Emergence factors of territorial competitions in the circular economy

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Introduction

In order to transform themselves and move away from traditional linear development models, more and more territories are placing the circular economy at the heart of their transitions to more sustainable development models. The circular economy is seen as an economic system that aims to replace the concept of "end-of-life" with the reduction, reuse, recycling and recovery of materials throughout the supply chain by integrating flow loops on the value chain (Mosgaard et al., 2025).

Thus, the transition of territories to the circular economy implies a paradigm shift on the status of waste, which is no longer considered, at the end of its life, as worthless goods that are abandoned, but rather as strategic resources on a territorial scale. The increasing value of these flows on the markets, the development of numerous recovery technologies and the increase in demand for secondary raw materials are changing the terms of access and availability of these flows (Florin, 2016). In a context of tension over resources, dynamics of competition can emerge between different actors, particularly for the security of resource supplies or investments (Carrascal, 2009).

These dynamics can, in the long term, jeopardize the implementation of a territorial circular economy, if they are not understood and sufficiently anticipated by the actors. In addition, they can have a lasting effect on the performance of territories, by giving rise to new forms of dependence, on the one hand, and by reinforcing social and territorial inequalities on the other hand (Florin, 2016).

While the concept of "competition" is widely mobilized in the humanities and social sciences, management sciences and economics, often through other related concepts such as rivalry and competition (in a market), the work carried out in industrial and territorial ecology for the planning and evaluation of multi-stakeholder systems for looping resource flows only very rarely addresses it (Tanguy et al 2020). Indeed, the emphasis is above all on the cooperation of actors sharing resources, and on the conditions favorable to the implementation of these symbioses (Maillefert & Robert, 2020; Baas & Boons, 2004). However, we hypothesize in this work that competition is an inherent dynamic and often prior to a shared management of territorial resources, which, if not sufficiently taken into account in arbitration decisions, can

lead to situations of open or latent conflicts (Darly & Torre, 2008; Méry et al., 2010; Tall et al., 2025).

In this context, we propose to address the challenges of implementing circular strategies (in particular, those of waste recovery) with a reading focused on the factors of emergence of competitions on resource-waste at the territorial level. The objective of this work is to describe and analyze the conditions in which these dynamics appear in order to better understand them in order to ultimately integrate them into territorial waste management planning models. Following a deductive approach based on a multidisciplinary literature review, this study constitutes a preliminary work for the development of a framework for the analysis and evaluation of competitions in a territorial context.

This article is constructed as follows. The first part describes the methodology followed, based on a literature review whose coding allowed the extraction of different types of competitions and associated emergence factors. A second part presents the different forms of expression of competition identified in the literature, highlighting their characteristics and the conditions in which they appear. This analysis concludes with a presentation of the emergence factors that represent conditions likely to favor the emergence and intensification of competition

1. Methodology

1.1. Literature review

The overall methodology related to the literature review is presented in Figure 1. This was carried out using the Google Scholar, Science Direct and Web of Sciences search engines and based on the following search equation (in English and French):

« Compétition » OR « conflit d'usage » OR (« tension » AND « ressource ») OR (« competition" AND "ressource") OR (« conflit » AND « resource »)

This initial search identified 103 articles deemed relevant based on the title, which had to include at least one of the keywords. Reading the abstract made it possible to eliminate 46 of them. The exclusion criteria were :

- The reference to a sports competition: because it refers to an organized confrontation between individuals or teams in an entertainment framework governed by specific rules and does not concern the dynamics of access, security or appropriation of the resources studied in this work.
- The reference to a political competition: insofar as it refers mainly to the rivalry between actors, parties or institutions for access to power, influence or political representation. Although it sometimes mobilizes material or symbolic resources, its main objective differs from the issues of resource allocation and distribution discussed in this study

- The reference to an armed or geopolitical conflict: because these actions generally deal with the balance of power between states, armed groups or international actors in contexts of security, sovereignty or territorial control.
- The reference to purely economic competition: when competition is seen solely through the prism of rivalries between companies that want to maximize their profits, or their competitive advantage, without a direct link to a resource. More specifically, when the competition is exclusively focused on market segmentation, business practices, financial performance or corporate positioning strategies.

