Minimize energy consumption and the requirement for raw materials to satisfy demand, once that demand has been diminished.

3 — SUBSTITUTION: Selecting energy and material sources that exert a reduced environmental impact, subsequent to the reduction of demand.

Order of precedence: Sobriety → Efficiency → Substitution.
Sobriety is the most potent lever, yet it is the most challenging to enact.

How can we assist in achieving carbon neutrality?

A company cannot achieve 'carbon neutrality'; rather, it contributes to global carbon neutrality.

- Contributing to its value chain: cultivating its own carbon sinks (direct absorptions) or those associated with its upstream and downstream activities.
- Contributing beyond its value chain: through project financing that seeks to reduce or sequester CO₂.

What objectives should we establish? (1/3)

Absolute reduction target (tCO₂e) → For instance: -50% on scope 1+2 by 2035

Target for intensity reduction → Example: -45% per thousand euros of revenue on scope 3 by 2030

To be credible, the roadmap must align with a 1.5°C trajectory or remain well below 2°C.

The anticipated global efforts involve a definitive reduction in emissions of approximately 5% to 7% annually.

Warning: be sure to consider the anticipated growth of the company (Business As Usual scenario).

What objectives should be established? (2/3) — Regulatory references

FIT for 55: The European objective of reducing net emissions by a minimum of 55% by 2030 relative to 1990, with the aim of attaining carbon neutrality by 2050.

In France, the SNBC encompasses two primary ambitions:

- Attain carbon neutrality by 2050
- Decrease the carbon footprint of French consumption. It establishes distinct objectives by sector (e.g., -97% by 2050 for transportation).

The Science-Based Targets initiative (SBTi) delineates the reduction targets that a company may establish to align itself with the Paris Agreement.

What objectives should we establish? (3/3) — SBTi

The Science-Based Targets (SBT) initiative delineates the reduction targets that a company may establish to align with the Paris Agreement.

The annual CO2 emission scenarios are linked to a variation in global surface temperature from 2081 to 2100 in comparison to the period of 1850 to 1900.

Each trajectory represents a specific level of reduction effort to be attained.

What actions should be undertaken? (1/2) — Illustrations by role

Responsible purchasing policies, eco-designed inputs (bio-based, recycled/reused), functional economy...

Mitigating the impact of freight → Biofuels, electric vehicles, eco-driving, maritime shipping instead of air transport, lighter products, extended delivery times, optimized loading...

Mitigating the effects of travel → Public transportation, carpooling, electric bicycles, remote work, policies prohibiting air travel...

What actions should be undertaken? (2/2) — Illustrations by role

**Decarbonizing facilities →
Programmable thermostats, insulation
improvements, premium renewable
energy agreements...**

**Reducing the impact of packaging →
Minimize packaging usage, prioritize
reusable packaging, and utilize
sustainable materials (recycled paper,
bio-based materials)...**

Engaging with your portfolio companies, assessing carbon scores for each investment, and implementing carbon exclusion criteria.

Prioritize based on the carbon footprint:
→ Identify the primary sources of emissions (e.g., meat purchases account for 55% of the BC, gasoline sales represent 22% of the BC).

Real-world illustration — Thalys (a subsidiary of SNCF)

SBTi 2008-2020 objectives: to decrease CO2 emissions per passenger-kilometer by 41.4% → Result: carbon emissions reduced by half over a decade (-25kt CO2e, or -56%)

- 100% wind energy in the Netherlands since 2017 (certificates of origin)
- All trains have operated on 100% renewable energy since 2020.
- Acquisition of sustainable materials to substitute single-use plastics (-2.7t of plastic/year)
- Decrease in energy usage for illumination, heating, and air conditioning.
- Digital Ticketing Transformation
- Enhancing offers to maximize train occupancy

Evaluating the carbon footprint of the initiative (1/2)

Step 1: Prioritize based on the Carbon Footprint → The pilot as a climate expert. An overview of the primary sources of emissions.

For each transmission line, select from the following options:

- Simplicity and Efficiency: reduction in volume
- Efficiency and Substitution: Decreasing Carbon Intensity

1 kg of beef purchased → 33 kg CO₂e / kg of beef purchased → 33 kg CO₂e to mitigate.

Step 2: Evaluate the carbon impact of the action → Identify the category or categories of emissions affected → Be mindful of the rebound effect!

Evaluating the carbon footprint of the initiative (2/2)

Establish a realistic objective grounded in the current circumstances and envision the carbon footprint.

Substituting certain meats with plant-derived proteins.

- Maximum potential: -100% in the Purchasing > Meat category
- The attainable target is established at 28% by 2030 (Not all meat can be substituted — consumer acceptance)

Given that plant-based proteins have a lower carbon footprint, this initiative facilitates a significant reduction in scope 3 emissions.

Step 3 — Assess the financial implications of the action

Capital Expenditures (Investments)
Investment costs necessary for implementation.
€100/m² of thermally upgraded surface area.
Ineffective for demonstrations of sobriety.

OPEX (Operating Expenses / Savings) →
Cost reduction initiatives
→ frequently entails a decrease in operating expenses.
savings of -€11.2/m² (at a price of €100/MWh).

ROI
Return on investment duration.
After nearly nine years, the renovation project achieves profitability.

It offers a preliminary viewpoint, albeit solely from a financial perspective.

Step 4: Prioritize actions according to their carbon and financial impact.

Step 5 — Prioritize based on organizational constraints

The pilot as a facilitator.

- **Implementation challenges** (immediate gains versus business model transformation)
- **Stakeholder acceptance of the action** (e.g., employee travel, low-carbon food supply)
- Study and implementation **schedules**
- Project team **availability** → consistently maintain an internal project manager
- Integrate both **short-term and long-term strategies** to sustain momentum.
- Balancing the company's limitations with a **forward-thinking approach** to climate initiatives.
- Step 6: **Iterate** over time — incorporate actions and adjust the ambition in response to contextual changes.

Workshop — 2030 Trajectory and Prioritization

1. Assess the carbon footprint: pinpoint the highest-emitting sectors and establish achievable targets for 2030.
2. Identify possible levers for action
3. Place the actions on a cost/impact matrix and prioritize three actions.
4. Formulate an action plan by identifying the three most pertinent actions.
5. (Bonus) Assess whether you are meeting your objectives.

Governance and Reporting

Expedite action and transition



Organizations that are lagging behind on their commitments

93% of large corporations that have pledged to reduce their greenhouse gas emissions are currently lagging in fulfilling their climate commitments.

Taking action continues to be complex, and reporting will become increasingly rigorous (#CSRD).

Only 5% of companies...

Only 5% of companies possess a viable decarbonization strategy to comply with the Paris Agreement, which seeks to restrict global warming to +1.5°C.

CDP

Three actions to implement governance that expedites the transition.

