

# SETTING UP A PROJECT OF TOURIST AND TERRITORIAL ECOLOGY (TTE)

Practical guide

**Recommendations based on feedback  
from Hauts-de-France**



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**ADEME**

20, avenue du Grésillé

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Technical coordination - ADEME : METREAU Eliane

Direction/Service : Direction Régionale Hauts-de-France

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Eliane METREAU (ADEME Hauts-de-France)  
Marie TISON (ADEME Hauts-de-France)  
Patrick ALFANO (ADEME Hauts-de-France)  
Caroline DEJONGHE (Région Hauts-de-France)  
Régis VAN DE KERCKHOVE (Région Hauts-de-France)  
Virginie RENARD (Région Hauts-de-France)  
Vincent HERBERT (Université du Littoral Côte d'Opale)  
Anna PAILLET (Communauté d'agglomération Baie de Somme)  
Laurent LEBLOND (Communauté d'agglomération Baie de  
somme)  
Xavier MENNESSON (Association Baie de Somme Zéro Carbone)

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## Summary

The increasing pace of global warming and its effects highlights the need for all organizations to review their working patterns. Tourism must undergo fundamental transformations in order to be more resilient in technical, economic and health aspects. This resilience requires a controlled consumption of flows but also an optimized use of local resources to limit its vulnerability to external crises. The tourism sector has yet to integrate the logic of a circular economy into its activities.

Territorial tourism ecology is a new concept, which consists in getting tourism stakeholders to cooperate in order to massify the circular economy along the tourism value chain. Inspired by territorial industrial ecology, territorial tourism ecology (TTE) aims, through collaboration, to optimize resources in a given tourist area, whether it be energy, water, materials, waste, but also equipment and expertise, knowledge and human resources.

To be classified as a TTE project, a project must correspond to a pooling of resources, services or materials between several stakeholders of the territory or of a sector. This pooling must limit environmental impacts, improve the economic competitiveness and attractiveness of the territories and must involve stakeholders of the tourism value chain.

The TTE implements operating procedures that can lead to three categories of actions (which can be cumulative): resource substitution synergies, resource or service pooling synergies, innovative activities.

This practical guide of recommendations based on feedback from Hauts-de-France presents and defines the concept of territorial tourism ecology (TTE) and illustrates it through examples of projects implemented in different tourism sectors: catering, pleasure boat management and circular bicycle routes. Recommendations on different aspects of implementing a TTE project are also discussed.

The information presented in this guide is based on the synthesis and analysis of projects supported by ADEME in Hauts-de-France over a two-year period and foreign projects studied as part of the cross-border Interreg project FACET (*Facilitate the Adoption of Circular Entrepreneurship in the Tourism and leisure sector*). This project aims to encourage entrepreneurs in the tourism sector to implement circular solutions within their businesses, thus creating new sustainable revenue models.

TTE can take many forms and involve a wide range of different stakeholders (tourist offices, restaurateurs, accommodation providers, shopkeepers, local authorities, tourists, etc.). Consequently, there are as many configurations of TTE projects as there are volunteer project leaders. Any tourism stakeholder is welcome to seize this concept to pool resources (means, services, materials) between tourism stakeholders of the same territory. It is by seizing this circular logic that tourism will limit its ecological impact while improving the economic competitiveness of the stakeholders and the attractiveness of the territory.

# Presentation and context of the guide

## 1.1. Tourism: a sector with a high ecological impact

Tourism has been growing steadily around the world, at an average rate of over 4% in recent years. According to the World Tourism Organization, there will be 900 million travelers worldwide in 2022 (1.4 billion in 2018, pre-pandemic COVID). **95% of tourists concentrate on 5% of the world's territories with serious consequences:** congested roads, pollution, waste, overconsumption of water and energy, decline in the quality of life of inhabitants, loss of biodiversity, degradation of monuments.

For more than 30 years, **France has been the world's leading tourist destination in terms of the number of visitors, with nearly 90 million international tourists.** According to the World Tourism Organization, tourism accounts for 2 million jobs nationwide, or 7.8% of salaried jobs and about 8% of GDP.

The tourism sector in the Hauts-de-France represents a real potential for attractiveness, particularly because of the diversity of the offer, combining sites of great environmental, cultural, historical and recreational interest. It represents 80,000 jobs (4.2% of total employment<sup>1</sup>), for 6.5 billion euros of consumption (4% of regional GDP) for nearly 13 million visitors and 10 million overnight stays from April to September 2022.<sup>2</sup> This is why ADEME Hauts-de-France takes a particular interest in this sector of activity.

Tourism is a key sector for the regional and French economy, but it is also a sector with a strong environmental impact. A study published in *Nature Climate Change* in June 2018 estimates tourism emissions at 8% of global GHG emissions. In France, tourism is responsible for 11%<sup>3</sup> of greenhouse gas emissions, mainly via transportation, accommodation and restaurants. Tourism is a seasonal activity, leading to a strong annual variation in resource flows: annual water consumption in tourist areas is 211% higher than in non-tourist areas and annual energy consumption is 287%<sup>4</sup> higher, while waste production in tourist areas is 27% higher than the national average.

The tourism sector is facing structural challenges: development of tourism infrastructures, recruitment difficulties and lack of attractiveness of professions and careers, investment in digital technology, construction of an ecological transition path. The sector still has a lot of room for improvement on this last point, whether it is to reduce its environmental footprint or to adapt to climate change.<sup>5</sup>

## 1.2. The need to leave the linear model of the tourism value chain

The tourism sector is largely organized in a traditional linear economic model, in which resources are harvested, used and disposed of. These linear practices call into question the ability of tourism to generate long-term sustainable benefits for tourism regions and all those who inhabit them.

In order to change this, it is necessary to visualize the tourism value chain: it can be broken down into primary and secondary activities acting in a transversal manner (see Table 1), which feed each other to form a service offer specific to the territory under consideration<sup>6</sup>.

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1 INSEE - 2019

2 Exceptional tourist numbers thanks to French customers - INSEE 2022

3 Greenhouse gas emissions from the tourism sector in France, ADEME 2021

4 "The tourism function of territories: pressure factor or environmental preservation?" - MTES, 2017 Deviation measured against the national average - Water: data in m<sup>3</sup>; Energy: gas and electricity in MWh per capita; Waste: household and similar waste in kg per inhabitant

5 Strategy for the transformation of the tourism sector 2023-2025, ADEME 2023

6 Building a "sustainable tourism" value chain in a territory: an approach based on the actor-network theory. Corinne Vand Der Yeught, 2016

Table 1 : Breakdown of the tourism value chain into activities

<b>Primary activities</b>	Transport	Reception, lodging	Catering: food, drinks	Visits, excursions, activities on site	Other tourism- related activities: crafts, souvenirs, shopping	Market
	Context and local economic environment					
<b>Secondary activities</b>	Infrastructure and technologies					
	Contributions in skills, capacity, ethical values					
	Management of natural and cultural heritage					
	Marketing : elaboration, coherence, promotion and commercialization of the tourist offer.					

The tourism value chain, and primarily the primary activities of tourism (see Table 1), depends on multiple key resource flows, assets and commodity value chains in society, including agriculture and food, the built environment and transportation industries. Consequently, tourism stakeholders cover a wide range of flows and typologies of activities generating energy and resource consumption and waste production. This is both the cause of its significant impact on the environment but also a central situation to act as a facilitator of the change of economic model.

The circular model (see Figure 1), as opposed to the linear economic model (take-make-waste), is purposely designed to be regenerative of natural, human and social capital, operating within the sustainable limits of the earth and local destinations. This can be defined as an economic system of exchange and production that, at all stages of the product (goods and services) life cycle, aims to increase the efficiency of resource use and decrease environmental impact while developing the well-being of individuals.

The circular economy has gained momentum in recent years, due to its ability to significantly optimize the use of resources, reduce greenhouse gas emissions related to production and consumption, while offering competitive advantages to companies.

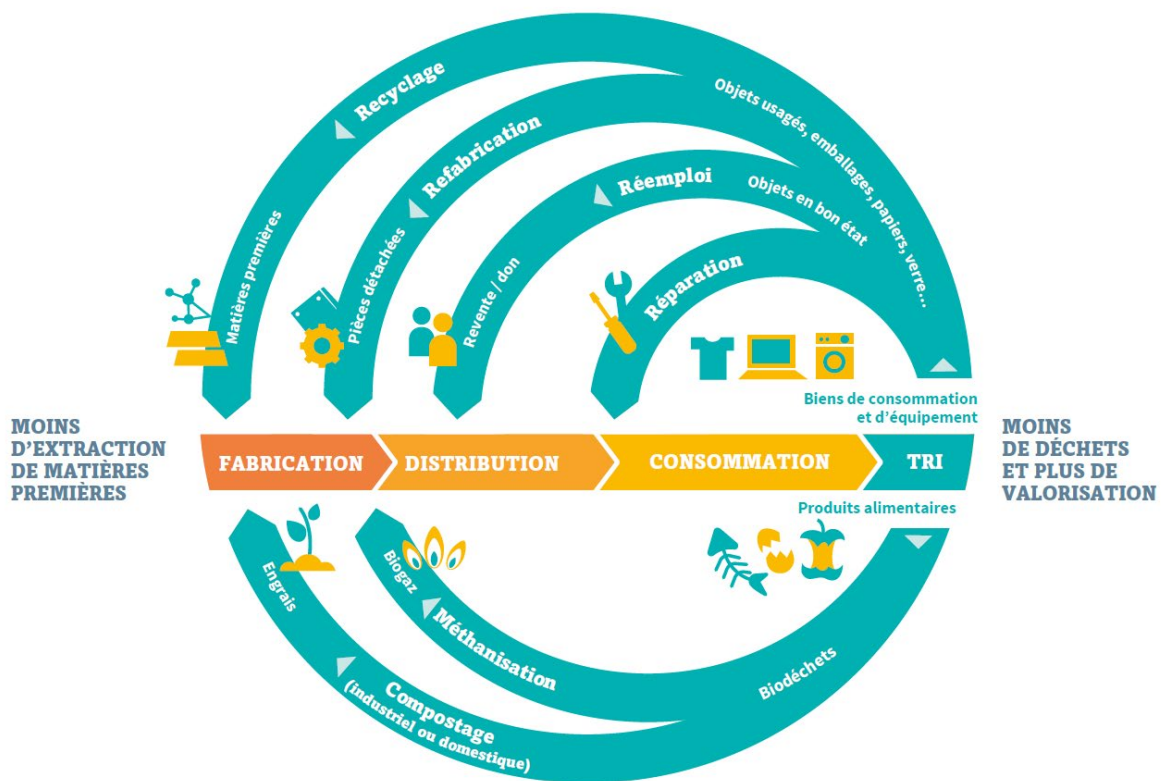


Figure 1 : Circular economy scheme (ADEME, 2019)

Whereas the logic of operating in a circular economy rather than a linear one is becoming increasingly well integrated in the industrial sector (development of synergies between companies via industrial and territorial ecology, which is one of the pillars of the circular economy, incorporation of recycled raw materials in the manufacture of products, etc.), it is still not very widespread in the service sector. This also applies to the tourism sector, which is characterized by the seasonal nature of its activity, the rather small size of its companies and its fragility in the face of hazards, whether climatic or sanitary, which does not facilitate this change in approach. However, the circular economy provides an operational and collective approach to tourism that makes sense and allows it to stand out.

The acceleration of global warming and its effects highlights the need for all organizations to review their operating models. Tourism must undergo fundamental transformations in order to be more resilient in technical, economic and health terms. This resilience requires a controlled consumption of flows but also an optimized use of local resources to limit its vulnerability to external crises.

For tourists, the circular economy offers the opportunity to leave a positive footprint, to travel with a purpose, and can lead to multiplier effects when it comes to transforming the entire tourism ecosystem by changing behavior.

The extended and cross-cutting value chain of tourism offers many opportunities to consider how to use materials and products used longer, better and in a circular way, creating value and partnerships and minimizing non-recovery waste.



### 1.3. The Interreg 2 seas FACET project and the approach taken in France: territorial tourism ecology

ADEME's Hauts-de-France Regional Office has joined the cross-border Interreg project FACET (*Facilitate the Adoption of Circular Entrepreneurship in the Tourism and leisure sector*). This project aims at encouraging entrepreneurs in the tourism sector to implement circular solutions within their businesses, thus creating new sustainable revenue models throughout the 2 Seas area, which covers the coastal areas of Belgium, England, France and the Netherlands linked by the English Channel and the North Sea. It has traditionally been a tourist destination with a strong impact on the regional economy. According to the United Nations World Tourism Organization, tourism in this region will grow by 5-8%. However, it also involves massive consumption of resources. This is likely to increase by 92% (water) and 189% (land use) worldwide over the period 2010 - 2050<sup>7</sup>, putting pressure on the already limited resources in the region, where industry, agriculture and tourism are competing for access.

Throughout the 2 Seas area of the Interreg program, FACET has developed various small-scale and *simple pilot* and demonstration projects locally to help entrepreneurs gain practical knowledge and experience in creating circular business models. At the same time, **local and regional cooperation groups** have been established between tourism and non-tourism businesses, suppliers and stakeholders in the tourism value chain. Appropriate **financing models** were also sought to encourage circular economy operations. **Raising awareness of the circular economy**, new business models and other forms of cooperation among tourism businesses was an important issue of the project. As a result, the best practices acquired were shared and exchanged at regional and international levels. The FACET project has contributed to encourage tourism entrepreneurs to develop operations based on circular economy principles.

In connection with the FACET project, ADEME has supported structures in the definition of Ecological Tourism projects in the coastal areas of Hauts-de-France, in the food sector, cycling tourism and boating. These collective and voluntary approaches carried out in a territory reconcile economic development and attractiveness of territories with a better use of resources. These projects are presented in Part 2.