At the end of this first process, 57 articles were selected, 13 of which explicitly proposed a definition of the concept of competition. This corpus has formed the basis for analysis to identify the forms of competition and their factors of emergence.

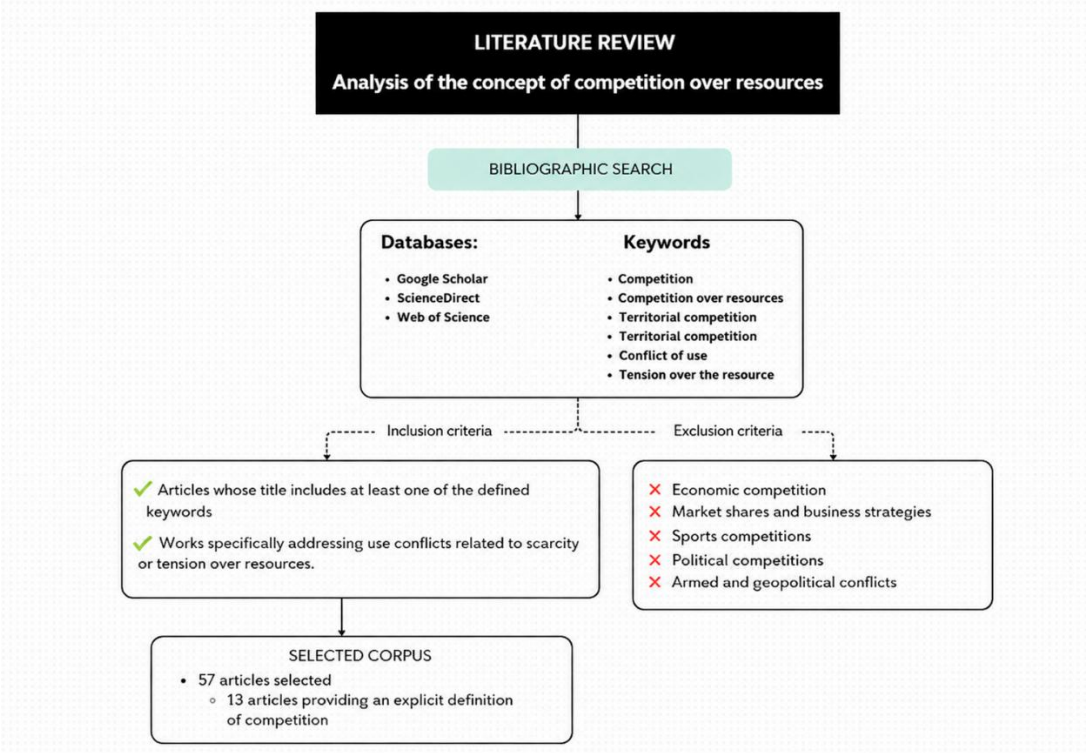

Figure 1: Literature review methodology

1.2. Competitions and Emergence Factors

1.1.1 Definition of the concept of "competition" on resources

To better understand the concept of competition and identify its characteristics, we have relied on 13 articles that propose definitions of this concept. The cross-analysis of these definitions

has made it possible to highlight the elements that constitute competition as well as the mechanisms that characterize it in different disciplines. In the life sciences, competition refers to the exploitation of the same resource limited in quantity or accessibility by two organisms, so that the presence of one leads to a decrease in the availability of the resource for the other (Miquel, 2015). In economics, it also refers to a situation in which several parties pursue the same objective or seek to capture a coveted resource, generally leading to the existence of a winner and a loser (Ives et al., 2020). Thus, competition can be defined as a mechanism by which economic or social actors wish to access limited resources, via cooperative or conflictual strategies. Finally, approaches in the social sciences and philosophy emphasize that competition is both a material and a social relationship, structured by the scarcity of resources and the interactions between actors (Legeay, 2023). However, the mere coexistence of actors is not enough to characterize a competition, there must be an active dynamic aimed at improving its advantage over other actors (Linick, 2014).