1. Engage all members of management and stakeholders → Each individual has a role to fulfill: CEO, CFO, COO, CI, CP, CHR

- Propel the transition, disseminate expertise
- Elevate environmental strategy to the same level as business strategy.
- To assume responsibility for impact data
- Facilitate the professional advancement of employees (training, recruitment)
- Proactively fund the transition
- Establish a responsible procurement policy

2. Empower field teams with decision-making authority.

The teams tasked with implementing actions on the ground must possess the capability to manage their own climate roadmap to achieve the objectives.

3. Create a collaborative decision-making process.

From recognizing levers to implementing concrete actions

- **Engaging the business teams** to evaluate the feasibility of the proposed initiatives.
- Modeling the **environmental and financial impacts** of actions
- Formulating **internal business cases** for each initiative (ROI, etc.)
- Alignment with **achievable ambition levels and timelines** for each action.
- Prioritizing the **action plan** according to simulations of various scenarios.
- Final approval of the budget and investment strategy
- Implementation of **transition actions** in the field
- Promote and communicate **small steps** both internally and externally!

**"If we adhere to our societal model, it will result in
global bankruptcy."**

— Pierre Rabhi

Managing a Circular Economy Initiative

Life Cycle · Objectives · Indicators · Sector-Specific Examples & Budget



Transitioning from a linear economy to a circular economy

Linear economy: Extract → Produce → Consume → Discard

→ The prevailing model since the Industrial Revolution. Depletes resources and generates waste.

CIRCULAR Economy: Design → Produce → Use → Recover → Regenerate

→ Maintain resources in circulation for as long as possible, preserving their highest value.

Key metrics:

- The extraction of materials has increased threefold since 1970, reaching 100 billion tons per year.
- A mere 7.2% of the global economy is circular (2023)
- 1.7 times the Earth's biocapacity utilized annually

The three foundational principles of the Ellen MacArthur Foundation (EC)

Eliminate waste and pollution from the design stage → Avoid waste generation and pollution from the product/service design stage.

2. Circulate products and materials at their maximum value → Reuse, repair, refurbish, and remanufacture prior to recycling.

3. Regenerate natural systems → Actively engage in the restoration of natural capital (soil, water, biodiversity).

The 9R Hierarchy — Ranked from highest to lowest priority

R0 — Refusal — Decline the utilization of an ineffective resource or product.

R1 — Rethink — Reevaluating usage (e.g., rental versus purchase, product versus service)

R2 — Minimize — Decrease the amount utilized or generated

R3 — Reuse — Repurpose the product in its current form (donation, resale)

R4 — Maintenance — Maintenance to prolong durability

R5 — Renovate — Renovate, restore

R6 — Remanufacturing — Remanufacturer (components reintegrated into production)

R7 — Repurpose — To redirect from the initial application

R8 — Recycle — Transform recyclable materials into new products.

R9 — Recovery — Valuing energy as a final option

The lifecycle of the EC project — The six phases

1. Diagnosis → LCA, material flow analysis, supplier assessment, industry benchmarking

2. Design → Sustainable design of product/service, selection of materials, design for reparability and recyclability

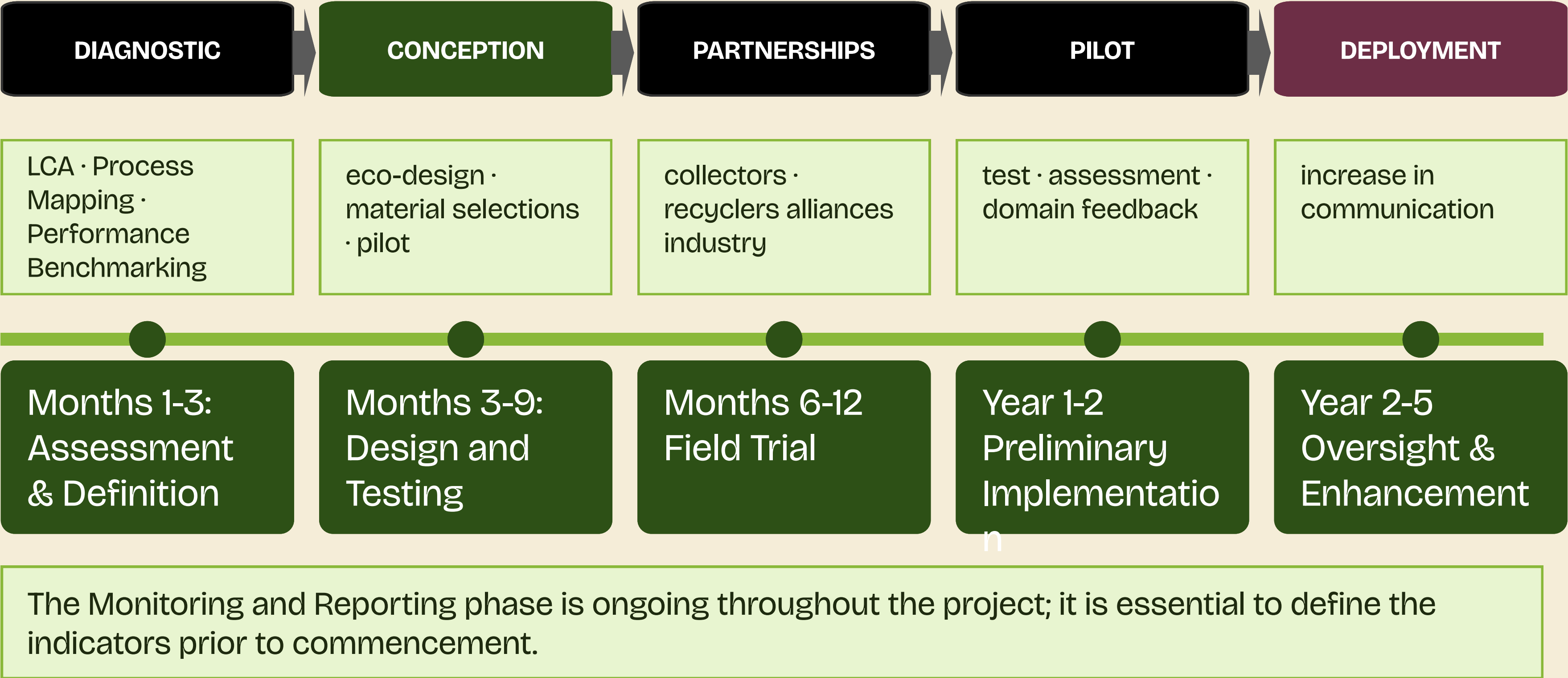
3. Partnerships → Identification of collectors, recyclers, and repairers; collaborative pilot projects; sector alliances.

4. Pilot → Limited testing, assessment of real-world effects, field feedback, modifications

5. Deployment → Expansion, communication, team training, open dialogue

6. Monitoring & Improvement → Impact assessment, ongoing enhancement cycle, objective evaluation, CSRD

Circular Project Roadmap — Executive Summary



Establishing attainable objectives — SMART+I framework

S — Specific: Which material flow? Which product? What is the scope?

M — Measurable: What indicator will be used? (t CO2e avoided, kg recycled, % reused...)

A — Achievable: Considering the available resources and the present market conditions.