ADEME's national strategy for the ecological transition and transformation of the tourism sector for the years 2023 - 2025 identifies three priorities for action to bring the sector in this ecological transition in a sustainable manner:

- To raise awareness and guide the sector in view of the environmental issues and the existing mechanisms
- To support professionals to act in the short term but also in the long term to prepare the future
- To develop strategic partnerships that have the capacity to federate the stakeholders of the sector and to multiply the deployment of good practices.

This guide is fully in line with this strategy as it raises awareness of the circular economy in tourism, draws on examples of pilot projects supported by ADEME and encourages the development of partnerships between stakeholders in the tourism value chain to implement territorial tourism ecology projects.

### 1.4. Introduction to the guide

This practical guide of recommendations based on feedback from Hauts-de-France presents and defines the concept of territorial tourism ecology (TTE) and illustrates it through examples of projects implemented in different tourism sectors: catering, pleasure boat management and circular bicycle routes.

Recommendations on different aspects of implementing a TTE project are also shared. The information presented in this guide is based on the synthesis and analysis of projects supported by ADEME in Haut-de-France for two years and foreign projects studied within the framework of FACET.

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<sup>7</sup> Tourism watch

# Territorial tourism ecology: definition and implementation

## 2.1. What is TTE ?

Territorial Tourism Ecology (TTE) aims to optimize the resources of a given tourism area, be it energy, water, materials, waste, but also equipment and expertise, knowledge and human resources, via a systemic approach inspired by the functioning of natural ecosystems. TTE is Territorial Industrial Ecology (TIE) applied to the tourism sector.

To fully understand the contours of TTE, it is useful to recall the definition of TIE.

This approach was defined in the Law on Energy Transition for Green Growth (LETCV) of August 18, 2015, codified in Article L541-1 of the Environmental Code: "**industrial and territorial ecology**, [...] consists, on the basis of a quantification of resource flows and in particular materials, energy and water, in optimizing the flows of these resources used and produced on the scale of a relevant territory, within the framework of actions of cooperation, mutualization and substitution of these resource flows, thus limiting environmental impacts and improving the economic competitiveness and attractiveness of territories.

The General Commission for Sustainable Development (GCSD)<sup>8</sup> defined it in 2014 as "the voluntary pooling of resources by economic stakeholders in a territory, with a view to saving them or improving their productivity: sharing infrastructure, equipment (heat networks, tools or production spaces...), services (collective waste management, inter-company travel plans...), materials (one person's production scrap can be used as a secondary material by another...). As a productive ecosystem, the TIE is one of the territorialized components of the circular economy. It uses the "3 Rs" of the circular economy (reduce, reuse, recycle) and can also move towards eco-design, functionality economy or voluntary development of local channels. Exchanges can involve a variable number of companies and economic operators and be carried out on the scale of an activity area, a community or a territory."

A project must meet three conditions to be considered an TTE project

- It must correspond to **a joint effort between several stakeholders of the territory or of a sector of resources, whether they are means of services or materials.**
- This joint effort must make it possible to **limit environmental impacts while improving the economic competitiveness and attractiveness of the territory or territories.**
- It must **involve stakeholders in the tourism value chain.**

It is proposed to segment into three families of resources, as in the definition given by the CGDD presented above:

- Resources, including infrastructure, equipment and human resources;
- Services, corresponding to the use that is made of something;
- Materials, including water, energy, purchases and waste.

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<sup>8</sup> Industrial and territorial ecology, a lever to mobilize actors in the field in favor of ecological transition, CGDD (2014)

The following decision logic allows us to identify whether a project corresponds to TTE according to the different framing elements specified above.

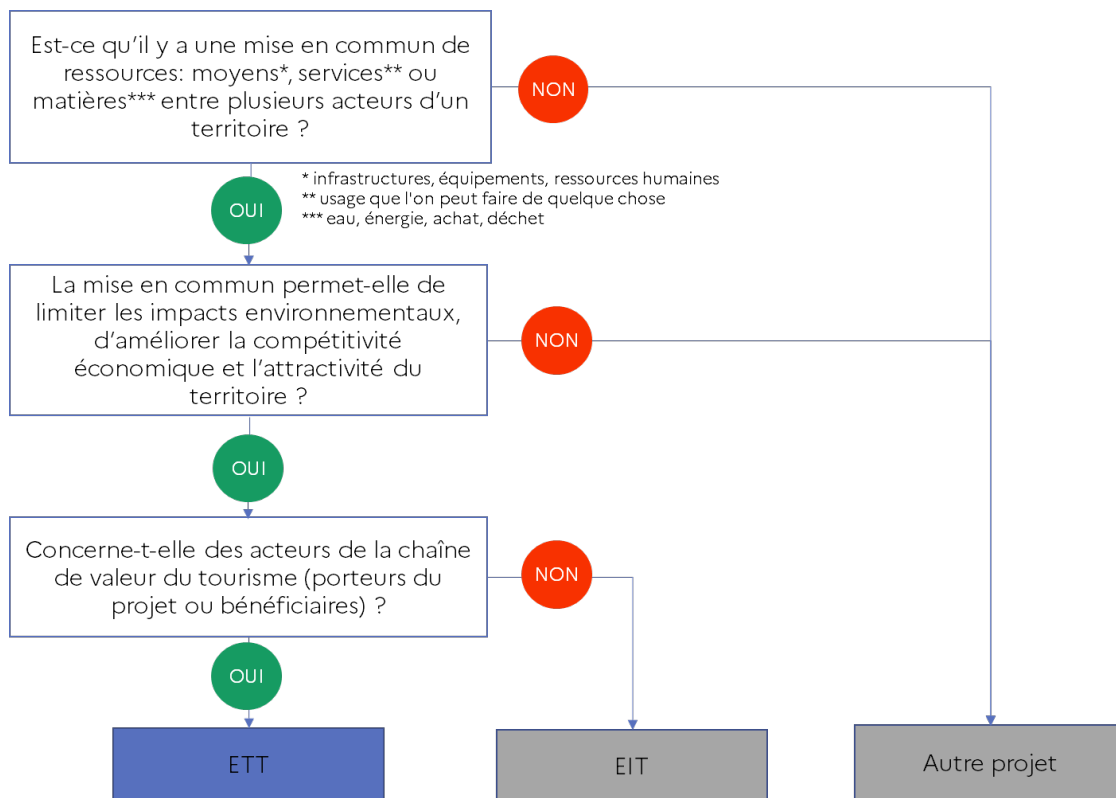


Figure 2 : Flowchart to verify that a project is TTE

As illustrated in Figure 3, TTE fits into the circular economy by acting on the value chain of products and services through better design and use of resources (R0 - refuse, R1 - rethink, R2 - reduce), extending the life of products and services (R3 - reuse, R4 - repair, R5 - renovate, R6 - repackaging, R7 - repurpose), or acting on the end-of-life stage (R8 - recycle, R9 - value).

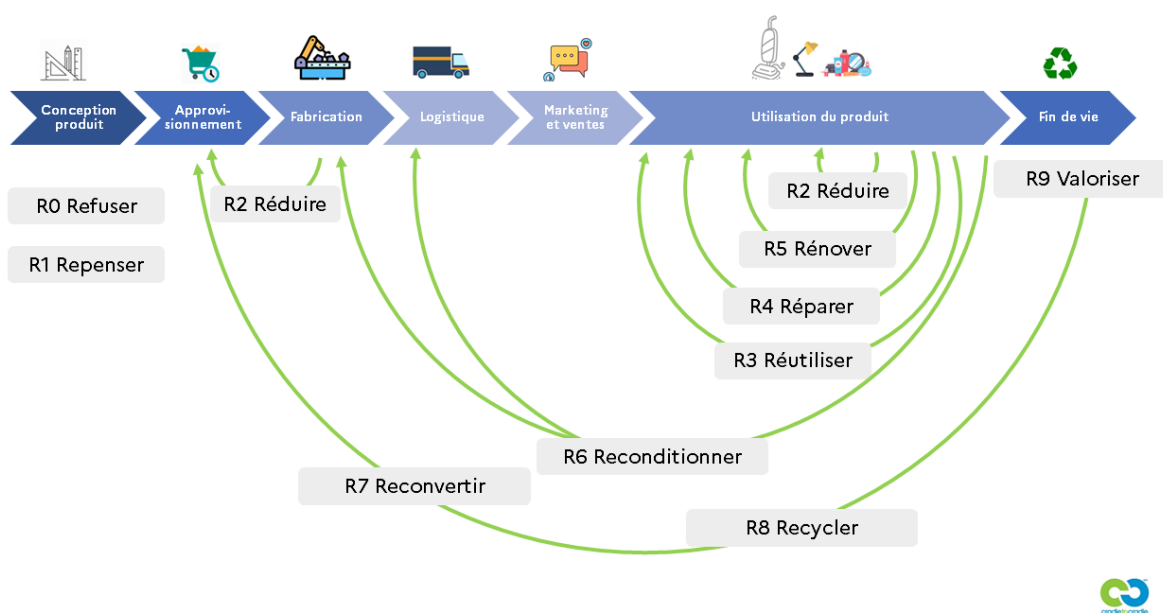


Figure 3 : Value chain of a circular economy project (source: European FACET project)

Based on the principles of the TIE, the TTE will first study the origin and destination of flows to identify and develop synergies between actors (including tourism actors) and then implement operational approaches that can lead to three categories of actions (which can be cumulative):

- Synergies of resource substitution (e.g., use of shellfish waste as a resource for mulch production)
- Synergies of mutualization of resources or services (e.g.: grouped purchases of green energy, mutualized collection of waste, mutualized creation of dewatered parking lots, shared rental of beach equipment)
- Innovative activities, which go beyond substitution or mutualization synergies by creating circular economy loops between stakeholders in the tourism value chain (e.g. creation of new channels or activities operating in a short circuit in synergy with the territory's stakeholders such as shell collection, etc.).

Territorial tourism ecology can thus be applied to all the primary activities of the tourism sector: transport (cars, buses, shuttles, bicycles, pleasure boats, etc.), reception and accommodation, catering (food, drinks), visits (excursions, on-site activities), or other tourism-related activities (crafts, souvenirs, shopping, etc.). One of the strong challenges of the TTE is to facilitate cooperation between different stakeholders along the tourism supply chain as well as cooperation between similar companies for the exchange of know-how and collective thinking to rethink the design of tourism offers.

Thus, TTE can take many forms (setting up synergies, mutualization or other types of innovative activities between different stakeholders) and involve a wide range of different stakeholders (tourist offices, restaurateurs, accommodation providers, shopkeepers, local authorities, tourists etc.). As a result, there are as many TTE project configurations as there are volunteer project leaders.

To better understand what territorial tourism ecology is in practice, the following chapters present examples of TTE projects applied to the food, accommodation, boating and cycle tourism sectors.

## 2.2. TTE in the restaurant industry

### 2.2.1. What are the challenges?

With more than 175,000 restaurants in France, generating a turnover of €35.6 billion in 2020, France, the country of gastronomy, has a varied range of restaurants adapted to different audiences, from "food trucks" to starred restaurants. Rich in diversity, the sector is constantly evolving to meet local, national and international demand, depending on the region and the time of year, serving **6.7 billion meals a year** in France.

The food and catering sector represents a very high proportion of greenhouse gas emissions in France, with **24% of the carbon footprint of households coming from their food**<sup>9</sup>. The environmental and economic impact of waste and the generation of waste related to the restaurant industry is very significant. Commercial catering accounts for about **7% of food consumption in France and generates nearly 14% of all waste**. Nearly 5,000 times the annual water consumption of a French person is used each year for the production of food that will never be consumed. A restaurant serving 500 covers per day throws away an average of 15 to 20 tons of food products per year, corresponding to an **annual loss of nearly €40,000**.

Subject to strong regulatory requirements, the collective and commercial catering industries have begun their transition. There are many levers to be used, including food production methods, plate content, packaging waste generated in the context of take-out services, energy consumption and the choice of sales area location.

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<sup>9</sup> Energy and carbon footprint of food in France, ADEME 2019

## 2.2.2. Tricoquille: collection and recycling of shellfish waste from restaurant owners in the Baie de Somme

In the Hauts-de-France region, several areas share the same problem of shellfish waste management and the search for a recovery solution. Among these territories, the Communauté d'Agglomération de Baie de Somme (CABS) has been working on the recovery of mussel shells since 2017.

A study on the deposit of shells and their recovery potential was conducted in 2017 on the territory, which highlighted that the restaurants and campgrounds of the CABS generate up to **688 tons of shells per year**, 79% of which are mussel shells. These shells are collected and **treated as residual household waste** (incineration, landfill), generating a significant waste management cost for restaurant owners.

The Tricoquille project was launched in 2019, as a continuation of the 2017 study.

This project was initiated by the Communauté d'Agglomération de la Baie de Somme (CABS), in partnership with Wasterial (formerly Etnisi), a Lille-based recovery company. The project is aimed at collecting shellfish waste from restaurant owners in the Bay of the Somme and recycling it locally into various by-products, particularly for the tourism sector.

Tricoquille offers a shell collection solution to restaurant owners by providing them with kits including collection buckets for customers and educational placemats.



Figure 4 : Communication item around the Tricoquille operation



Figure 5 : Tide tray made from recycled shells

During the pilot project, carried out in 2019 with 7 restaurant owners in the Baie de Somme, about 15 tons were collected. They were then sent to the company Wasterial to transform the shells into tide bins, which were then placed on the coastline of the Baie de Somme. The shells can also be transformed by this company into furniture, mulch for hiking trails or used as animal feed (chickens and farmyard animals) because of their high calcium content.