1.1.2 Elements of characterization of the concept of "competition" on resources

The analysis of the competitive situations from our corpus has shown that they can all be described and characterized by the quadriptych illustrated in Figure 2: *Who? – What? – For what? – Where?*

These four elements constitute the identity card of all competitions. The first element, the "what", corresponds to the object in competition. In this work, we only have resources as a competing object. In some cases, these resources can also compete, particularly in the energy sector with wood energy (Tanguy, 2019), which can be used as a fuel compared to natural gas, or secondary resources compared to conventional resources (Beir et al., 2023). The second element, the "who", concerns the stakeholders, the actors involved in the competition. If a competition is always held around a competing object, it cannot take place without at least two actors giving rise to the forms of competition known as between actors. This category of competition can be illustrated in the field of waste by those involved in the informal collection of recyclable waste as opposed to private companies or as breeders and farmers competing with each other for a water resource (Ayeb, 2009, Tall et al., 2025) or opposed to industrialists and real estate developers around land (Darly & Torre, 2008). The third element concerns the "for what", the uses, for which the actors covet the resources, as is the case for the waters of the Sierra Nevada de Santa Marta in Colombia where the needs for domestic, agricultural and

industrial consumption are confronted. (Carrascal, 2009). Finally, the place of expression of the competition correspond to the "where". We have observed that competitions can take place in physical spaces, particularly at the level of a country (Emilie, 2012; Bischoff et al., 2025; Ayeb 2009) of cities (Gurza, 2016; Florin, 2016; Poupin, 2021; Tall et al., 2025; Beuret et al., 2025; Carre, 2010) and of regions (Méry et al., 2010; Carrascal, 2009). However, the places where competitions are expressed are not limited to physical places. Tanguy (2019) tells us that there are competitions at the level of a local project, regional planning but also at the level of global energy markets, as also shown by Dahou et al. (2013) who see renewable resource markets as privileged spaces for competition. For their part, Beir et al. (2023) are interested in the dynamics of competition at work in commodity markets, particularly between products from mining and those from recycling

These four elements identified in our analysis and which characterize competition are also identified in the work of Torre et al., (2010) on conflicts related to the use of space. Thus, the authors show that the analysis of conflicts is articulated around the actors involved, the motives of conflictuality, the spaces supporting the conflict and the conflictual uses. Similarly, Dziedzicki (2004) highlights that planning conflicts can be studied through the actors of protest, the object of the disagreement, the places where it is expressed and the claims or projects of use. This convergence suggests that these four dimensions are structural elements of situations of resource competition.