T — Timeframe: What is the projected timeframe? (e.g., -30% by 2027)

R — Realistic: Aligned with the organization's strategy.

+ I — Impact: what environmental and social effects are anticipated?
How can it be measured? (Carbon Footprint, LCA, Ecovadis, GRI, CSRD...)

Recycle 80% of the plastic packaging in our food range by 2027 (-15t plastic/year) through a collaboration with Citeo and a local collection network.

SMART+I Method — For Circular Project Goals



Specific

What flow? What product?
What is the precise perimeter?



Measurable

Which metric?
(tCO2e, kg recycled, %...)



Achievable

Considering the resources at hand



Realistic

Aligned with the strategy and the regulations.



Temporal

What horizon exists?
Understood. Please provide the text you would like me to update.



Impact

What are the quantifiable environmental and social impacts?
How should it be reported? (Carbon Footprint, LCA, Ecovadis, CSRD...)

Recycle 80% of plastic packaging (-15t/year) through Citeo by 2027, with a documented impact of -12 tCO2e/year reflected in the CSRD balance sheet.

Objectives across various temporal levels

Strategic objectives (3-5 years) → 'Attain 50% recycled content in our products by 2028' → 'Initiate a rental and repair service by 2026'

Tactical objectives (1 year) → 'Educate all R&D teams in eco-design' → 'Analyze the material flows of our five flagship products' → 'Establish three collection and recycling partnerships'

Operational objectives (quarter) → 'Finalize the LCA of product X by March' → 'Conduct pilot repairs on 200 returned units' → 'Assess the return rate for the new take-back program'

Key: align the three levels — each operational objective must support the strategic objective.

Circular Performance Indicators — Dashboard

Dimension	Key Metrics	Examples of objectives
Environmental	tCO2e mitigated, kg of materials repurposed	-30% CO2 Scope 3 / 2027
Circular	Reuse rate, reparability index	80% of products are repairable / 2026
Economic	Cost avoidance, return on investment, secondary life revenue	-€50k/year virgin materials
Social	Employment generated in the local EC, contentment	20 local repair positions
Regulatory	Ecovadis rating, CSRD adherence, DPP	CSRD reporting confirmed for 2025

Stakeholder management in a circular initiative

A circular project encompasses new stakeholders: collectors, recyclers, repair professionals, reuse participants, regulators, end-of-life consumers...

Upstream (suppliers) →
Sustainable materials →
Transparency regarding components →
Dissemination of LCA data

Internally (teams) →
Research and Development, production, marketing, finance, Human Resources → Circularity impacts all functions →
Educate and enhance awareness

Downstream (clients and collectors) → Return initiatives → Collection and recycling collaborations →
Dissemination of best practices

Key tool: stakeholder mapping based on levels of influence and interest.
Identify the individuals who must be involved, consulted, and informed at each phase.

Tools for overseeing a circular project

Circular Business Model Canvas → Adaptation of the BMC: material flows, collection and recycling partners, circular costs, and revenues.

Transition roadmap → A 3-5 year plan encompassing milestones, dependencies, budgetary considerations, and impact indicators.

Impact/feasibility matrix → Position each action based on its carbon impact and ease of implementation, beginning with the 'quick wins'.

Short cycles (4-6 weeks) of testing, measurement, and adjustment. Appropriate for pilot phases.

Life Cycle Assessment (LCA) → Assesses impacts from 'cradle to cradle'. Identifies critical impact areas to prioritize interventions.

Key success factors for a circular initiative

- 1 Robust political backing: an advocate at the executive level who champions the project in financial deliberations.
- 2 Dedicated project manager: internal, trained in EC, with allocated dedicated time.
- 3 Measure from the outset: establish environmental KPIs prior to initiation, rather than subsequent to it.
- 4 Sectoral alliances: collaborating with other industry participants to consolidate resources (collection, recycling)
- 5 Transparent communication: disseminate even imperfect results — credibility arises from transparency.
- 6 Patience and resilience: outcomes are typically observed within 3-5 years. Resist short-term pressures.

Sector-specific circular challenges

Fashion · Culinary · Construction · Transportation · Digital

Fashion and Textile Sector — Circular Challenges

Challenges:

- 92 million tons of textiles discarded annually
- Only 1% of textiles are recycled on a fiber-by-fiber basis.
- Extended Producer Responsibility (EPR) for textiles in France has been in effect since 2007 (Refashion)

Opportunities:

- Fiber-to-fiber recycling (innovative technologies)
- Functional economy: leasing, subscription
- Resale and consignment sales
- Eco-design: monomaterial, colorant-free
- Decathlon: 20.2% would not have made a purchase without the option to rent.

Inspiring Case — Patagonia:

- Worn Wear Repair Service
- Pre-owned product return initiative
- Long-term vision, rejection of short-term optimization

Food and Agriculture Sector — Circular Challenges

Challenges:

One-third of the food produced worldwide is wasted.

- **Plastic packaging: 40% of worldwide production**
- **Food systems: 26% of global greenhouse gas emissions**

Opportunities:

- Recovery of food waste (composting, biogas production)
- Sustainable or compostable packaging
- Concise supply chains, community-supported agriculture (CSA), sustainable institutional catering
- Food upcycling (beers crafted from stale bread)
- Too Good To Go: Over 350 million meals saved

Inspiring Case Study — Pocheco (Envelopes):

- Planting trees to mitigate the impact
- Bio-based materials, closed-loop
- Training employees for new transition jobs → **Comprehensive transformation of the industrial model**

Construction and Public Works Sector — Circular Challenges

Challenges:

The construction sector accounts for 50% of waste in Europe.

- **40% of energy usage in the EU**
- **PMCB representative in France since 2022**

Opportunities:

- Rehabilitation instead of demolition and reconstruction
- Positive Energy Buildings (BEPOS)
- Reutilization of construction materials
- Materials passport (building = materials repository)
- Modular and disassemblable construction

Inspiring Case Study — Interface (Carpet Tiles):

- 'ReEntry' program: collection of decommissioned slabs
 - Closed-loop recycling since 1995
- 'Mission Zero' objective accomplished in 2020 → Benchmark model for EC in materials**

Mobility and Industry Sector — Circular Challenges

Challenges:

- EV batteries: cobalt, lithium, rare earth elements — essential sourcing
- Decommissioning of wind turbines and solar panels
- 80% of automotive components are not recycled for their value.

Opportunities:

- Second-life batteries: repurposing for stationary storage
- Remanufacturing automotive components
- Shared mobility: bicycles, scooters, car-sharing
- Sustainable infrastructure design

Inspiring case study — Renault Re-Factory (Flins):

- First electric vehicle automotive factory in Europe
- 4 activities: repurposing, remanufacturing, recycling, energy recovery
- Objective: 50% of employment in the circular economy by 2030 → Industrial transformation model towards circularity

Digital and Services Sector — Circular Challenges

Challenges:

- **Digital technology: 4% of global greenhouse gas emissions (on the rise)**
- **53.6 million tons of electronic waste (2019)**
- **Intentional obsolescence of equipment**

Opportunities:

- **Renovation (Backmarket: 10M+ customers)**
- **Prolonged lifespan (extended updates)**
- **Sustainable software design, environmentally friendly IT, digital minimalism**
- **Shared cloud versus dedicated servers**
- **Software as a Service rather than hardware**

Inspiring Case — Fairphone:

- **Modular smartphone, repairability index 9.3 out of 10**
- **Spare parts will be available for 8-10 years.**
- **Transparent supply chain → Evidence that hardware sustainability is achievable**

Five questions to contextualize the circular challenge within your sector.