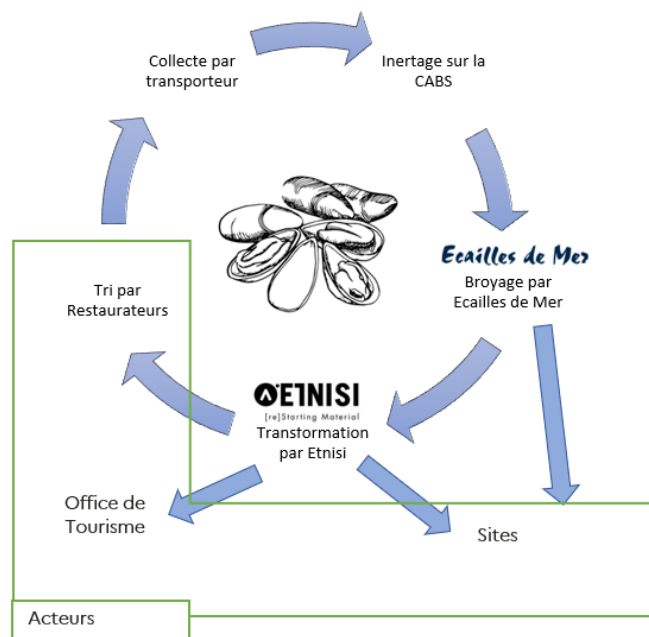


Figure 6 : schematic summary of the Tricoquille project

## The deposits on the Community of Agglomeration of Baie de Somme

The study carried out in 2017 made it possible to estimate the deposit on the territory of the Bay of the Somme, of several typologies and origins.

Tableau 1 : Shells deposit on the CABS

Source of deposit	Details	Quantities
Restaurants and campgrounds	This source is seasonal and depends on tourist activity. It also varies according to the type of restaurant.	<b>688 tons/year (79% mussel shells)</b>
Mussel farmers	The deposit includes undersized mussels that cannot be marketed. This deposit is found from February-March to October.	<b>320 tons/year</b>
Fish shops	The deposit is mainly made up of scallops from October to April with a peak in December.	<b>460 tons/year</b>
Households	The deposit is quite diffuse. A collection in voluntary contribution can be envisaged.	<b>750-1000 tons/year</b>

The analysis of these different deposits allows to see a potential complementarity of the collections. The seasonality of the deposits makes it possible to organize the collection throughout the year and the important quantity of shells considered offers an interesting opportunity of massification for the economic model of the project.

## Logistics associated with the collection of shellfish waste

The production of shellfish is seasonal, and consumption increases during the tourist peaks, the production of shellfish waste is irregular. This requires an adaptation of the locations and frequency of collections throughout the year. Collections can be made with dump trucks or waterproof vans, in containers adapted to each deposit. The storage area must meet regulatory constraints related to the status of biowaste and animal by-product of shells and be far from residential areas and protected from pests.

## Recovery stakeholders in Hauts-de-France involved in the Tricoquille project



**WAST  
ERIAL**

Wasterial is a Lille-based company that revalorizes and recycles local used materials and resources to create design objects. The company manufactures different types of products from the shells: **paving stones, tiles, engraved plates ("Ici commence la mer")**. TTE is committed to making products that are composed of at least 75% waste and 25% binders. For indoor objects, the binders are made from recycled materials. Research on biosourced binders is underway.

*Ecailles de Mer*

**Écailles de Mer** is a company based in Killem (North of France) which processes about 5,000 tons of shell products per year, mainly calcareous marine shells and oyster shells. The company grinds the **shells to make powders for animal feed and also produces cage bottoms for birds, bath sand for chinchillas, aquariums etc.** Their products can also be used in mulch, decorative paths, pedestrian and communal paths to avoid excessive weed growth.

## The outputs

In the Hauts-de-France region, the stakeholders can valorize shells as :

- Design objects: oyster knives, key rings, storage jars, candles, soap dishes, pencil pots, vases, lamps
- Furniture: stools, coffee tables, side tables, bistro tables
- Tiles of tiling
- Powders for animal feed
- Products for animals (cage bottoms for birds, bath sand for chinchillas, aquariums)
- Mulch, decorative paths.

## The test phase on a larger scale

The CABS now wishes to expand the geographical scope of the action and add new stakeholders to the collection. This will require, first of all, the perpetuation of the inerting system, the use of additional and adapted logistical means and the mobilization of restaurant owners through a good communication on the project.

### Extending the operation to the Dunkirk area

The Tricoquille operation has been extended to the Dunkirk area, with the collection of shells from the Dunkirk Oyster Fair. This event is organized every year on the first weekend of October by the association La Bouée Bleue. The Urban Community of Dunkerque (CUD), La Bouée Bleue and Écailles de Mer have been put in contact in order to valorize the oyster shells generated during this event (about 7 tons).

La Bouée Bleue takes care of the sorting of the shells during the event, the CUD takes care free of charge of the provision of a skip as well as the transport to the site of Ecailles de Mer which recovers these shells in animal feed.

Similar synergies could take place for the other events organized by La Bouée Bleue: Oyster Fair of Marcq-en-Barœul and Nieuwpoort (Belgium).

What synergies are put in place?

This project meets the three categories of action of the TTE: substitution, mutualization and innovative activity.

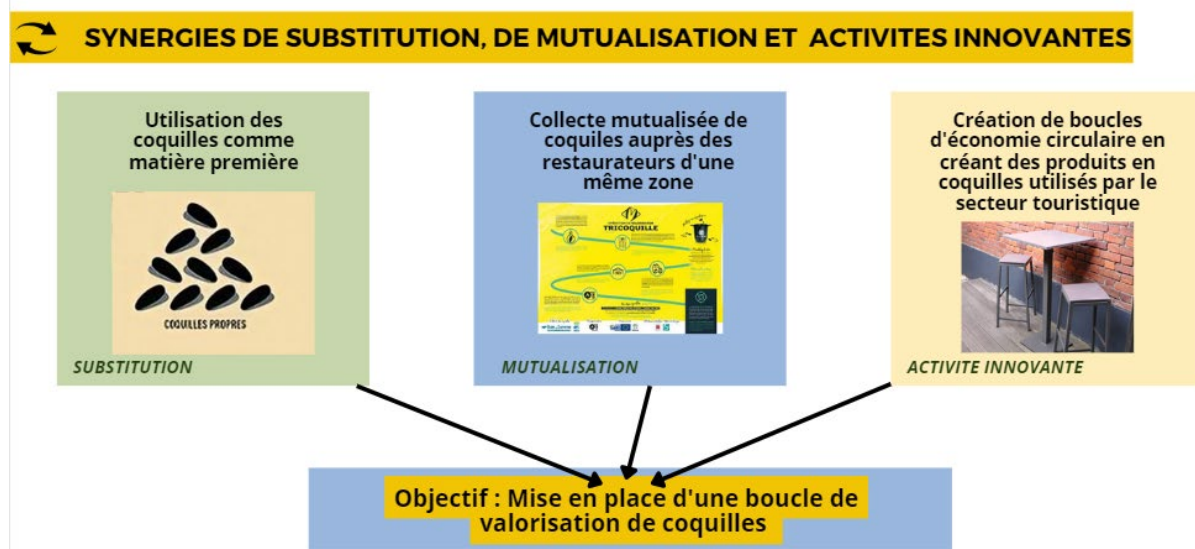


Figure 7 : Synergies of substitution, mutualization and innovative activities in the framework of the Tricoquille project

#### Key lessons

- **To involve local communities** to ensure the sustainability of the project.
- To work together between territories **to increase the deposit** and reduce processing costs.
- To pool deposits from different origins in order to reduce the impact of seasonality.
- To undertake in-depth discussions with the **DREAL** to **remove the legal obstacles** to sanitary regulations.
- To launch surveys with tourism stakeholders to propose an **offer of co-products adjusted to their needs**.
- To contact the **Chambers of Commerce and Industry and the Chamber of Trade and Crafts** to identify the tourism stakeholders to be mobilized.
- **To optimize logistical resources** by relying on existing waste collection services and by developing recovery units as close as possible to the deposit
- To promote locally created products, for example by **creating a "Made in local" brand**, a marker of the territory.

#### Further details

- To contact: Laurent Leblond [laurent.leblond@ca-baiedesomme.fr](mailto:laurent.leblond@ca-baiedesomme.fr)
- To carry out a technical and economic feasibility study for the implementation of a shellfish by-product management system: from collection to recovery in the Bay of the Somme - Picardie Maritime. Syndicat Mixte Baie de Somme Trois Vallées  
[:https://www.baiedesomme3vallees.fr](https://www.baiedesomme3vallees.fr)
- <https://wasterial.com/>
- <https://ecaillesdemer.wixsite.com/france>
- <https://la-bouee-bleue.com/fr/>



### 2.2.3. Hemsby Cup: reusable and returnable cups from cafes and restaurants in the town of Hemsby in England



Figure 8 : Illustration of the "Hemsby Cup" (source: FACET project)

Approximately 2.5 billion takeaway cups are used and discarded each year in the UK, with around 500,000 of these being abandoned as waste each day. Figures show that less than one in 400 cups is currently recycled.

Hemsby Council, a popular tourist destination in Norfolk County (eastern England), is rolling out a reusable and returnable cup offer in spring 2022.

Nine Hemsby cafes and restaurants have signed up to offer reusable cups for takeaway drinks as an alternative to single-use disposable cups. Customers are encouraged to use a Hemsby Cup in exchange for a £2 deposit. They can then return the cup to any participating establishment to collect their deposit. Hemsby Cups can be used over 1,000 times and are 100% recyclable. Purchase of the cups was funded by the Interreg 2 Seas FACET project, which aims to develop the circular economy in coastal tourism regions. The project is being implemented by Norfolk County Council, in collaboration with Great Yarmouth Town Council.

What synergies are put in place?

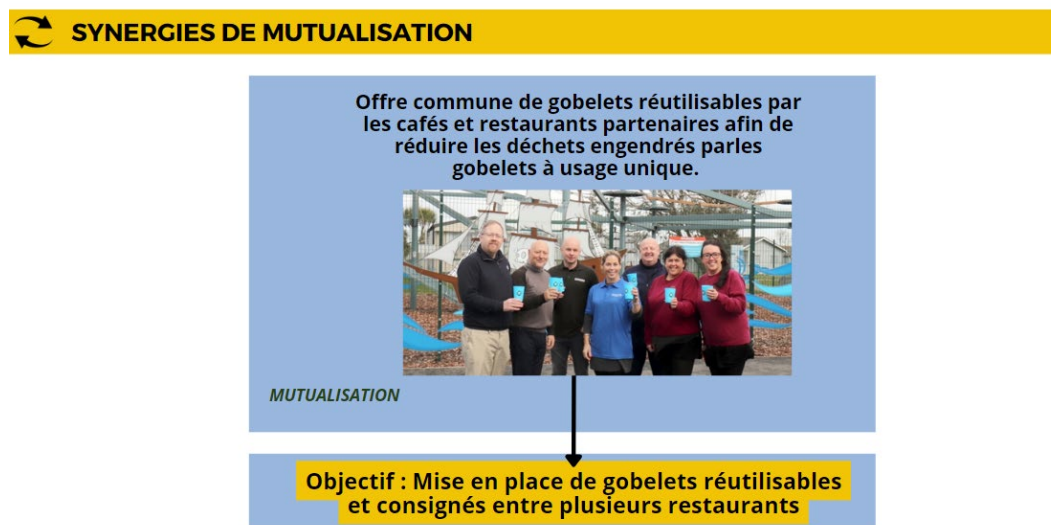


Figure 9 : Synergy of mutualization within the framework of the "Hemsby Cup" project

#### Key lessons

- **To identify and fund the position of a local referent**, in charge of mobilizing the restaurants involved in the territory. The Great Yarmouth Regional Council acted as project facilitator, with **funding** from the European FACET project.
- **To limit the geographical perimeter of the project** by involving stakeholders located in a targeted **geographical area** allows restaurateurs to communicate easily and to build a strong relationship of trust between project members.
- The geographical proximity of the stakeholders involved **facilitates the logistics of collecting and redistributing** reusable cups among the stakeholders.
- The presentation of the project during a Hackathon motivated another community to launch a

similar project. Once the approach is sustainable in the area, rely on network leaders, relays or events to disseminate good practices in order to extend the approach.

- To capitalize on favourable climate for collaboration created to consider other synergies (mutualization of ingredient deliveries, bio-waste management) in order to massify the impact of the project.

### Further details

- **Contacts :** Benjamin Gulliver, [benjamin.gulliver@great-yarmouth.gov.uk](mailto:benjamin.gulliver@great-yarmouth.gov.uk) et Dr Jacqueline Zavala, [jacqueline.zavala2@norfolk.gov.uk](mailto:jacqueline.zavala2@norfolk.gov.uk)
- **Présentation du projet sur le site FACET**

### 2.2.4. Happy Drêche : transformation of brewery spent grains into aperitif cookies

Happy Drêche is an association whose objective is to valorize the spent grains of brewers located in Lille.

The spent grains are co-products of the brewing process which are generally not valorized by the brewers. 300 kg of spent grains are generated for the production of 1 000 liters of beer and the management of these spent grains represents a cost for the breweries (4 000 to 5 000€/year).



Figure 10 : Products made by Happy Drêche : Malt nuggets

Happy Drêche gathers and valorizes the spent grains for free. Happy Drêche collects between 50 and 80 kg of spent grains, dries them thanks to a dehydrator oven and adds "antigaspi" (out of size or at the end of their life) or local fruits and vegetables to transform them into products to be consumed as an aperitif. Happy Drêche sells their products in short circuits, at independent breweries supplying the spent grains and in bulk grocery stores. In 2021, Happy Drêche worked with 9 partner brewers, recovered 2,000 kg of spent grains and avoided the emission of 1.5 tons of CO<sub>2</sub>.