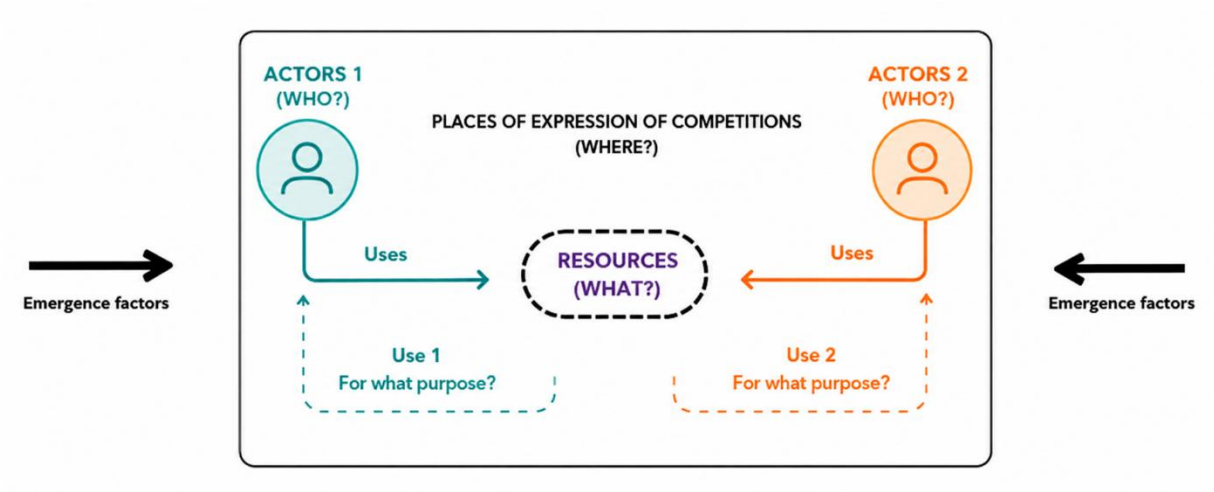

Figure 2: Conceptual Diagram of the Competition

In the framework of this work, we will define competition over resources as a situation in which a resource is coveted by at least two actors for the same or different uses, within a space of physical or immaterial confrontation, structured by a set of rules, objectives and constraints.

1.1.3 Identification of the emergence factors of competitions

A deductive approach was used to identify the factors for the emergence of competitions and the main stages are presented in Figure 3. In the various articles of our corpus, we first looked for situations of competition, tension and conflict over the use of resources in the sense of the definition of Torre et al., (2010) who defines tension as an opposition without commitment of the protagonists, while conflict is seen as "any tension that turns into a declared confrontation, which involves the commitment of one or more of the parties involved" (Torre & al., 2010).

For each of the situations identified, we have highlighted the elements likely to explain the causes or origins through expressions such as: "stir up conflicts", "is a factor of", "have entered into competition", "creates tension", "generates a race to". We exclude all competition situations where the object in competition is not a resource and keep all situations that address issues related to conflicts of use, confrontations over a resource.

The selected elements are then ranked according to their number of occurrences. To avoid redundancies and not overrepresent certain factors, the elements that describe the same thing have been merged. For example, elements such as "It is in this context of more or less regulated distribution that conflicts arise" (Tall et al., 2025) and "the root systems of seedlings and /competing vegetation can be distributed in the same horizons and therefore share the same water resource" (Miquel, 2020) have been grouped under the factor of emergence of resource sharing, insofar as both describe a situation in which several actors simultaneously covet the same resource.

The thematic groupings of the selected factors of emergence are then classified into categories and subcategories based on the work of the RECORD project (2024) which deals with competitions in waste management sectors. This work identifies several categories of emergence factors, including macroeconomic and regulatory factors, factors related to public policies, industrial strategies, the regional context and land tenure. These categories have served as a basis for reflection to codify and analyze the factors identified in the literature while leaving room for the identification of complementary factors specific to the different contexts studied. Thus, we have categorized our elements as follows:

- Factors referring to prices, costs, profitability, the market value of resources or market mechanisms have been grouped together in the category of macroeconomic factors.
- Factors related to laws, regulations, standards, directives, treaties or compliance obligations have been included in the regulatory category.
- Elements referring to the specificities of a territory, such as its historical and social context, its degree of industrialization, its economic structure, the diversity of activities present or its demographic characteristics have been grouped together in the regional context category.
- Factors relating to national or territorial objectives, development plans, sectoral policies, support mechanisms, incentive mechanisms or strategic orientations of public authorities, have been grouped together in the public policy category.
- Elements referring to investment choices, supply strategies, expansion policies, resource security strategies or decisions to develop new sectors have been grouped together in the industrial strategies category.
- Factors related to land availability, accessibility, use, land use constraints, competition between land uses and the possibility of setting up new infrastructure have been grouped together in the land category

In addition to these categories, we have also grouped items from the literature into the following categories:

- Resources and deposits for elements relating to the quantity available, quality, geographical location, physical accessibility or rarity of a resource.
- Finally, factors associated with the environmental characteristics of the territory, such as climatic conditions, ecological constraints, environmental impacts or pressures on ecosystems, were grouped into the environmental category.

The last step was to harmonize the categories of emergence factors in order to obtain a more coherent, readable and complete typology. This harmonization consists in the identification of categories that refer to similar logics. For example, factors related to public policies (support mechanisms, incentive mechanisms, strategic orientations of public authorities) and those associated with corporate or private actor strategies (securing supplies, capturing resources, etc.) all reflect the strategies of actors aimed at directing access, use or control of resources. These elements can be grouped into a broader category entitled "Governance and stakeholder strategies".