1. Where is the most significant accumulation of waste or loss within the value chain of my sector?
2. Which essential resource (energy, water, material) is the most endangered or the most costly in my business?
3. Who possesses the data on material flows? With whom must I collaborate to close the loop?
4. What regulations will be implemented in the next three years, and what opportunities do they present?
5. Which competitor has implemented a circular approach? What insights can I gain from their experience?

Problem statement: 'How can [actor] [circular action] to achieve [benefit] in [context]?'

Third Places and Living Labs Sector

Applying EC to territorial innovation and collaborative environments

Third Places and Living Labs — Why Distinguish This Sector?

A third place exemplifies circularity:

→ Consolidation of spaces, equipment, and expertise → Resource efficiency through collaboration and sharing → Robust local foundations: streamlined supply chains for personnel and materials

3,500+ Third Places in France (2024) → 10% of employment in the social economy is associated with these spaces → Existing local co-working project incubators

Living Lab = living laboratory for experimentation → Co-design with users → Rapid prototyping in real-world environments → On-site impact evaluation → Dissemination of validated solutions

The GreenLab Erasmus+ program trains managers of green Living Labs, precisely at the intersection of project management, European Commission initiatives, and territorial innovation.

Circular Challenges of Third Places and Living Labs

Particular challenges:

- Hybrid economic model — challenges in financing the sustainable transition without prioritizing short-term optimization
- Significant reliance on public subsidies — susceptibility to political fluctuations
- Elevated user turnover rate — challenges in implementing sustainable circular practices

Circular opportunities:

- Integrated reuse centers and repair cafés
- Fabrication Laboratory utilizing recycled or repurposed materials
- Communal kitchen: food waste reduction
- Urban horticulture and communal composting
- Impact events: waste reduction, carbon offsetting
- Collaboration in the use of tools and equipment among residents

Beneficial regulations:

- Social and Solidarity Economy Act (2014): promotes SCICs and SCOPs
- Multi-sector Extended Producer Responsibility applicable to communal areas
- Third Places Label: sustainability standards
- ADEME and regional project calls

Inspiring case study — Third-Lab for Transitions (Marseille):

- 6,000 m² of green space and educational gardens
- Eco-training, auditory excursion, repair café
- SCIC: shared governance, one person equals one vote → A dynamic model of circular resilience

Implementing circular project management in a third place

1. EC DIAGNOSIS of the site → Chart the flows of energy, water, waste, and materials. Identify the three most significant areas (e.g., heating 45%, food waste 30%, travel 15%).

2. SMART+I OBJECTIVE → For example: 'Achieve a 50% reduction in coffee food waste by 2026 (-3t/year, -1.5 tCO₂e) through a local composting partnership.'

3. STAKEHOLDERS → Residents, users, municipal authorities, waste management providers, local zero-waste grocery stores, and sponsoring companies — identify and engage from the design phase.

4. PILOT & MEASUREMENT → Conduct a three-month trial: measure waste weight, quantify compost, assess user satisfaction. Make adjustments prior to full site implementation.

5. DISTRIBUTING → Record the model for additional Third Places within the network. Develop a replicable 'Third Place EC Kit'.

Exercise 1

My Third Place / Circular Living Laboratory

- 1 Map the three primary flows of your Third Place (energy, waste, water, food, etc.).
- 2 Identify the circular opportunity with the greatest impact (e.g., composting, repair café, tool sharing).
- 3 Articulate your SMART+I objective for this project, considering an 18-month timeframe.
- 4 Identify three local stakeholders to engage and their respective roles.
- 5 Envision the process of documenting and disseminating this project to other Living Labs within the GreenLabs network.

Exercise 2

Mapping the circularity of my organization.

- 1 Select a product or service from your organization.
- 2 Determine your current position within the 9Rs framework.
- 3 Identify two opportunities for advancement by one or two levels.
- 4 Identify the challenges and an initial strategy to address them.
- 5 Utilize the five sector-specific diagnostic inquiries.
- 6 Articulate your circular problem statement.

Exercise 3

Developing the strategic plan for my circular project

- 1 Define one SMART+I strategic objective with a 3-5 year horizon.
- 2 Divide it into two strategic objectives for the upcoming year.
- 3 Identify the five priority tasks for the upcoming three months.
- 4 Identify three indicators: one environmental, one economic, and one social.
- 5 Identify the three primary stakeholders and delineate their respective roles.
- 6 Place your actions within an impact/feasibility matrix.

A sample response can be found in the attached document.

Quiz — Circular Project Management

The accurate response is indicated in green.

The '+I' in SMART+I signifies:

Indicator
✓ Impact
Innovation
International

3. The outcomes of a circular project are evident:

In three to six months
In one year
✓ Within 3 to 5 years
Never

2. The frequently undervalued phase in an EC project:

The design.
✓ Diagnosis and Monitoring
The implementation
La communication

4. What proportion of waste is produced by the construction sector in Europe?

20%
35%
✓ 50%
65%

Quiz — Advanced Circular Economy (1/3)

Correct answer highlighted in green ✓

1. The European Union's circularity target for 2030 encompasses:

- 25% secondary materials
- 30% reuse rate
- ✓ Doubling of the circularity rate (from 7.2% to approximately 14%)
- 50% waste reduction

3. Life Cycle Assessment (LCA) measures:

- CO2 emissions exclusively
- ✓ The effects of extraction at the end of life
- The production expense
- ESG ratings

2. Under which pillar does the CSRD mandate reporting on the EC?

- S (Social)
- G (Governance)
- ✓ E (Environmental — circular economy)
- None of the three.

4. The 'Cradle to Cradle' principle signifies:

- From inception to recycling
- ✓ From cradle to cradle: complete waste elimination
- From conception to sale
- From provider to consumer

Quiz — Advanced Circular Economy (2/3)

Correct answer highlighted in green ✓

1. The functional economy offers:

- The completed product
- ✓ The utilization of the good (not the good itself)
- Reclaimed raw materials
- Sustainable financial services

2. The present global circularity rate is approximately:

- 25%
- 15%
- ✓ 7,2%
- 50%

3. The 'rebound effect' in economics refers to:

- The retrieval of used products
- ✓ Heightened consumption that negates benefits
- The resurgence in commodity prices
- Consumer resistance

4. A 'Digital Product Passport' encompasses:

- The sale price
- ✓ Traceability of materials and their impacts throughout the life cycle
- Client information
- The insurance policy certificate



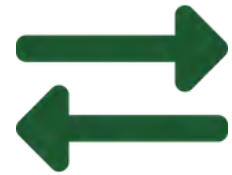
Mixed financing · Externalities · Innovative management · Oversight

BUDGETARY SPECIFICS IN CIRCULAR ECONOMY



Extended duration

The initial investments are considerable (research and development, equipment, reverse logistics), yet the savings emerge over a span of three to ten years. The budget should reflect a multi-year perspective.