Discussions are currently underway to sell the products in tourist office stores, which would allow them to promote a local and sustainable brewery heritage.

What synergies are being put in place?



Figure 11 : substitution synergy in the Happy Drêche project

## Key lessons

- The Happy Drêche project began through a partnership with a local brewery in 2018, then expanded by integrating other breweries into the process, reaching 9 partner brewers by 2021. This gradual expansion **enables the logistical resources needed** to keep the project running smoothly as it develops. The increase in the number of partner breweries also makes it possible to meet Happy Drêche's growing need for spent grain, by **diversifying the sources of incoming flows**.
- With more than 110 entities in the Hauts-de-France region, **the Tourist Offices can be excellent partners for the implementation of TTE approaches**. Tourist Offices are relays of territorial actions, and can be **strategic distributors** of products resulting from TTE approaches.
- To develop a **strong local identity** is a marketing asset for the marketing of the project.
- **To direct the public order (canteens)** towards local and responsible products.

## Further details

- **Contact : [happydreche@gmail.com](mailto:happydreche@gmail.com)**
- **[Happy Drêche](#)**

## 2.3. TTE for accommodation

### 2.3.1. What are the challenges?

In 2021, in metropolitan France, hotels will be the leading form of collective tourist accommodation, with 116 million overnight stays for **17,000 hotels**. Accommodations have a significant impact on the environment, particularly in terms of water and energy consumption, waste production and greenhouse gas emissions. According to the World Tourism Organization, tourist accommodations account for approximately **21% of global tourism-related greenhouse gas emissions**. According to ADEME's assessment of GHG emissions from the tourism sector in France, tourist accommodation accounts for 8.5 MtCO<sub>2e</sub> of emissions, i.e. **7% of the GHG emissions from tourism in French**. Tourist accommodation also leads to increased water consumption, due to bathrooms, laundry services, irrigation of green spaces and possible swimming pools. Hotel guests tend to change their energy use (light, temperature, water) during their stay. For example, a guest consumes an average of 300 liters of water per night in a hotel, compared to 150 liters at home<sup>10</sup>.

In spite of these observations, there is a general trend among visitors towards greater respect for the environment in their tourism practices. According to a study by Booking.com<sup>11</sup>, 87% of travelers want to stay in environmentally friendly accommodations.

### 2.3.2. Circular accommodation made of recycled and reusable materials at Camping Paardekreek (Netherlands)

One of the Dutch partners in the Interreg 2 Seas FACET project is the Paardekreek camping and villa park. The campsite has developed circular tourist accommodations, called "Dikesuites".

The accommodations were built in a dike that had not been used since 2005, resulting from the excavation of a stream during the construction of the villa park. The dam was seeded using hydro-seeding (a mixture of water, seed, fertilizer and glue), which is a sustainable way of seeding.

<sup>10</sup> Guide to good hotelier practices - UMIH 2016.

<sup>11</sup> International travelers say they want to travel with less environmental impact, Booking 2019

The housing was designed using recyclable materials and installed in a way that could be disassembled (screwed down instead of glued down). Tables were made by repurposing an old gym floor from a local gym.



Figure 12 Paardekreek Dikesuites: circular housing



Figure 13 : tables made from the floor of a local gym

The accommodations have been designed to be energy efficient. They have no gas connection, heating and cooking are electric, and high quality natural insulation and triple insulated glazing are used. Solar panels are installed on the roofs and the walls are made of recycled wood.

To maintain the value of the accommodation over time, they are constructed from mobile "building blocks" and disconnected from the dyke. This flexibility offers the possibility to rebuild the suites in new combinations at a different location, if the proposed offer no longer meets the client's wishes. This is an important advantage as vacation homes can quickly become obsolete due to the rapidly changing market.

What synergies are implemented?

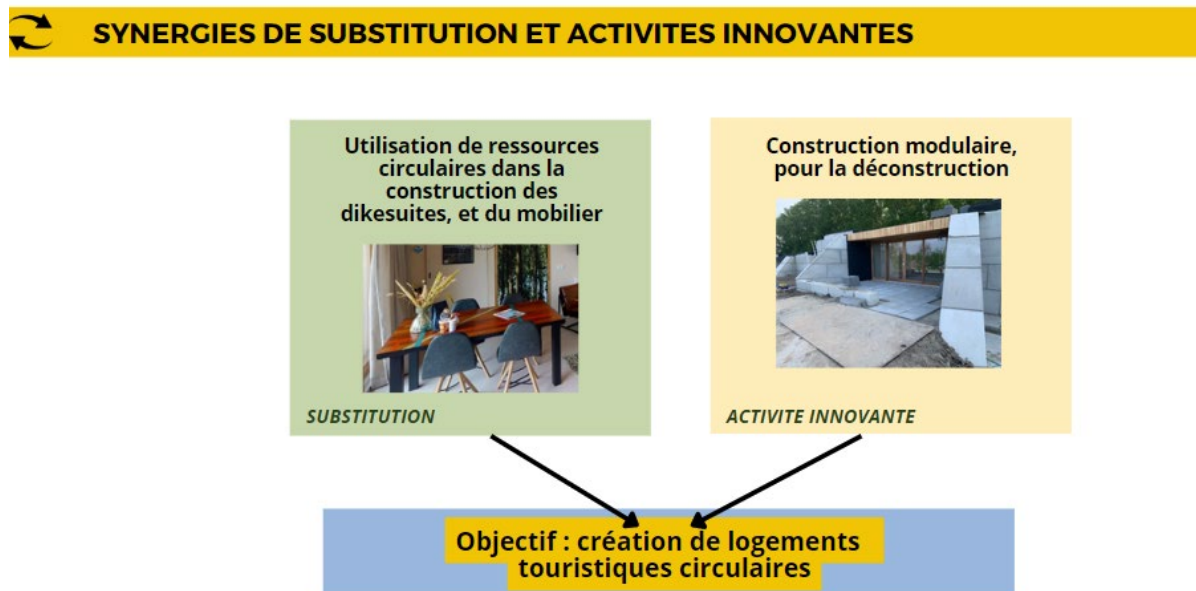


Figure 14 : alternative synergies and innovative activities in the framework of the "Dikesuites" project

## Key lessons

- Non-standard construction projects require adaptability on everyone's part. The participation of the campground owners in the **FACET project** has given them access to **technical and financial resources**, providing support in the implementation of the circular housing.

- The creation of furniture from local resources destined to become waste allows for the enhancement of the circular approach within the housing.
- The owners of Camping Paardekreek can **become ambassadors promoting the implementation of TTE approaches in accommodation in their area**, by sharing their feedback and expertise.
- To generate additional synergies by mobilizing a network of stakeholders providing circular solutions specific to the tourism sector (furniture suppliers for example).
- **To open the site to visits** during thematic days (heritage day, circular economy week) to give visibility to the approach.

### Furthe details

- **Contact : Arjen and Marijke Brinkman info@depaardekreek.nl - Propriétaires du camping Paardekreek et membres du projet FACET.**
- [Présentation du projet sur le site FACET](#)

### 2.3.3. New life for used pallets with the Dunkirk tourist office

The Dunkirk Dunes de Flanders Convention and Visitors Bureau, in collaboration with stakeholders of the Social and Solidarity Economy, has made equipment, furniture and Lunch Boxes from used wooden pallets.



Figure 15 : Lunch box made from recycled pallets

The Tourist and Convention Bureau of Dunkerque Dunes de Flandre called upon the AFEJI (Association of Flanders for Education, Training of Young People and Social and Professional Integration) and the CETIDE (Technical Center for Integration of Dunkerque and Surroundings) to develop "Lunch Boxes". These are hand-painted with the image of a container, a strong symbol of Dunkirk and its maritime activity. Initially, they were filled with local food products and distributed as part of a remote breakfast organized during the health crisis. The boxes were sent to participants' homes. 500 "Lunch Boxes" were then produced and are now sold at a price of 25 €/unit.



Figure 16 : Fence for a bicycle park made from non-returnable pallet wood

The Tourist Office also called on the coastal recycling center Eco&Deko to furnish its reception points in Leffrinckoucke and Zuydcoote (two towns near Dunkirk) with furniture made from recycled materials (wood and hardware recovered from pallets, old furniture from a Dunkirk landfill and from local businesses).

Finally, it called on CETIDE to make a fence from used pallets to delimit a seasonal bicycle parking area on the dike of Malo-Les-Bains (Dunkirk).

What synergies are put in place?

#### SYNERGIE DE SUBSTITUTION



Figure 17 : Substitution synergy in the Dunkirk tourist office project

## Key lessons

- To identify waste materials that are easily adaptable in the tourism world: materials like pallets can be adapted to a wide range of local needs.
- To date, the lunch boxes have been donated for a remote event, and then sold. Evolving the project and its economic model according to tourism opportunities allows to create a sustainable project from a one-off event.
- To organize partnerships between **the Tourist Offices and the territory's recycling centers** or waste collection centers that have a reuse zone.
- **To Combine pragmatism and creativity** to work from the identified resource (waste) to create new objects that meet a need. A constrained framework (resources/needs) pushes to innovate, within the framework of the respect of local public policies.

## Further details

- **Contact : Samuel Maison- AFEJl : [smaison@afeji.org](mailto:smaison@afeji.org)**
- **[Site de l'AFEJl - ressourcerie EcoDeko](#)**

## 2.4. The TTE as applied to the management of pleasure boats

### 2.4.1. What are the challenges?

The number of French pleasure boaters will reach **13 million by 2022** and pleasure boat registrations will increase by about 12,000 units per year. In 2021, it was estimated that there would be approximately **1,050,000 registrations**, of which approximately 75% would be motorboats, 20% sailboats and 5% other boats. On the French coastline, nearly 473 ports are designed to receive pleasure craft, while inland waters, there are 556 ports or nautical stops.

The nautical industry is a major economic challenge: France is the **leading manufacturer of pleasure boats in Europe and the second largest in the world**. Nevertheless, the pleasure boat market is mainly driven by second-hand sales. Pleasure craft can change ownership several times during their lifetime and transactions on the second-hand market are more numerous than those on the new market. The national pleasure boat market is essentially driven by the second-hand market, since new boats account for only 14% of transactions. While the new market has fallen sharply since 2008, the second-hand market has remained relatively stable, at around 66,000 transactions per year in France (source ADEME, prefiguration study of the recreational and sports boat sector, 2016).

**The Association pour la Plaisance Eco-Responsable** ("Association for Eco-Responsible Yachting") was created in 2009 to organize and lead the French used boat dismantling and recycling industry. The 2015 law on energy transition for green growth (LTECV) established the implementation of an EPR channel for waste from pleasure and sports boats. APER has been approved as **an eco-organization of the sector since 2019**. It offers a solution for the treatment of boats at the end of their life and puts the holders/owners in contact with selected treatment centers in order to proceed with the deconstruction, in the respect of the environment and the regulations. To accomplish this mission, APER relies on a network of dismantling centers chosen throughout the country to ensure optimal geographical coverage. In 2021, APER had a network of 26 approved dismantling centers. One of the main challenges for the development of the sector is the ability to recycle materials from dismantling, particularly composites. **Eventually, all waste from the deconstruction of pleasure boats will have to be reused, recycled or recovered as energy.** 5,457 deconstructions were carried out by APER between August 2019 and July 2022, In 2020, APER deconstructed 1,259 boats corresponding to a total weight of waste of approximately 7,000 tons. Reuse accounts for only a

minimal portion of the treatment of used boats in 2020 (0.03%), while the majority is sent for energy recovery.

One of the difficulties encountered by APER in setting up the EPR sector for pleasure boats is **the cost of transporting the boats to the dismantling sites**. They represent amounts that can be equivalent to the price of dismantling and are a major obstacle to the development of the dismantling sector.

## 2.4.2. Bon Vent ! a platform for the management of the dismantling of used pleasure boats and promoting the reuse of nautical spare parts

The "Bon Vent!" project was born during the Ocean Hackathon® in Boulogne-sur-Mer in November 2021, a 48-hour non-stop event to develop a prototype as a team and think about its use, all from various digital data related to the sea. It was the winner of the competition.

The "Bon Vent!" project aims to facilitate the dismantling of boats and the reuse of spare parts at a reasonable cost, while offering a solution to the problems of transporting used boats.

The targeted solution is a computer platform, providing several functionalities:

- organization of the logistical handling of end-of-life boats;
- market place for the sale/purchase of second-hand spare parts;
- personalized follow-up of the boat in the form of a maintenance booklet (Computer Assisted Maintenance Management type);
- community animation (forums, questions, etc.);
- connection with services for users;
- access to a nautical marketplace.

### Stakeholders involved and duties

Stakeholders	Duties
Bon Vent !	Project leader
APER	APER (Association pour la Plaisance Eco-Responsable), official eco-organization in charge of managing the treatment of pleasure and sport boats at the national level.
Collectivities	Port managers in the case of public marinas.
Marinas	Can be responsible for the management of abandoned used boats.
Deconstructionists	Boat dismantling companies approved by APER
Users / boaters	Users of the service.

What synergies are put in place?