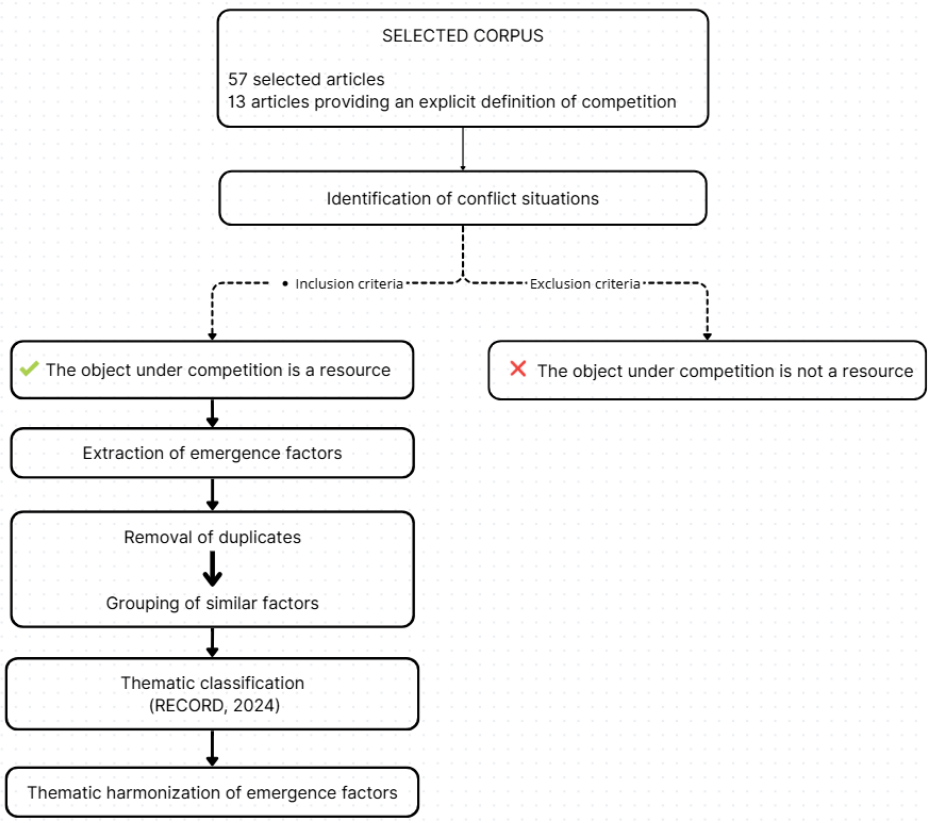

Figure 3 : Methodology for the classification of factors of emergence

2. Results and discussion

2.1. The different forms of expression of competitions in the territories

Using the conceptual framework for the analysis of competitions previously defined in Table 1, 8 forms of expression of competitions have been identified:

- The competitions of use
- Competitions between actors,
- Competitions between modes of valorization,
- Competitions between resources,
- Competitions between territories,
- Yardstick Competitions,
- Competitions between sectors of activity
- Competitions between technologies.

However, these different forms of competitive expression do not correspond to fundamentally different realities. They merely translate an analysis from different angles of the same phenomenon. As mentioned earlier, we define competition as a situation in which "a resource is coveted by at least two actors for the same or different uses, within a space of physical or immaterial confrontation, structured by a set of rules, objectives and constraints". The different forms of competition therefore focus mainly on one of the specific dimensions of competition, rather than describing it as a whole.

For example, a competition between actors is not defined solely by the presence of actors, since in all competition situations, there are at least two actors. Rather, this type of competition means that the analysis focuses mainly on the nature of the actors involved, their number, their relationships or their importance in the system studied. Similarly, a competition of use aims to highlight the uses of the resource and the possible consequences associated with it. Competition between territories follows the same logic, territories are considered as actors who covet a resource for one or more different uses. The same competition situation can therefore be analyzed at the same time as a competition between actors, a competition of use or a competition between territories.