Nonlinear flows

Revenues are derived from incoming material flows (collection, reuse) and outgoing flows (sale of recycled materials, energy). These flows are variable and require modeling.



Multi-stakeholder

The project encompasses private, public, and non-profit partners, each employing varied financial strategies. The budget must accurately represent these diverse contributions and obligations.



Systemic influence

A portion of the value generated is non-monetary, encompassing the reduction of externalities, local employment, and the resilience of territories. The budget alone is insufficient for assessing performance.

PUBLIC-PRIVATE BUDGET CONFERENCE

PUBLIC FINANCING

ADEME, regional, and ERDF grants

→ Initial financing and research & development

European Cohesion Funds (ERDF, ESF+)

→ Organizing investments

ANCT/ANRU project solicitations

→ Territorial anchorage

BPI / CDC Guarantees

→ Obtaining financing

EC-critical public procurement

→ Assured employment prospects

SYNERGIES



PRIVATE FINANCING

Sustainable venture capital / sustainable private equity

Growth equity, equity stakes

Green bonds

→ Long-term funding

Impact of bank loans (ESG)

→ Bonus rates in accordance with EC criteria

Corporate Sponsorship and Philanthropy

→ Corporate Social Responsibility, tax-deductible contributions

Revenue from the sale of goods and materials

→ Circular self-funding

Key: to associate each source with the corresponding project phase (initiation -> deployment -> consolidation) and the type of expenditure (investment vs. operating expenses)

NON-FINANCIAL EXTERNALITIES

Assessing social and environmental impact beyond the profit and loss statement

SOCIAL IMPACT

- **Jobs created and sustained**
Direct and indirect full-time equivalents
- **Job Quality**
Permanent contract rates, compensation, terms
- **Professional integration**
Percentage of individuals distanced from employment
- **Revenue for regions**
Local multiplier effect (SROI)
- **Access to resources**
Cost-effective pricing, financial relief for families

vs.

ECOLOGICAL INFLUENCE

- **Tons of CO₂ mitigated**
Scope 1, 2, 3 – ACV comparison
- **Resources conserved**
m³ of water, kWh of energy, t of virgin materials
- **Diverted materials**
Tons diverted from landfill/incineration
- **Conserved biodiversity**
TNFD metrics, soil/water impact
- **Circularity of materials**
Reuse, recycling, and recovery metrics

MANAGING YOUR BUDGET WITH CREATIVITY AND INNOVATION



Integrated budget (four capitals)

Simultaneously managing financial, human, natural, and social capital. Each budgetary decision is assessed according to its four impacts.



Zero Waste Budget (ZWB)

Each line item is aligned to zero, making it ideal for identifying expenses without an EC value and reallocating them accordingly.



Adaptive and Agile Budgeting

Quarterly reviews instead of annual assessments. Immediate reallocation based on incoming material flows and commodity prices.



Multi-stakeholder participatory budgeting process

Beneficiaries, communities, and partners collaboratively establish priorities, thereby enhancing legitimacy and fostering local ownership.



Monetizing externalities.

Incorporate a hypothetical value for CO₂ emissions avoided (internal carbon price), water conservation, and jobs generated into the dashboard.



Financial innovation

Impact bonds, results-oriented contracts (SIB/SEB), European crowdfunding platforms, territorial tontines.

BUDGETARY OVERSIGHT INDICATORS

Do not underestimate the expenses associated with starting a business.

Collection, sorting, reverse logistics, and certification—pre-revenue expenses may extend from 12 to 24 months. It is essential to plan for robust working capital and emergency reserves.

Minimize reliance on subsidies.

A sustainable economic model must attain equilibrium through its own revenues. Public subsidies serve as accelerators, not replacements for viability.

Anticipating fluctuations in commodity prices

The prices of recycled plastics, metals, and paper are subject to fluctuation. Formulate high and low scenarios along with hedging strategies, such as long-term contracts and price indices.

Managing cash flow, rather than solely focusing on the P&L

Discrepancies between expenses and revenues—such as collection time, processing, and resale—can lead to liquidity crises, even in projects that are profitable over the long term.

Document externalities from the beginning.

Frequently assessed retrospectively, a data collection system should be integrated into the project from the design phase to ensure accurate reporting.

Clarifying financial governance among multiple stakeholders

Who determines reallocations? Who ensures commitments? A financial agreement between public and private partners mitigates conflicts in the event of unforeseen circumstances.

Be cautious of budgetary greenwashing.

Presenting EC indicators without grounding them in actual flows presents both reputational and regulatory risks (CSRD, anti-greenwashing legislation). Traceability is essential.

Designate a budget explicitly for impact assessment.

Evaluating impact incurs expenses (surveys, LCAs, audits). This budget is frequently neglected, yet it significantly influences access to specific funding and the project's credibility.

An effective EC budget is dynamic, transparent, multi-dimensional, and is consistently evaluated in collaboration with all partners.

EXERCISE — CASE ANALYSIS

20 min

ReCycle 84 Association

The ReCycle 84 association intends to establish a textile recycling center in the Vaucluse region. It has identified three funding sources: a €60,000 ADEME grant (seed funding, non-renewable), an €80,000 BPI loan over five years (2.5% interest rate), and projected annual revenue of €45,000 starting in the second year (from sales of collected clothing and upcycling training). The total project budget over three years amounts to €310,000.

FINANCIAL DATA (excerpt)

Expenditure category	Year 1	Year 2	Year 3
Rent and local charges	18,000 EUR	18,000 EUR	18,000 EUR
Salaries (2 Full-Time Equivalents)	60,000 EUR	65,000 EUR	65,000 EUR
Equipment (sorting, washing)	55,000 EUR	8,000 euros	5,000 EUR
Communication and Training	12,000 EUR	9,000 euros	7,000 euros
Proprietary revenue (sales)	0 EUR	45,000 EUR	55,000 EUR

QUESTIONS FOR GROUP DISCUSSION

- Is the model sustainable? Calculate the total deficit over three years after accounting for all revenues.
2. What supplementary source(s) of funding would you recommend to address the gap?
3. Identify two positive extra-financial externalities of this project and the methods for valuing them for a funder.