## SYNERGIES DE SUBSTITUTION ET DE MUTUALISATION

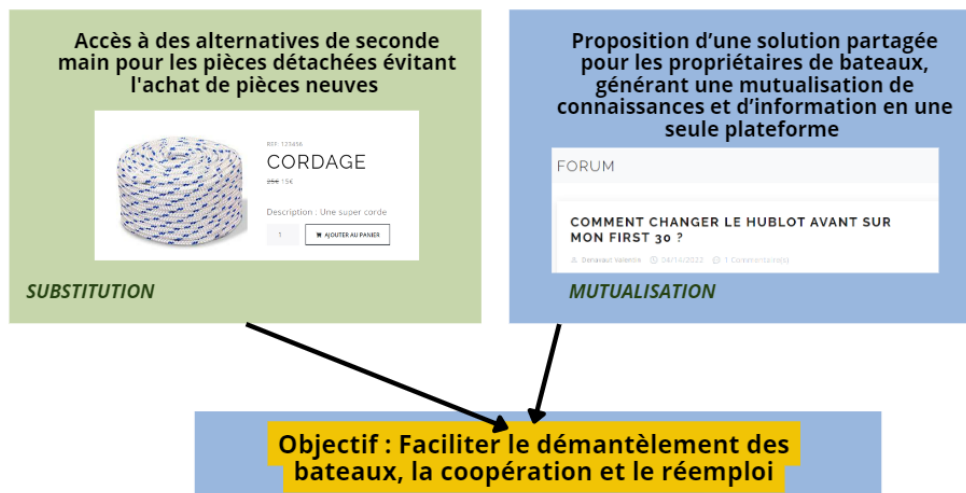


Figure 18: Synergies de substitution et de mutualisation - Bon Vent !

The " Bon Vent !" project consists of a TTE project of mutualization by sharing knowledge and information between boat owners in a single platform, and of **substitution**, by allowing access to second hand spare parts.

### Key lessons

- It is essential to **monitor the evolution of the value chain** in which the project is inserted, especially the regulatory evolutions. Within the framework of the "Bon Vent!" project, the evolution of the conditions of application of the EPR sector on the assumption of transport costs of boats at the end of their life has a strong impact on the economic model of the project.
- **To bring added value to the existing value chain** in which the project is integrated. Bon Vent! fits into the existing value chain of boat dismantling, by extracting resources (spare parts) that were not or hardly exploited until now.
- **To create waste exchanges / online platform** to facilitate the exchange of waste/materials. Raising awareness of the possibility of using reused spare parts will help develop the market.
- **To ensure compliance with safety standards** for the reuse of spare parts.
- **To pool the knowledge of the stakeholders of the value chain** by centralizing them favors the development of synergies.

### Further details

- **Contact :** Mathilde Lesage – Co-founder mathilde.lesage@lyreco.com / infos@bon-vent.org
- [Bon Vent !](#)
- ADEME, Deloitte Sustainable Development, Horizons experts, 2016. [Preliminary study for the implementation of the collection and treatment of end-of-life recreational or sports vessels under the responsibility of producers \(EPR\).](#)

### 2.4.3. The BATHÔ project, unusual habitats based on sailing boats

BATHÔ is a company located south of Nantes that reuses end-of-life sailboats and motorboats to transform them into unusual habitats on dry land.

The project aims to modify and refurbish boats to give them a second life: unusual accommodation for tourism professionals, lodgings for individuals, playgrounds for children, sales spaces for merchants, inspiring meeting or coworking spaces or other (house extensions, guest rooms, work spaces, artist's shelters, etc.).

The life cycle of the boats is optimized: boats manufactured more than 40 years ago in France are reused in different forms of accommodation on land. BATHÔ sources its materials in a short circuit, less than 80 km on average from its shipyard, to reduce the impact of collection and transport. Significant resource savings are achieved by reusing the hulls which become the foundations, walls and roof of the accommodation. Their reuse avoids the costs and environmental impacts of their final destruction in incineration or landfill.

The habitats are eco-designed and do not require any construction on the ground to be operational, consume little energy and can be dismantled in 24 hours. They respond to the growing demand from the tourist industry for facilities that are harmonious with the landscape, unusual, respectful of natural areas and have a positive environmental impact.

BATHÔ signed a partnership agreement with APER in 2022, aiming to promote and support the development of the transformation and reuse of end-of-life pleasure boats into unusual habitats within the framework of the sector managed by APER. Thus, BATHÔ is fully involved in the management of the end of life of pleasure boats, by structuring their collaboration with APER.



Figure 19 : Examples of achievements of the company BATHÔ

What synergies are put in place?

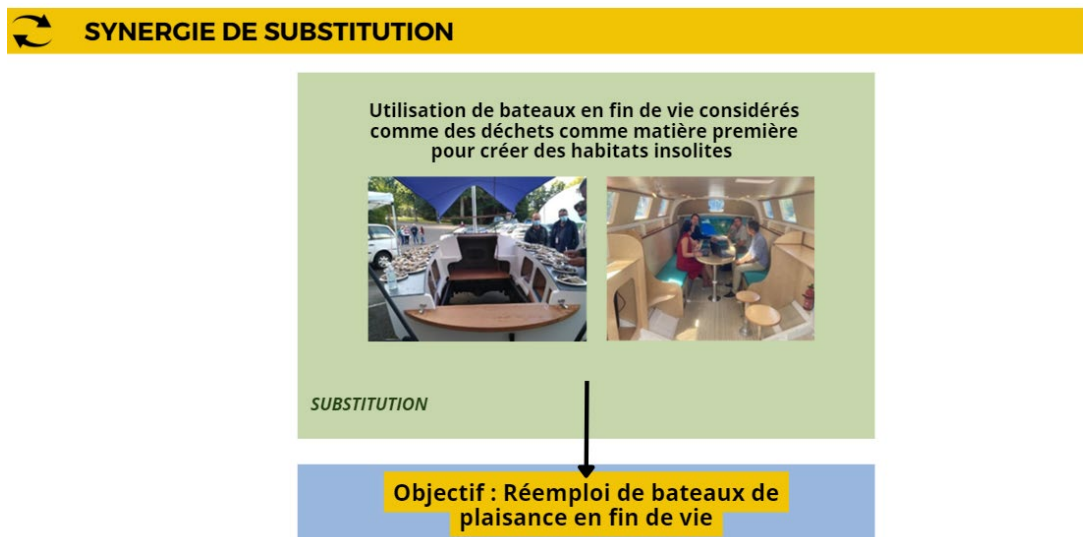


Figure 20 : Synergie de substitution dans le cadre du projet BATHÔ

## Key lessons

- To meet the current **trend of seeking unusual and environmentally friendly experiences** by offering unusual, modular and recycled habitats.
- To rely on **platforms such as AirBnB, or Green Go voyages** to promote these accommodations.
- **To work with local authorities** and the DRIAT (Direction de l'habitat) to ensure that standards are respected and to obtain authorizations for the establishment of accommodations.
- To consider alternative accommodations as a response to the **growing demand for seasonal housing**.

### Further details

- **Contact : Contact@batho.fr**
- **Bathô**

## 2.5. TTE in bicycle touring

### 2.5.1. What are the challenges?

With more than 9 million cycling trips per year and 20% of cycling tourists coming from abroad, **France is now the world's second most popular destination for cycling tourism** after Germany. The health crisis has only amplified this dynamic. Between 2016 and 2020, the number of cyclists on bicycle routes and greenways had increased by +15%. In 2020, we recorded + 28% growth in traffic compared to 2019, excluding periods of confinement, with 52% of French people declaring themselves more attracted to bicycle tourism than before the crisis. The trend is confirmed in 2021, with stable traffic, excluding periods of confinement.<sup>12</sup>

For the past ten years, the State, local authorities and institutional players in the tourism sector have been working hard to structure the French bicycle tourism industry, in particular with

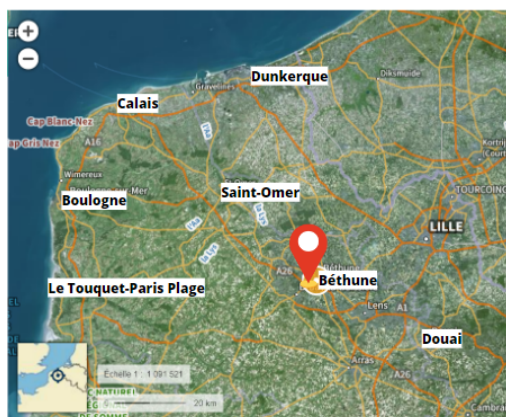
- The **deployment of a national scheme of bicycle routes and greenways** of 25,600 km, 70% of which are used for leisure and tourism purposes.
- The deployment of the **national "Accueil Vélo" brand** to more than 7,000 service providers, thus guaranteeing cyclists a high quality welcome and services along the cycle routes.
- The reinforcement of the **network of nodes**, linked to the Belgian, Walloon and Flemish networks.
- The deployment of long-distance bicycle routes, or "**Euro Vélo routes**", crisscrossing the European regions and whose network will total nearly 90,000 km. <sup>13</sup>

Cycle tourism is now attracting more and more people to the regions. Indeed, according to a study conducted by ADN Tourisme in 2021, 38% of French people say they are ready to adopt more eco-responsible vacations even if it means making concessions on their part and 25% feel more attracted by itinerant cycling or hiking trips. <sup>14</sup> To meet this demand in an optimized manner, the development of this carbon-free mode of transportation must be done in a circular economy logic by making the best use of the resources available in the region and by extending the life of the equipment used as much as possible.

### 2.5.2. CABBALR's bicycle touring: sharing bicycles along gourmet itineraries

The project of the agglomeration community of Béthune Bruay Artois Lys Romane (CABBALR) focuses on the development of a bicycle rental service in a circular economy logic. This service is directly linked to the gourmet itineraries proposed on the territory in connection with the territory's food project (PAT).

#### COMMUNAUTÉ D'AGGLOMÉRATION DE BÉTHUNE-BRUAY ARTOIS LYS ROMANE



Carte géoportail de la Communauté d'agglomération de Béthune-Bruay Artois Lys Romane

La communauté d'agglomération de Béthune Bruay Artois Lys Romane (CABBALR) est une communauté d'agglomération française, située dans le département du **Pas-de-Calais** et la région **Hauts-de-France**, arrondissement de Béthune.

La CABBALR est composée de **100 communes** pour **280 000 habitants**, sur un territoire de quelques **647 km<sup>2</sup>**.

Avec plus de 150 hectares disponibles répartis sur une quarantaine de zones d'activités disséminées sur l'ensemble du territoire, la CABBALR se décompose en parcs d'activités, en zones artisanales et en zones d'activités à vocation particulière.

<sup>12</sup> Cycling tourism - Ministry of Economy and Finance, 2022

<sup>13</sup> EuroVelo in France, France Vélo Tourisme, 2022

<sup>14</sup> Developing bicycle tourism in the regions, Vélo et territoires, 2021

Figure 21 : Communauté d'agglomération de Béthune-Bruay Artois Lys Romane (" Agglomeration Community of Béthune-Bruay Artois Lys Romane ")

The CABBALR has identified itineraries and outdoor leisure activities as a strategic tourism axis and focuses its actions on the development of infrastructures and the development of aid for the use of bicycles.

The objective of the CABBALR project is to set up a bicycle sharing system on its territory, by offering reconditioned bicycles for reuse and by equipping the territory with equipment from reuse. The pooling of bicycles and cycling accessories on the territory, with the aim of reducing the consumption of resources (individual bikes and accessories) is a synergy of mutualization. In addition, the CABBALR could set up substitution synergies via the recycling of objects for tourism purposes, such as road signs or reuse of fences. The territory's waste is valorized and becomes a resource for the project. Thus, the CABBALR project is fully in line with an TTE approach.

## Bike sharing

The objective of the project is to set up a bicycle sharing system, i.e. a bicycle rental system in the entire territory of the CABBALR. The proposed model is inspired by the T'Vélos service set up by the municipality of Thouars.

The objective of the T'Vélos service set up by the municipality of Thouars is to offer an alternative mobility solution in rural areas. The targets are the inhabitants (opportunity to test the electric bike for their daily trips) and tourists. The community of municipalities has purchased the bicycles and designed and distributed the communication and price list. The management is delegated to six local partners (grocery stores, socio-cultural center, car garage, leisure center) in charge of the rental and annual maintenance of the bikes. The rental partners keep the profits from the rental of the bicycles.

In order to be part of the PAT, the CABBALR is inspired by the model of the municipality of Thouars by also taking into account other stakeholders of the territory such as farmers and tourist operators (campings, hotels, etc.). Each service provider can offer the type of service best suited to their needs, for example, offering only long-term rental if their activity does not allow them to be available at all times of the day. Another option is to develop the "Accueil Vélo" brand, which is already present in the region. This is a national brand set up under the aegis of France Vélo Tourisme in order to guarantee a quality welcome and services along cycling routes for cyclists on their way.

## Bike reuse

To encourage tourism and territorial ecology, the CABBALR is considering reconditioning bicycles already present on the territory for reuse as part of the bicycle rental offer. The territory offers many opportunities since it is endowed with several professionals of repair as well as local associations specialized in the bicycle. These associations offer participatory and supportive bicycle repair workshops. Other stakeholders could also be solicited, in particular the numerous stakeholders of the social and solidarity economy (SSE) of the territory, several of which are present in the sports and leisure sector. Some of these stakeholders could develop their activities by proposing bicycle repairs using second-hand spare parts..

## Manufacture of equipment

The development of the bicycle rental service could be accompanied by the establishment of equipment and structures related to bicycle tourism. To develop the circular economy, bicycle-related equipment/structures can be made from recycled materials or reused products, if possible by SSE stakeholders. This could include bike hoops set up from feeders (a device used in animal husbandry, where animals pass their heads through to access the trough) or other resource available in places hosting bike tourists or signage made from recovered materials. Some of the equipment could be installed along bicycle routes and "gourmet routes", while others could be installed in urban areas and near strategic locations (bicycle rental providers, tourist sites, restaurant owners, etc.).



Figure 22 : Illustration of the idea of creating a bicycle arch from a fence

It should be noted that this substitution synergy could only be proposed in the case where the farms interested in the label accueil vélo are cattle farms. This will not be the case on the CABBALR but this synergy could inspire other territories.