SELF-DIAGNOSIS: FINANCIAL MATURITY OF MY EC PROJECT

Score /30

< 15: to be integrated
15-24: developing > 24: established

Please evaluate honestly: 1 = not at all · 2 = partially · 3 = yes, in effect

		1	2	3	TOTAL
VISION	My project includes a financial plan that spans a minimum of three years and incorporates various scenarios.	☐	☐	☐	
VISION	Initial investments and the timeframes for return on investment are established.	☐	☐	☐	
FUNDING	I have identified a minimum of three complementary funding sources (public, private, and revenue).	☐	☐	☐	
FUNDING	I am aware of the phase of the project associated with each source of funding.	☐	☐	☐	
IMPACT	My project assesses a minimum of two additional financial indicators, either social or environmental.	☐	☐	☐	
IMPACT	These indicators are incorporated into my reports and grant applications.	☐	☐	☐	
PILOTING	My budget is evaluated at least quarterly in collaboration with key partners.	☐	☐	☐	
PILOTING	I possess a dashboard that consolidates both financial and material flows.	☐	☐	☐	
RISKS	I analyzed the volatility of commodity prices and incorporated precautionary reserves.	☐	☐	☐	
RISKS	Financial governance, delineating decision-making authority, is formalized among all partners.	☐	☐	☐	

Score 25-30: Congratulations — share your strategies! | Score < 15: Collaborate with your team to identify the two priority areas to strengthen before pursuing new funding.

The EC Project Director or Manager

Embody, Train, Oversee & Connect

The transition begins with the individual.



Why must the EC pilot exemplify these values?

"You cannot navigate a transition that you have not initiated within yourself."

Systemic change commences with individual transformation. The EC pilot serves as the inaugural ambassador of the model he advocates.

Credibility and exemplary conduct → Your teams and stakeholders recognize your consistency. An EC pilot who flies weekly or produces waste indiscriminately conveys a conflicting message.

Energy & inspiration → The ecological transition necessitates perseverance. A leader who is profoundly convinced and aligned with their values is more adept at surmounting challenges and inspires their teams to follow suit.

Personal resilience → Effectively navigating the uncertainties of an EC project necessitates a robust foundation. Understanding your core values and the motivations behind your actions serves as the most effective safeguard against discouragement.

The EC pilot profile — Competencies & Attitude

It encompasses not only technical expertise but also an entire mindset.

Knowledge (Know)

- Principles of EC and the Nine Rs
- Regulations (CSRD, REP, etc.)
- Life Cycle Assessment and impact evaluation
- Sustainable business frameworks
- Circular project administration

Expertise (Do)

- Chart material flows
- Define multi-dimensional key performance indicators.
- Conduct participatory workshops
- Establishing sectoral partnerships
- Convey the outcomes (even if flawed)

Soft skills (Being)

- Alignment between words and actions
- Inquisitiveness and lifelong learning
- Humility amidst complexity
- Personal resilience and fortitude
- Capacity to engage and motivate

The EC pilot serves as a translator, rendering complexity accessible, fostering desirable change, and enabling action for all stakeholders in his vicinity.

His personal transformation — The four dimensions

CONSUMPTION TRANSITION → Minimize personal impact (food, transportation, purchases). Aim for progress rather than perfection, emphasizing consistent and transparent decision-making.

2. TRANSITION OF PROFESSIONAL POSTURE → Incorporate impact criteria into daily decision-making: selection of service providers, organization of meetings, travel policy, and management of office waste.

3. INNER TRANSITION → Engaging with one's relationship to uncertainty, gradualness, and imperfection. The ecological transition resembles an arduous marathon—acquiring the ability to act in the face of eco-anxiety.

4. RELATIONAL TRANSITION → Broaden your network: engage with transition agents, innovators, and diverse communities. Enrich your perspective through interactions beyond your typical comfort zone.

"Be the change you wish to see in the world." — Gandhi → In practice: initiate one tangible action each month. Record it. Share it.

Exercise — EC Pilot Self-Evaluation

Rate yourself on each item from 1 (never) to 5 (always):

I am aware of my personal carbon footprint and am seeking to minimize it.	1	2	3	4	5
My professional decisions consistently integrate an environmental criterion.	1	2	3	4	5
I consistently engage in training to address the challenges of the transition, at a minimum of once per month.	1	2	3	4	5
I am diligently observing advancements in green innovations within my sector.	1	2	3	4	5
I am a member of at least one ecological transition network.	1	2	3	4	5
I communicate openly regarding both my achievements and my limitations.	1	2	3	4	5
I nurture my personal resilience in response to eco-anxiety and complexity.	1	2	3	4	5

Regular training — On which topics?

The EC pilot must uphold a current level of proficiency in five essential areas.

Climate and Biodiversity

Carbon footprints, IPCC, planetary boundaries, biodiversity, regulations (CSRD, DPEF, EPR...)

Circular Economy

9R, LCA, circular design, innovative economic models (functionality, commons, regeneration...)

EC Project Administration

SMART+I, strategic framework, multi-faceted indicators, sector partnerships, sustainable agile methodologies

Innovation

Fab Labs, Living Labs, biomimicry, sustainable technology, ethical artificial intelligence, regenerative economy

Leadership and Posture

Collective intelligence, nonviolent communication, facilitation, personal resilience, and the management of eco-anxiety.

Recommended pace: one comprehensive training course or piece of content per month; one conference or event per quarter; one certification or extended program per year.

Training — Suggested Tools and Formats

Participatory Frescoes (2-3 hours): Climate Fresco, Biodiversity Fresco, Circular Economy Fresco, Digital Fresco, Food Fresco → Engaging participatory formats for comprehending systems and enhancing team collaboration.

MOOCs and online courses

- ADEME: bilans-ges.ademe.fr, Circular Economy Massive Open Online Course
- Coursera / edX: TU Delft (Circular Economy), Ellen MacArthur Foundation
- Sciences Po: Management of Transitions
- GreenLab Erasmus+: irfedd.fr/greenlabs

Readings and Podcasts

- Books: O. Hamant 'Antidote', Kate Raworth 'Doughnut Economics'
- Podcasts: Green Business, Thinkerview, Présages, Vlan!
- Newsletters: ADEME Watch, The Shift Project, B Lab France
- Journals: Journal of Cleaner Production, Sustainability

Valuable certifications: Ecovadis Assessor, ISO 14001 Lead Auditor, B Corp Champion, SBTi Practitioner, Climate Fresk Facilitator

Remaining knowledgeable about sustainable innovation

How to prevent overlooking the trends that will transform your industry

Why is the monitoring of green innovation essential?

The field is evolving rapidly: new regulations, emerging technologies, and innovative economic models have transformed what was once deemed impossible two years ago into a prevailing standard today.

Distinguishing authentic innovation from greenwashing necessitates continuously updated expertise. An EC leader who remains uninformed may inadvertently endorse poor practices due to insufficient knowledge.

Staying informed nurtures creativity → The most innovative ideas often originate from diverse sources: a model from the textile industry can inspire culinary advancements, while a practice from the Netherlands can revolutionize a communal space in Marseille.

An EC pilot who remains informed about the latest global initiatives, emerging startups, and forthcoming regulations instills confidence in their stakeholders.

Objective: 30 minutes of daily monitoring = 1 article · 1 newsletter · 1 inspirational post → A monitoring agenda constitutes a professional competency.