### Pooling of accessories

Some accessories are mandatory for cycling: safety helmet, high visibility vest, lighting devices, and others, which are not mandatory, can still make cycling easier: child seat, telephone holder, bell, etc.

The pooling of these accessories consists in putting them in common for the users of the bicycle. This pooling avoids the need for users to buy equipment, thus reducing the consumption of raw materials.

Still based on the Thouars model, the CABBALR territory plans to purchase eco-responsible/eco-designed bicycle accessories and to distribute them, according to demand, to service providers offering a bicycle rental service. Several service providers committed to an eco-responsible approach that offer a range of eco-designed accessories, such as SSE stakeholders who make bicycle bags from recycled textiles, could be mobilized.

What synergies are being put in place?

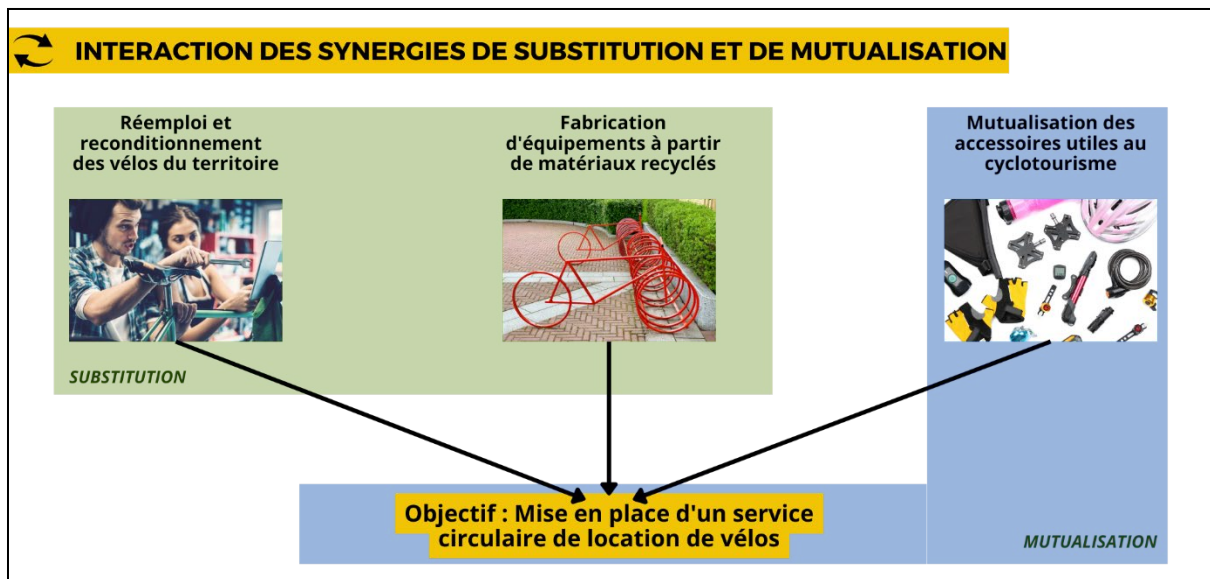


Figure 23 : interplay of substitution and mutualization synergies - CABBALR

## Key lessons

- For the project to become a reality, it is important to designate a project leader (department within the community, external structure).
- A local authority's support enables the launch of the territorial dynamic. The involvement of local stakeholders and their gradual takeover of operational activities by one or more external structures guarantees the sustainability of the project.
- The inclusion of the territorial ecotourism project in a more global territorial project such as the Territorial Food Project makes it easier to identify possible synergies between stakeholders who are not used to working together, such as farmers, who could potentially become tourist operators (accommodation providers), and SSE stakeholders who repair and rent bicycles.

## Contacts

- Benjamin DESARNAUD - In charge of Rural Planning and Development  
benjamin.desarnaud@bethunebruay.fr
- Sandrine JOFFRES - Agriculture and Food Officer sandrine.joffres@bethunebruay.fr

# Recommendations for the implementation of a tte project

## 2.1. Preparing the project

What is expected

- Study the issues and characteristics of the territory of action and identify the stakeholders involved in order to define the foundations of the project
- Characterize the project's perimeter
- Identify a facilitator for the process and project leaders

Assessing needs and resources

At the beginning of a territorial tourism ecology project, a series of questions arise:

- What issues does the project address (unoptimized resources, environmental impacts that can be reduced, etc.)? What quantities of resources are we talking about?
- What is the need for the tourism sector? What are the impacts associated with current practices? What is the market?
- What is the current state of play? What is the regulatory context? Who are the stakeholders (tourism and non-tourism)?

The following tools can be used in a complementary way to assess the needs, expectations and resources available in the territory and to develop an adapted tourism ecology strategy:

- **SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis** identifies the territory's strengths and weaknesses in terms of tourism ecology, as well as the opportunities and threats related to the economic, social, cultural and environmental environment.
- **The mapping of stakeholders** allows the visualization of the different stakeholders involved in the tourism value chain and those gravitating around the chain (territories, institutional stakeholders, funders). The tool highlights their role in the implementation of the territorial tourism ecology approach and identifies the interactions between stakeholders.
- **The analysis of material and energy flows (AFME)** makes it possible to measure and analyze material (water, air, soil, waste, etc.) and energy (electricity, gas, heat, etc.) flows within a given perimeter. It identifies sources of pollution and waste, as well as opportunities to improve the efficiency and sustainability of the system. *For example, the Communauté d'agglomération de la Baie de Somme financed a study on the deposit of shells and their potential for recovery in 2017 on the territory. The conclusive results of the study led to the implementation of the Tricoquille experiment in 2019.*
- **The territorial metabolism analysis** (AFME on all resources at the territorial scale) allows to evaluate all the material-resource-waste, energy and water flows on the territory and to understand the interactions between the different systems. It allows to identify the critical points of the territorial metabolism and to propose solutions to improve the efficiency and the sustainability of the system.

Defining the project outline: from the main loop to additional loop

These analysis will lead to the definition of the project perimeter, i.e. to define its geographical location, the value chain concerned, the number of stakeholders involved and the type of activity considered (mutualization synergies, substitution, innovative activity):



Thinking from a circular economy perspective can make it tricky to define the scope: how far should we go? Before starting the project, the **main loop of the TTE project must be defined**. It corresponds to the synergies set up between the main stakeholders of the project. Then we can identify the possible evolutions of the project, by defining **additional loops**.

Additional loops allow for the inclusion of relevant but non-priority opportunities identified during the needs and resources assessment at the project planning stage. These additional activities enrich the initial project: additional substitution, additional mutualization, inclusion of additional stakeholders in the project, etc.

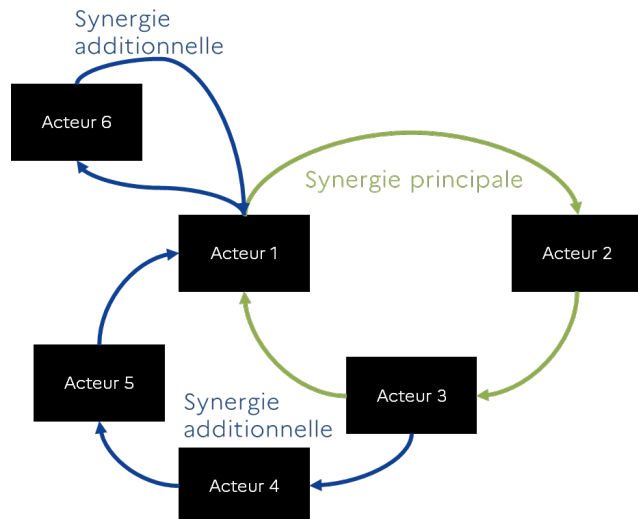


Figure 24 : Illustration du concept de synergie principale et de synergies additionnelles

For example, the central loop of the bicycle touring project led by the Communauté d'agglomération de Béthune Bruay Artois Lys Romane (CABBALR) aims to set up a bicycle rental service in a circular economy logic. This project is enriched by reflections on the creation of equipment (bike racks, signage) from the territory's resources, which can be additional loops of the project.

### Identifying one or more project leaders and their partners

At the beginning of the process, there may be an opportunity identified by one or more stakeholders who are not necessarily well placed or legitimate to carry the project. In the collective logic of the TTE, the stakeholder wishing to initiate a TTE project must quickly manage to mobilize around his project. It must be able to identify the key stakeholders of the studied territory (public and/or private) who will have to be mobilized in the project and all the different stakeholders of the tourism value chain of the project. For example, in the case of the "Bon Vent!" project, which consists of the creation and management of a platform to facilitate the dismantling of pleasure boats and the reuse of spare parts, APER, which is the approved eco-organization for the management of pleasure and sports boat waste, quickly appeared to be an essential partner for the success of the project.

The number of stakeholders involved can evolve over time as the main loop is structured and additional loops are possible. Each contributes a part of the solution. For example, WASTERIAL was studying the possibility of sourcing local shellfish products and the Baie de Somme community was thinking of setting up a separate collection system for restaurants. Their interests are combined in the Tricoquille project.

The stakeholder mapping will have helped identify key partners to involve in the implementation. This may include local stakeholders, businesses, associations, civil society organizations, local and regional authorities, government agencies and funding bodies. The stakeholders involved may change over time and are dependent on the scope of the project (main loop, additional loops).

Once the objectives and scope are defined, the project stakeholders can agree on the priority objectives and key actions to be implemented, starting with those related to the main TTE project synergy and then complementing with additional synergies.

## Success factors

- Having defined a **solid and viable main synergy**.
- Defining **several additional loops** from the beginning of the project to anticipate its expansion in the medium to long term.
- Taking into account **all the resources of the territory** in the study of the deposit including the possibilities of reuse of resources (see the studies of programming materials proposed by the regional direction ADEME of Hauts-de-France)
- Taking into account the **constraints of the tourist activity** (seasonality of the activity and therefore of the flows, dependence on the climatic conditions, interdependence of the tourist establishments and tourist infrastructures, etc.)

## Further details

- [Methodology for carrying out a material balance](#) ADEME, 2020
- [Standard work contract for an TIE/TTEcoordinator](#)
- [Territorial metabolism studies: state of play and prospects](#), ORDIF, 2021\_ORDIF, 2021
- Benoit Ribon, Dominique Badariotti and René Kahn, "[Foundations of material and energy flow analyses and typologies of applications for the governance of territories and organizations](#)", VertigO 2018

## 2.2. Establishing governance and leading the project

### What is expected

- To identify precisely the stakeholders to be involved and define their roles in the project
- To identify a facilitator/ambassador pair
- To set up a framework for the collaboration of the stakeholders and to create a climate of trust
- To maintain the mobilization of the stakeholders over time

### Defining the missions of the facilitator and choosing the facilitator

At the start of the TTE process, a project facilitator must be identified. The facilitator of a territorial tourism ecology approach plays a key role in the implementation and coordination of the project. He or she must **identify potential sources** that could lead to a TTE project and conduct the necessary studies. To do this, the facilitator must be able to define the specifications of the studies or to carry out these studies directly. This requires technical knowledge of flow assessment. The facilitator must then assist in the **realization of synergies and evaluate the socio-economic and environmental benefits of the synergies** implemented. He is also a **mediator and facilitator** who helps coordinate the actions of the different stakeholders involved in the project. He convinces and connects the necessary stakeholders of the value chain and ensures **regular communication** by organizing the collaboration between the different stakeholders. His role is therefore crucial to ensure the success and sustainability of the territorial tourism ecology approach.

Here are the main missions of the facilitator throughout the project:

*Tableau 2 : Animation missions to be carried out in a TTE project<sup>15</sup>*

Role	Missions
Impulse	Leading collective intelligence workshops Mobilizing resource stakeholders and future operators of the approach Communicating on the principles of the TTE Putting stakeholders in touch with each other
Orient	Defining the challenges of the territory and the stakeholders studied Prioritizing, developing a strategy, setting objectives Establishing an incentive and/or regulatory framework if necessary Managing the project and planning the action Accompanying the stakeholders involved in the project
Operate	Identifying potential actions Conducting studies of metabolism, material characterization and flow analysis Identifying synergy and mutualization opportunities Coordinating and leading the process
Finance	Identifying the necessary funding for the implementation of the approach Putting together funding applications Allocating funds to the different activities and stakeholders involved
Capitalise	Conceptualizing TTE approaches to provide methodological progress - academic research Monitoring and evaluating the performance indicators of the approach Communicating about the approach and spreading it

The structures responsible for facilitating TIE initiatives are mainly local authorities (Region, Department, Community of Municipalities or other EPCIs), the Chamber of Commerce and Industry or local associations

<sup>15</sup> Based on the functions listed in the guide "industrial and territorial ecology: a guide for action in the territories", CGDD, 2014

(e.g., tourism associations). For example, ECOPAL, an association specialized in facilitating inter-company synergies, has been the TIE coordinator for the Dunkirk area since 2001.

## Defining the role of the different stakeholders to be involved

Each stakeholder brings expertise and know-how to the TTE process and has different needs and expectations. Collaboration between local companies, local authorities and other tourism professionals is necessary to pilot and implement an TTE approach.

Tableau 3 : The different functions of the stakeholders of an TTEproject

Types of stakeholders	Functions				
	Impulse	Orient	Operate	Finance	Capitalise
International organizations	√	√		√	√
Central administration and its deconcentrated services	√	√	√	√	√
Regions and departments	√	√	√	√	√
Municipalities and inter-municipalities	√	√	√	√	
Countries and NRP	√	√	√	√	√
ADEME	√	√		√	√
Companies of the industry	√		√	√	
Companies in the tourism sector (restaurants, hotels, parks, etc.)	√	√	√		
Experts			√		√
Research and training	√	√			√
Associations and dissemination agencies	√				√
Representatives of the civil society	√				√

Among these different roles, three are particularly important for a TTE project:

- **Initiator:** the person or structure at the origin of the initiative, who must provide credibility and leadership in order to bring on board the various participants necessary for the success of the TTE initiative;
- **Facilitator:** the person or structure responsible for identifying potential synergies and flow optimizations, for the technical and financial set-up of the project, for the animation of the project once it is launched, for ensuring smooth communication between the different stakeholders, and for seeking operational funding if necessary;
- **Project ambassador:** the ambassador acts as a spokesperson for the project, able to communicate clearly on the added value of the synergies created. The project ambassador is an stakeholder in the field, a tourism operator, who has himself carried out a TTE project. His membership in the sector allows him to convince local tourism stakeholders of the opportunities linked to TTE.

The pairing created by the facilitator and the project ambassador plays a fundamental role. It allows for a crossed view on technical issues and the mobilization of key stakeholders. The project ambassador

reinforces the legitimacy of the facilitator among his peers. For example, in the framework of the Tricoquille project, it is useful to have a restaurant owner who is involved, convinced and convincing to go and mobilize other restaurant owners.

## Creating adapted mobilization tools

Mobilizing local stakeholders helps to foster collaboration, ensure that all stakeholders are taken into account and maximize the project's chances of success. At the beginning of the process, the facilitator mobilizes by engaging the stakeholders necessary for the proper implementation of the project. To do this, he/she creates tools for mobilization:

- communication materials that include the environmental, social and economic benefits expected from the project (see 3.3 defining the economic model and financing the approach)
- events such as Hackathons to bring together local stakeholders. The "Bon Vent!" project was created during a Hackathon, organized by the Blue Living Lab in November 2021. In this framework, the Blue Living Lab played the role of facilitator and initiator of the approach, bringing together and coordinating different stakeholders and potential project leaders in the definition of TTE action in the boating sector. Within the framework of the European FACET project, the "Hemsby cup" project was presented during a hackathon on plastic management in Great Britain and inspired another village to set up a similar initiative, with the help of a funder who was also present during the hackathon.
- storytelling: this tool allows to easily convey messages to stakeholders, but also to reach a wider audience and potential funders. TTE projects create environmental, economic and territorial benefits for the stakeholders of the territory, to put forward to mobilize the stakeholders. For example, the Bathô project can rely on the history of boats destined for destruction, which they reuse as unusual housing.
- Mobilizing training and research stakeholders can allow for a spread of approaches by including students in these approaches, who can become vectors of the TTE. For example, in the FACET project, academic partners were involved: HZ University of Applied Sciences in the Netherlands and the University of Greenwich in the UK. In addition, the Université du Littoral Côte d'Opale, located on the Manche-Mer du Nord coastline, was present on the steering committee of the experimentation project for TTE projects led by ADEME, because the InRENT research and teaching institute in tourism, which depends on the university, is studying this type of cooperative project in the field of tourism. The campuses of trades and qualifications bring together secondary and higher education establishments built around a sector of excellence corresponding to a national or regional economic issue supported by the community and the companies of the territory. These sectors include tourism, mobility and energy transition, among others.
- For certain phases of the deployment of the TTE project, it is useful to design a strategy to promote the commitment of the tourism stakeholders involved in the TTE approach (via a charter, an event, etc.) in order to mobilize new stakeholders and attract new partners or clients.

## Success factors

- The success of the animation and governance of a territorial tourism ecology approach depends on the active participation and collaboration of local stakeholders, strategic planning and the definition of clear objectives, the implementation of monitoring and evaluation mechanisms, communication and awareness-raising, and participatory governance and flexibility.
- Setting up simple pilot projects, allowing for "**quick wins**" at the launch of TTE projects, can facilitate the investment of structures in longer-term projects between structures.
- Relying on existing local networks. For example, the Tricoquille project relies on restaurant owners affiliated with the Baie de Somme Zero Carbon association, created on the initiative of tourism professionals wishing to invest in ecotourism.
- Mobilizing a **competent facilitator trained in TIS**. Facilitators trained in TIE/TTE are rare. The person who is expected to play this role in the process can be trained and become a member of communities (such as the Synapse network) to help him or her fulfill this role.
- Obtaining political support and/or having a **recognized ambassador** in the targeted network of stakeholders can open doors.

## Further details

- [The Synapse network](#) offers a toolbox containing various methodological sheets for the facilitation and deployment of TIE approaches in specific contexts that can be inspiring for the facilitation of a TTE approach. The network offers a directory of TIE stakeholders and identifies facilitators trained in TIE methods.
- The guide "[A Quadruple Helix guide for innovations](#)" presents different methods of interaction between stakeholders and tools for community animation and design thinking.
- [The National Program of Inter-company Synergies proposes an effective method for facilitating inter-company workshops](#), dedicated to TIE, but which can be adapted to facilitate TTE projects.
- Synergies Normandie offers tools for monitoring the governance of TIE approaches, which can be adapted to TTE: [Methodological guide for prefiguring and deploying an Industrial and Territorial Ecology approach](#).
- [Blue Living Lab](#)
- The CERDD has produced a [facilitation kit](#) and a [guide on the development of transition projects](#). This resource describes the theoretical bases of the narrative approach and gives methodological keys for storytelling.
- [Campus des métiers et des qualifications](#)
- [The Interreg 2 Seas FACET project shares good practices and tools](#) on the implementation of circular economy projects in the tourism sector, in order to inspire new stakeholders to join these practices.

## 2.3. Defining the economic model and financing the approach

What is expected

- To estimate the costs of the different stages of the project and identify the associated financing
- To define an innovative financing method adapted to transverse and multi-partner projects
- To potentially mobilize aid for the launch of the project while working towards its sustainability

Estimating the costs of the project

In addition to the traditional costs of infrastructures, personnel and purchases, a TTE project generates specific costs, which may differ according to the category of synergy.

- In the case of a resource substitution synergy: there are costs for collection, sorting, preparation for reuse which may include costs for installing additional infrastructure, insurance or qualification of the reused/created material, etc. **For example, in the Tricoquille project, the investment in inerting and collection equipment, operating costs, logistics and the potential cost of processing or buying back the shells and the possible participation of restaurants for the service rendered must be quantified.**
- In the case of a synergy of shared resources or services, there may be additional legal costs to draw up multi-party contracts and specify the responsibilities of each party. Sharing sometimes involves digital interfaces such as a sharing platform, the development cost of which must be integrated. **For example, "Bon Vent!" is based on a digital interface to share knowledge and information and to connect supply and demand.**
- In the case of the creation of an innovative activity, there may be research and development costs, costs related to additional studies to be carried out, costs associated with the selected solutions that may be more expensive than traditional solutions, etc. **In the Camping Paardekreek project, the decision to opt for modular constructions to facilitate their deconstruction required specific architectural studies and dedicated installation costs.**

Finally, the costs related to the animation of the process must be foreseen: personnel costs (project leader in particular), logistical costs (potential room rental, site visit), etc.

Anticipating and measuring economic, environmental and social benefits

A TTE project has positive **externalities that counterbalance potential additional costs**. These must be measured and highlighted.

- **Environmental benefits**

This can be a reduction in waste in the case of a substitution synergy, a reduction in the environmental impact of the product by using an alternative material or a reduction in energy consumption for example. **In the Happy Drêche project, the 9 partner breweries have avoided the generation of 2 tons of waste by using spent grain as raw material, which corresponds to an estimated avoided impact of 1.5 tons of CO<sub>2</sub> emissions.**

In the case of a mutualization in the form of economy of functionality (selling the use and not the good), the fact of having incomes dissociated from the consumption of resources, encourages the owner-renter to a more sustainable management of the products and allows to have a consumption for the tourist that corresponds to his fair need (source ADEME, Opinion on the economy of functionality, 2019).

- **Economic benefits**

These can be a reduction in waste treatment costs for the structures generating them, economies of scale in the case of mutualization synergies, income from the sale of manufactured products, etc.

**Within the framework of the Happy Drêche project, the project leaders are in charge of the collection and treatment of the spent grains without additional costs for the partner breweries. The latter see the cost of processing their production waste reduced.**

- **Benefits in terms of territorial attractiveness**

The TTE creates an additional offer on the territory (accommodation, sale of local products, bicycle rental, etc.) which contributes to the tourist attraction. This offer can result in the creation of local jobs, in particular by calling upon the stakeholders of the social and solidarity economy of the territory.

## Building the financing plan

It is possible to call upon different funding sources:

- private financing organizations (BPI, banks, other private investors and local financiers);
- public funding organizations (ADEME, Region for example) that can help launch the project;
- local authorities that can benefit from the project's spin-offs for their territory;
- final users of the project (tourists and local population) via financing solutions such as crowdfunding or pre-sales.

For example, for the Hemsby Cup project of reusable and returnable cups by the cafés and restaurants of the town of Hemsby in England, the purchase of the cups was taken care of by the European project Interreg 2 Mers FACET and then entrusted to the cafés and restaurants which manage the deposit.

**Highlighting the benefits of the project** (economic, environmental, social, especially in the tourism sector) is important to attract funders. The readability of the project is also essential because a TTE project can be complex to present and understand at first glance because of the inter-company synergies and possible additional loops that are added to the initial project. *The "Bon Vent!" project was able to carry out various pitches of its project and win prizes thanks to this work of highlighting the benefits of the project in the face of the important issues of the end of life of pleasure boats and to their efforts to present the project in an educational way.*

In France, funding schemes exist, linked to TIE, circular economy and sustainable development, which can support the development of TTE projects. In particular, the COVID-19 crisis has received significant responses from the national authorities, including the Plan France Relance and the Fond Tourisme Durable, which allow the financing of profound changes in the tourism sector.

All of these existing aid mechanisms can be applied to TVE approaches if tourism operators carry out a project in a mutualized manner, meeting a common need (e.g., purchase of a "fleet" of reusable packaging for take-out sales, used in a common manner by a group of restaurant owners in the same geographical area, purchase of electric vehicles for a shuttle service serving a group of tourism establishments, etc.).

**Solidarity-based financing organizations** also make it possible to support projects and are key elements for their development and sustainability. For example, the solidarity financing organization for committed entrepreneurs, France Active, is present throughout France (42 associations) and can provide technical and financial support to TTE project leaders.

**ADEME's regional offices and local authorities** can also directly support projects in the regions. Finally, crowdfunding can be used to finance the process and make the project known to the local communities where the TTE project is implemented.



## Focus on extended producer responsibility (EPR) channels

France has many channels based on the **principle of extended producer responsibility (EPR)**, according to which those responsible for placing certain products on the market can be made responsible for financing or organizing the prevention and management of waste from these products at the end of their life.

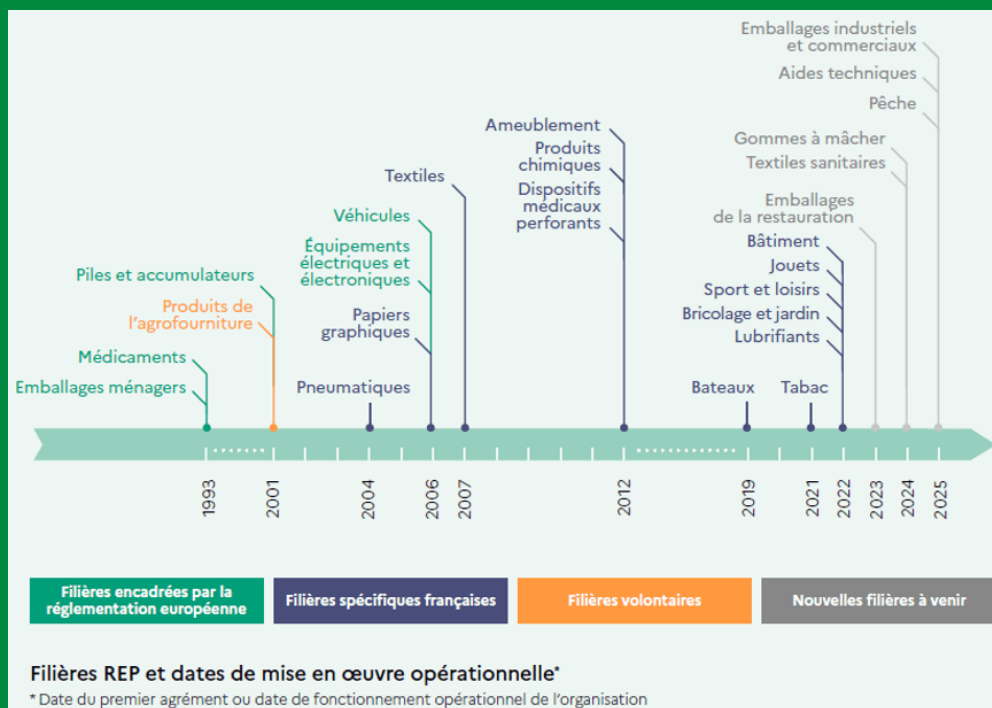


Figure 25 : Extended Producer Responsibility channels - existing and future - ADEME 2022

TTE projects can rely on this structuring of sectors, which provides **a framework conducive to the development of initiatives aimed at extending the life of products and developing reuse or recycling.**

Two financial support mechanisms are planned for each of the following sectors: electrical and electronic equipment, textiles, furniture, sports and leisure, home and garden, and toys:

- A **repair fund**: its purpose is to reduce the cost of repair for consumers when they go to a labeled repairer in order to favor repair over replacement of products.
- A **reuse fund**: its purpose is to support social and solidarity economy stakeholders who give a second life to products. This measure promotes employment, integration and ecological transition. Each eco-organization must dedicate a minimum of 5% of the total amount of contributions paid to it by marketers.

Other measures are also provided for in the EPR sectors, such as the free return of waste from the activities of reuse and recycling companies.