Establishing Your Monitoring System — A Pragmatic Approach

STEP 1 — Identify your 3-5 key monitoring themes → For example: 'EC in my sector', 'EU regulations', 'green technological innovation', 'sustainable finance', 'Living Labs & Third Places'

STEP 2 — Selecting Your Sources

- Newsletters: The Shift Project, I4CE, ADEME Watch, Novethic, B Lab, Greenbiz, Circulate News (EMF)
- Aggregators: Google Alerts (keywords), Feedly (RSS feeds), LinkedIn (organizations & professionals)
- Podcasts: Presages, Green IO, Impact, Vlan!, The Circular Economy Podcast

STEP 3 — Arrange & distribute

- Curation tools: Notion, Pocket, Wakelet
- Compile a monthly press review for your team.
- Publish one article per week on LinkedIn accompanied by your analysis.
- Establish a collaborative library within your organization

STEP 4 — Transforming Monitoring into Action → For each identified trend: document the potential impact on your organization and specify a concrete action for further investigation.

Key intelligence sources – The fundamentals to monitor

Regulations and Policies

- Official Journal of the European Union (EC directives, CSRD)
- ADEME News: ademe.fr
- I4CE (Institute for Climate Economics)
- The Shift Project: theshiftproject.org

Innovation and Research & Development

- Ellen MacArthur Foundation: ellenmacarthurfoundation.org
- EMF Newsletter (Circulate News)
- GreenBiz: greenbiz.com
- MIT Climate Portal: climate.mit.edu
- Bloomberg New Energy Finance (energy)

Third Places and Living Labs

- France Tiers-Lieux: francetierslieux.fr
- ENoLL : enoll.org
- GreenLab Erasmus+
- Network of Professional and Technical Certification Entities
- Impact France: impactfrance.eco

Startups and scale-ups verticals

- Bpifrance: bpifrance.fr/secteur-vert
- Hello Tomorrow (deeptech verte)
- Clean Technology Republic
- Green Initiatives at Station F
- FrenchTech Climate Initiative

Influential Professionals to Connect with on LinkedIn

- Olivier Hamant (resilience)
- Kate Raworth (Doughnut)
- Nicolas Hulot, Cyril Dion
- Timothy Gutner (Circulate News)
- The teams from ADEME, I4CE, and The Shift

Unmissable Annual Events

- Convergences World Forum (September)
- One Planet Summit
- Congress of Third Places
- Salon Produrable (Paris)
- Conference on Circular Economy

Why become a member of transition networks?

Leading a transition project within an organization can be a solitary endeavor. Networks provide peers who comprehend your challenges and can assist you in overcoming them.

Accelerate collective learning → A network disseminates both errors and achievements. What might require a year of solitary learning can be imparted by a network in a single meeting.

Collection partnerships, co-innovation, resource pooling, European projects, and access to funding: the most promising opportunities frequently emerge within networks.

Influencing ecosystems → A solitary EC pilot exerts minimal systemic influence. Conversely, an EC pilot linked to five networks has the potential to revolutionize entire sectoral practices.

The fundamental principle of transition networking is to give before you receive. Share your resources, insights, and connections—reciprocity will follow organically.

Key Networks to Join — By Category

EC Networks and Sustainable Development

- Institute for Circular Economy (membership)
- Zero Waste France
- European Commission Referent Network (ADEME)
- Alliance for the Future of Industry
- Impact France Initiative

Third Places and Social Innovation

- Third Places in France
- PTCE Network (Territorial Hubs for Economic Collaboration)
- ENoLL — European Network of Living Labs
- GreenLab Erasmus+ Consortium
- Unicorns and Cooperatives

ESS & Finance Resilient

- CRESS (Regional Chambers of Social and Solidarity Economy)
- Finansol (solidarity finance)
- Mouves (movement of social entrepreneurs)
- B Corporation Community France
- Sustainable Entrepreneurship Alliance

Professional and industry-specific networks

- Committee 21 (Sustainable Development)
- Canopée Network (training)
- CJD (Center for Emerging Leaders)
- MEDEF Environmental Transition
- Professional associations within your sector that have a sustainable development committee

Digital Communities

- LinkedIn Groups: Circular Economy France, Ecological Transition
- Slack/Discord: Climate Fresk Community, Collective Intelligence
- Reddit: r/sustainability, r/circular_economy
- GreenLab Erasmus+ Community Forum

Gradually engaging in networks — 4 levels

LEVEL 1 — Observer (months 1-3) → Subscribe to industry newsletters and LinkedIn profiles → Engage in complimentary webinars and events online → Review disseminated publications and reports

LEVEL 2 — Participant (months 3-6) → Become a member of a local or industry network → Attend an in-person event (conference, workshop) → Introduce yourself and cultivate 3-5 meaningful LinkedIn connections

LEVEL 3 — Contributor (months 6-12) → Present your experience at a network meeting (10-minute presentation) → Compose an article or post regarding an initiative within your organization → Volunteer to co-facilitate a Mural or workshop for the network

LEVEL 4 — Ambassador (2+ years) → Participate in a steering committee or working group → Co-lead a collaborative project or initiative → Establish expertise in a specific sector or region within the network

My individual action plan

EC Pilot — Embody, Train, Monitor, Engage

This week

- Assess my individual carbon footprint (ADEME calculator)
- Subscribe to two selected monitoring newsletters
- Identify one local network to join

This month

- Create a Climate or Environmental Mural — as a contributor
- Distribute one monitoring article to my team.
- Reach out to a network member for a 30-minute discussion.

This fiscal quarter

- Attend one in-person networking event
- Initiate my internal monthly press review
- Successfully finish one online training module (MOOC or certification)

"Transition is a journey rather than a destination. Begin now, even if imperfectly."

What You Have Learned — Summary

Climate & Biodiversity Fundamentals → Assessment, orders of magnitude, planetary limits, Donut

Social and solidarity economy, functional, circular, commons, collaborative, regenerative.

Resilience → Ten principles, practical examples and organizations, workshops, and a robust business model.

Tools → Carbon Footprint, scopes 1/2/3, Life Cycle Assessment, eco-design, strategic roadmap, Corporate Sustainability Reporting Directive

EC project management → 9R, lifecycle, SMART+I, indicators, sector-specific case studies, budget, and incentives: embody the transition!