## If necessary, launch a crowdfunding campaign

A crowdfunding campaign can be organized to obtain funds for the project (usually between 5 and 15 k€) and to test the interest of the project with the target audience. Crowdfunding is **adapted to small projects and experiments. Often, the objective is to communicate massively via the power of the Internet and to generate local commitment.** The central issue is obviously that of raising funds to consolidate a financing plan (to acquire a machine, premises, develop a prototype), **but it is also this emulation of the territory that project leaders are looking for.** This can be done within the framework of programs led by institutions such as tourism development agencies (ADT), cities or regions. This type of financing **makes sense for a project where the individual is at the heart of the project,** as is the case for tourism

projects. Crowdfunding allows to verify the interest of the final customers of the project of TTE (buyers of the made product, users of the proposed service).

Sarthe Tourisme (the tourism development agency of the Sarthe), has launched a partnership with Kiss Kiss Bank, which has allowed to support 19 territorial tourism projects between 2021 and 2022.

Tourisme & Territoires du Cher has partnered with Kiss Kiss Bank to encourage, support and promote tourism projects. The 4th edition will take place in 2023. 25 projects have been supported in the first 3 editions.

## Success factors

- Defining a financing method with the objective of sustaining the project after the launch phase
- Associating the end of the tourism value chain to the definition of derivative products to guarantee a market
- Being aware of and relying on the EPR systems in place if the project's products are subject to them
- Including in the partnership contracts the conditions for updating the project's business plan if the project evolves or does not meet the expected objectives
- Measuring the emissions avoided by the project with a recognized method of quantifying environmental impacts (GHG emissions assessment or LCA to evaluate different impacts) and subject to verification by a third party. This is a prerequisite for having robust data on which to base your communication.

## Further details

- [ADEME website referencing advice, assistance and financial support to act for the transition.](#)
- [Approach to the realization of greenhouse gas emission balances.](#)
- [ADEME's opinion on the economy of functionality.](#)
- [Towards a functionality economy with high environmental and social value in 2050. The service and territorial dynamics at the heart of the new model.](#) ADEME, ATEMIS, Patrice VUIDEL, Brigitte PASQUELIN, 2017.
- Practical sheet "[CONTRACTUALIZATION AND LEGAL COMMITMENTS](#)" of the ADEME guide, Implementation of an inter-company synergy, 2019.
- [Kisskissbank page of Sarthe Tourisme](#)
- [Tourism Territories of Cher](#)
- [General framework of the extended producer responsibility channels](#)
- [EPR regulations](#)

## 2.4. Evaluating and communicating the process

What is expected

- To define indicators allowing to ask the right questions at the beginning of the project and to verify that all the stakeholders contributing to the success of an TTE project have been considered, from governance (territorial dynamics between stakeholders) to the socio-economic model (jobs, expected economic benefits)
- To propose ex-post indicators to measure the environmental and economic impacts in order to appreciate the benefits of the project. These indicators are linked to the optimization of flows and consumption of resources on a territory allowing to objectify and to concretely value the TTE approaches
- To measure, if possible, the territorial impact of sustainable development of an TTE approach (a more complex approach because this impact is multifactorial).
- To reorient and adjust the action/project if the evaluation shows that the objectives are not achieved.
- To communicate on the results to massify the approach.

To date, there is no specific reference framework for TTE. The indicators proposed in this section are an adaptation of the ELIPSE indicators, dedicated to TIS projects, completed with indicators specific to the tourism sector. These specific indicators for the tourism sector are based on the ETIS (*European Tourism Indicator System*) and MST (*Measure Sustainability in Tourism*) reference systems, international reference systems for the evaluation of responsible tourism approaches.

Defining ex-ante indicators: questions to ask when launching the process

Table 4 : List of ex-ante indicators for evaluating TTE approaches

Theme	Example of an indicator
Governance: stakeholder involvement	<u>Social impacts and governance</u> <ul style="list-style-type: none"> <li>- Does the approach benefit from the explicit support of one or more local stakeholders who are particularly recognized and leaders?</li> <li>- How many structures of each type are involved in the process (tourism companies, other companies, associations, local authorities, CCI, ADEME, regional and departmental councils, environmental associations or local residents)</li> <li>- What types of structures are targeted in this approach (benefiting directly from the synergies achieved)?</li> <li>- What types of structures are involved in steering the process (strategic decision-making)?</li> <li>- What types of structures are partners in the process (support for the organization, animation, realization of synergies)?</li> <li>- Are these stakeholders used to meeting and working together in other structures / local dynamics?</li> </ul>
	<u>Territorial impacts</u> <ul style="list-style-type: none"> <li>- Is the approach part of a regional/local context that has identified TTE as a strategic or planning focus?</li> </ul>
Governance: formalization	<u>Social impacts and governance</u> <ul style="list-style-type: none"> <li>- Is there currently a permanent local structure in charge of the process?</li> <li>- Is there currently a local structure in place to lead the process?</li> <li>- What is the legal status of the structure leading the approach?</li> <li>- What is the number of FTE dedicated to the animation of the TTE approach (within the structure if necessary)?</li> <li>- Has a commitment charter been signed by all partners?</li> </ul>

Business model	<u>Social impacts and governance</u> <ul style="list-style-type: none"> <li>- How much of the overall annual budget is allocated to the different missions of the approach: animation, study and expertise, others?</li> </ul>
	<u>Environmental and economic impacts</u> <ul style="list-style-type: none"> <li>- Has an economic model been defined to ensure the sustainability of the process? For the next 3, 5 or more years?</li> <li>- What is the global annual budget dedicated to the approach?</li> </ul>
	<u>Territorial impacts</u> <ul style="list-style-type: none"> <li>- How are the different sources of funding for the approach distributed? Regional public subsidies (ADEME, Region), local public subsidies (EPCI), other sources of public funding, company memberships/subscriptions, service provision, remuneration of synergies, sponsoring, participatory funding, other sources of private funding, the structure's own funds.</li> </ul>
Synergy assessment	<u>Environmental and economic impacts - flow assessment</u> <ul style="list-style-type: none"> <li>- Are the planned synergies evaluated upstream (ACV, before/after scenario simulations, etc.) to verify their relevance and their potential impacts in terms of sustainable development (GHGs avoided, tons of waste avoided, kWh saved, etc.)?</li> </ul>
Impact of substitution synergies	<u>Environmental and economic impacts - flow assessment</u> <ul style="list-style-type: none"> <li>- How many potential substitution synergies have been identified?</li> <li>- How many alternative synergies have been investigated and explored?</li> </ul>
Impact of mutualization synergies	<u>Environmental and economic impacts - flow assessment</u> <ul style="list-style-type: none"> <li>- How many potential mutualization synergies have been identified?</li> <li>- How many mutualization synergies have been studied and explored?</li> </ul>

## Defining ex-post indicators: questions to ask to evaluate the process

Table 7 : List of ex-post indicators for evaluating TTE approaches

Thème	Exemple d'indicateur
Governance: formalization	<u>Social impacts and governance</u> <ul style="list-style-type: none"> <li>- Est-ce qu'une gouvernance partagée a été mise en œuvre au sein de la démarche d'TTE dès le lancement de la démarche ? Si oui, comment cela s'est traduit ? (Co-construction des objectifs, mobilisation des entreprises et de leurs relais, suivi/évaluation, autre)</li> </ul>
Business model	<u>Environmental and economic impacts - flow assessment</u> <ul style="list-style-type: none"> <li>- When will the TTE approach be more than 50% self-sufficient in private funding?</li> </ul>
Mise en place d'un suivi de la démarche	<u>Social impacts and governance</u> <ul style="list-style-type: none"> <li>- Is there an evaluation process for the TTE process? Which structures are involved in this evaluation?</li> <li>- How often does the evaluation process take place?</li> <li>- Are the results of the evaluation shared and discussed with all stakeholders in the process?</li> </ul>
Communication	<u>Territorial impacts</u> <ul style="list-style-type: none"> <li>- Has a communication strategy (with local decision-makers, regional authorities, etc.) or even a territorial marketing strategy (e.g., creation of a brand) been put in place?</li> <li>- Have documents been produced that can be distributed to promote your approach?</li> <li>- Are the visitors/tourists/local population aware of the approach implemented?</li> </ul>
Synergy assessment	<u>Environmental and economic impacts - flow assessment</u> <ul style="list-style-type: none"> <li>- Is there regular or annual evaluation or monitoring of the synergies implemented?</li> </ul>
Operational	<u>Environmental and economic impacts - flow assessment</u>

implementation: creation of activities	<ul style="list-style-type: none"> <li>- Have innovative synergy experiments taken place (creation of a new value chain for a co-product, etc.)?</li> <li>- Have new market opportunities been created in the framework of the TTE approach (by the companies or the third party)? <ul style="list-style-type: none"> <li>o new activities within the companies of the territory ;</li> <li>o new activities in tourism companies;</li> <li>o new activities within new companies created for the realization of the synergy;</li> <li>o relocation or creation of infrastructures for the looping of flows.</li> </ul> </li> </ul>
Operational implementation: creation of jobs	<u>Territorial impacts</u> <ul style="list-style-type: none"> <li>- How many businesses have set up as a result of the process? (directly or indirectly)</li> <li>- How many jobs (FTEs) have been created thanks to the establishment of companies or the creation of activities thanks to the approach? (directly or indirectly)</li> <li>- How many jobs (FTE) have been maintained thanks to the synergies achieved?</li> </ul>
Impact of substitution synergies	<u>Environmental and economic impacts - flow assessment</u> <ul style="list-style-type: none"> <li>- How many alternative synergies have been implemented?</li> <li>- What are the characteristics of the implemented substitution synergies? <ul style="list-style-type: none"> <li>o Nature of flow and valuation</li> <li>o Quantity exchanged</li> <li>o Reduction of material consumption (input flows)</li> <li>o Improvement of waste management and treatment methods (outgoing flows)</li> </ul> </li> </ul>
	<u>Territorial impacts</u> <ul style="list-style-type: none"> <li>- Beneficial returns for companies and the territory:</li> <li>- Turnover generated, financial savings made, investments made</li> </ul>
Impact of mutualization synergies	<u>Environmental and economic impacts - flow assessment</u> <ul style="list-style-type: none"> <li>- How many mutualization synergies have been implemented?</li> <li>- What services have been shared for the companies/structures involved in the TTE approach?</li> </ul>
Other impacts	<u>Environmental and economic impacts - flow assessment</u> Within the framework of the approach, have actions been taken to reduce consumption other than inter-company synergies?

The indicators on which to measure the success of the TTE approach studied must be defined in collaboration with the stakeholders involved in the project. This will ensure that all stakeholders have a common vision of the purpose of the process, as well as anticipate the needs of each stakeholder in terms of monitoring.

Numerous indicators have been set up within the framework of the European FACET project to evaluate the projects carried out and the achievement of objectives. They assess the results (waste reduction) but also the mobilization of stakeholders (number of stakeholders sensitized, etc.). Thus, the number of stakeholders mobilized in pilot projects, the % of cost and waste reduction associated with the approaches implemented, or the number and type of stakeholders made aware of the TTE approaches and methods have been measured. Indicators for communication were also defined to measure the dissemination of information: number of publications, webinars, articles published in connection with the approach. ADEME, a member of the FACET project, was in charge of collecting data from the stakeholders involved in the project and of ensuring regular follow-up.

#### Assessment by an independent expert:

The assessment of a territorial tourism ecology approach can be carried out by an external expert familiar with assessment methods. The experts can be consulting firms, tourism or territorial ecology consulting firms, professional associations of the tourism sector, universities and specialized research centers.

The costs of support for the evaluation of territorial tourism ecology approaches can vary considerably depending on stakeholders such as the duration of the support, the complexity of the approach to be evaluated, the number and nature of the experts involved, the evaluation methodology used, etc. Consequently, it is difficult to give a precise cost for this type of support. Nevertheless, it is recommended to plan a sufficient budget (> 10 k€) to guarantee the quality and the rigor of the evaluation, according to the expectations and the objectives of the evaluation. Within the framework of the Tricoquille, Bon Vent! and CABBALR projects supported by ADEME, the approaches were evaluated by ECOPAL, a structure specialized in the support and facilitation of inter-company synergies.

## Reporting on the results

Reporting on the beneficial aspects of the TTE project measured allows to massify the impact of the project by encouraging the involvement of new stakeholders in the project. Thus, the project can be expanded by allowing other stakeholders to join the initial project, or by duplicating the project in another tourism territory.

Reporting must be based on the indicators monitored in order to highlight the results of the approach and be based on the testimonies of the tourism stakeholders in order to call upon their counterparts. For example, the "Bon Vent!" project requires the involvement of a relatively large public in order to exist. The project leaders are therefore multiplying the opportunities to make themselves known by skilfully using competitions such as the pitch competition at the Weekend Innovation Tourism in Le Touquet, where they received first prize in March 2022, or the Ocean Pitch Challenge 2022 competition in Brest, where they received third prize among 86 candidates.

## Success factors

- The method of monitoring and evaluating the chosen indicators must be defined when the indicators are chosen.
- Depending on the project's economic model and its financing method, the monitoring indicators must make it possible to respond to requests from financiers and/or potential labels to be obtained for the project.
- Communicating widely to make the project known and to ensure that the proposed service is integrated into the local tourism offer.

## Further details

- [ELIPSE](#) : repository dedicated to TTE approaches
- [European Tourism Indicator System \(ETIS\)](#), European Commission: reference framework for responsible tourism indicators
- [Mesurer la durabilité du tourisme \(MST\)](#), World Tourism Organization: A policy tool that enables countries to produce credible, comparable and integrated data to better guide sustainable tourism decisions and policies
- [Ocean pitch challenge ®](#)
- [Week-end Innovation Tourisme du Touquet](#)