Key Resources — Circular Economy

Essential publications

- Ellen MacArthur Foundation — Advancing a Circular Economy (v1, v2, v3) — complimentary
- ADEME — Guide to Eco-Design of Products — Complimentary
- Circular Economy Handbook (Accenture) — free
- Institute for the Circular Economy — Circularity Index in France

Complimentary online resources

- Circular Design Guide (IDEO + EMF): circulardesignguide.com
- Circular Economy Fresco: lafresquedeleconomiecirculaire.com
- ADEME Carbon Base: base-empreinte.ademe.fr
- Ecovadis: ecovadis.com (Corporate Social Responsibility assessment)
- GHG Assessment Pro: bilans-ges.ademe.fr

Virtual training programs

- MOOC on Circular Economy — EC Institute + ADEME
- Coursera: 'Circular Economy — Sustainable Materials Management' (Delft University of Technology)
- edX: 'Innovation and Entrepreneurship in the Circular Economy'
- GreenLab Erasmus+: irfedd.fr/greenlabs
- Climate Fresk Facilitator: fresqueduclimat.org

Networks and Certifications

- Institute for Circular Economy (ICE)
- Ellen MacArthur Foundation Network
- Zero Waste France
- Revamp (REP textile)
- Citeo (REP packaging)
- ADEME Circular Economy Label
- BCorp

Resources — EC and Living Labs Project Management

Sustainable project administration

- Project Management Institute (PMI) — Guide to Sustainable Practices
- ADEME — Project Management Manual for Transition
- Methodologies: Agile for Sustainability, PRINCE2 Green
- Sciences Po Paris — MOOC 'Transition Management'

Third Places and Living Labs

- France Tiers-Lieux: francetierslieux.fr
- ENoLL (European Network of Living Labs): enoll.org
- Canopé Network — educational materials
- MIT Media Lab — frameworks for Living Lab
- GreenLab Erasmus+: irfedd.fr/greenlabs/resources

EC and PM scientific publications

- Journal of Cleaner Production — articles available open access on EC
- Sustainability (MDPI) — peer-reviewed, open-access journal
- Resources, Conservation, and Recycling (Elsevier)
- Journal of Industrial Ecology — industrial symbiosis & CE

Industry metrics and standards

- Eurostat — Statistics on Waste and Circularity in the EU
- CGDD — data from France (Commission for Sustainable Development)
- Circularity Gap Analysis
- CDP — worldwide corporate carbon data
- Ecovadis — industry-specific CSR benchmark

Resources for additional exploration

Key Publications

Ellen MacArthur Foundation — Advancing the Circular Economy

- **ADEME — Eco-design Manual (complimentary)**
- **Olivier Hamant — 'Countermeasure to the Cult of Performance'**
- **Kate Raworth — 'Doughnut Economics'**

Digital resources

- **Circular Design Guide (IDEO + EMF): circulardesignguide.com**
- **Carbon Assessment (ADEME): bilans-ges.ademe.fr**
- **ADEME Carbon Base: base-empreinte.ademe.fr**
- **Ecovadis: ecovadis.com**

Supplementary training

- **MOOC on Circular Economy — Institute of Circular Economy**
- **Organizational Resilience Training — External Laboratory**
- **Climate Fresk and EC Fresk**
- **GreenLab Erasmus+ Training**

Networks and Communities

- **Institute for Circular Economy (France)**
- **Ellen MacArthur Foundation Network**
- **Influence France**
- **Third Places in France**
- **CRESS and Resource Network**

Thank you and best wishes for a successful transition!

Driving Sustainable Innovation and the Circular Economy Transition



Co-funded by the
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Module 5 - Knowledge Check

Green-Lab Training Program - Project Management for Sustainable Innovation and the Circular Transition

Participant name: _____ Date: _____

Instructions: This short questionnaire checks your understanding of Module 5. It covers climate & biodiversity fundamentals, emerging economic models, resilience, carbon footprint tools, and circular economy project management. For multiple-choice questions, write the letter of the correct answer. Open questions can be answered in a few sentences. Estimated time: 15-20 minutes.

Part 1 - Climate, Biodiversity & Economic Models

1. Roughly what percentage of global CO2 emissions is France responsible for? (1 point)

- A. Less than 2%
- B. Between 2% and 5%
- C. More than 5%

2. Which of the following is NOT one of the economic models for the ecological transition covered in this module? (1 point)

- A. The Functional Economy
- B. The Commons Economy
- C. The Speculative Economy
- D. The Regenerative Economy

Part 2 - Resilience & Robustness

3. In your own words, what is the key difference between a “performance” logic and a “robustness” logic for an organization? (2 points)

4. According to the module, why do living systems (e.g. photosynthesis, fever) sacrifice short-term efficiency? (1 point)

- A. Because they lack the capacity to optimize
- B. To preserve margins and ensure long-term viability under fluctuations
- C. Because efficiency is not a relevant concept in biology

Part 3 - Measuring & Managing the Carbon Footprint



5. Which emissions scope typically represents 70 to 90% of an organization's total carbon footprint? (1 point)

- A. Scope 1 (direct emissions)
- B. Scope 2 (energy-related emissions)
- C. Scope 3 (value chain emissions)

6. Rank the three reduction levers below from 1 (first) to 3 (last). (1 point)

- Rank _____. Substitution - choosing lower-impact energy/materials
- Rank _____. Sobriety - reducing needs at the source
- Rank _____. Efficiency - reducing consumption for a given need

Part 4 - Circular Economy Project Management

7. What does the “+I” stand for in the SMART+I framework used to set circular-economy objectives? (1 point)

- A. Indicator
- B. Innovation
- C. Impact
- D. International

8. In the 9R hierarchy, which action sits at the top priority (before even Reduce or Reuse)? (1 point)

- A. R0 - Refuse
- B. R3 - Reuse
- C. R8 - Recycle
- D. R9 - Recover

9. Roughly what share of a product's total environmental impact is determined at the design phase? (1 point)

- A. About 20%
- B. About 50%
- C. About 80%

Part 5 - Financing, Governance & the EC Pilot

10. Name two different funding sources (public or private) mentioned for circular economy projects, and one non-financial impact indicator (social or environmental) that should accompany the budget. (2 points)



Answer Key

For the facilitator - not to be distributed before the questionnaire is completed

1. France's share of global CO2 emissions -> A - Less than 2% (~1%)
2. Economic models of the transition -> C - The Speculative Economy (not covered)
3. Performance vs. Robustness -> Performance = optimal short-term efficiency, control, resource exhaustion. Robustness = voluntary non-optimization, preserved margins, long-term viability under fluctuations.
4. Why living systems sacrifice efficiency -> B - To preserve margins and ensure long-term viability
5. Share of footprint from Scope 3 -> C - Scope 3 (value chain)
6. Order of reduction levers -> 1. Sobriety, 2. Efficiency, 3. Substitution
7. Meaning of "+I" in SMART+I -> C - Impact
8. Top of the 9R hierarchy -> A - R0 - Refuse
9. Share of impact set at design phase -> C - About 80%
10. Funding sources & non-financial indicators -> Public: ADEME/regional/ERDF grants, BPI/CDC guarantees, public procurement. Private: impact investment, green bonds, ESG bank loans, sponsorship, self-funded sales. Non-financial indicators: tCO2e avoided, jobs created, reuse rate, resources conserved, etc.

**THANK YOU FOR YOUR
PARTICIPATION!**

GREEN LABS PROJECT

The GREEN LABS project aims to support and stimulate the green transition by promoting innovation and greening of VET systems through internationalization, exchange of practices, and knowledge sharing among partners, in accordance with the Osnabrück Declaration of 2020 on vocational education and training for sustainable competitiveness, social fairness and resilience.