In order to test this hypothesis, three examples are presented:
The first example concerns conflicts related to land tenure and conflicts over use around Lake Guiers in Senegal (Tall et al., 2025). In this case, farmers and herders compete for access to water resources. This resource is used for different purposes: irrigating crops for the former and watering herds for the latter. The second example concerns the competition observed in Istanbul in the early 2000s between informal waste collectors and private companies entering the recyclable waste collection market (Florin, 2016). Here, several categories of players covet the same resource, i.e. recyclable waste, with the aim of recovering it and deriving economic value from it. The third example concerns the competition between recycled raw materials and conventional raw materials described by Beir et al. (2023). In this situation, the two types of resources are competing to meet the same industrial needs within the production chains.

In these three examples, we can easily identify the actors involved ("who?"), the resource concerned ("what?"), the associated use ("for what?") and the space in which the competition is expressed ("where?") as illustrated in Table 1.

Table 1 : Examples of competition characterization

	Who? (Actors)	**What? (Resource)**	**For what? (Usage)**	**Where? (Competition venue)**
Conflicts around Lake Guiers in Senegal (Tall et al., 2025)	Farmers / Breeders	Water	Crop irrigation / Herd watering	Lake Guiers, Senegal
Waste collection in Istanbul (Florin, 2016)	Informal waste pickers / Private companies	Recyclable waste	Waste recovery	Istanbul, Turkey
Recycled raw materials vs conventional raw materials (Beir et al., 2023)	Actors in the recycled sectors / Actors in the conventional sectors	Raw materials	Industrial Process Supply	Industrial Markets and Supply Chains

"Territorial competition is often analyzed as a competitive game. A game in which local authorities would seek to attract as many companies as possible to their site, in order to benefit from several advantages" (Philippe-Dussine, 2001). It manifests itself at different geographical scales and can concern issues such as resources, infrastructures (Tanguy, 2019) or economic attractiveness (Philippe-Dussine, 2001). In Italy, several provinces are compared to each other and none of them wants to be the one that does worse than the others. They are put in competition on their performance in terms of collection rates and their ability to meet the recycling targets set by the European Union (Agovino et al., 2025). In waste management in Barcelona, the city has been divided into areas entrusted to different companies in order to analyze and compare their performance (Bel & Sebő, 2020). This is referred to as competition by comparison (Agovino et al., 2025).

Natural resources such as soils or agricultural lands are the subject of conflicts between urbanization, environmental protection and agricultural uses, due to land pressure amplified by peri-urbanization, pitting farmers, real estate developers, politicians, associations and citizens against each other (Darly & Torre, 2008). Competition can also be human and social, when it comes to skilled labor in the household waste treatment and recovery sector (Baguelin et al., 2021). It also manifests itself between actors for access to the same resources, as in waste recovery sectors where formal private operators and informal actors such as ragpickers, locally anchored and directly recovering recyclable fractions as close as possible to the deposits, which generates situations of competition, including with certain municipal agents (Bertolini & Brakez, 2008).

2.2. The factors behind the emergence of competitions

Our review of the literature shows that competition for resources is not the result of a single factor, but of a combination of different mechanisms at different scales. Competitions occur when the conditions of access, availability or development of a resource change and different actors want the same resource. Thus, the application of the methodology presented in Figure 3 made it possible to identify a total of 233 elements. After grouping and removing duplicates, we kept 116 elements grouped into 8 categories of emergence factors. The harmonization phase of these categories has led to the reorganization of the selected elements into 4 main categories of emergence factors, which are themselves divided into 24 subcategories as illustrated in Table 2.

Table 2 : Category and subcategories of factors of emergence from literature

Categories of Emergence Factors	Subcategories of Emergence Factors
Governance factors and stakeholder strategies	Coexistence of actors (at least two)
	Coexistence of uses (at least two)
	Strategy of a private player
	Strategy of a political actor
Socio-demographic factors	Socio-economic conditions
	Population growth
	Rising consumer demand
	Growing demand for resources
Physical and territorial factors	Limited physical access to the resource
	Change in the use of resources
	Unequal geographical distribution of the resource
	Improved resource quality
	Quality of the degraded resource
	Increasing quantity of resources
	Limited resource quantity
	Seasonality of the resource
Economic and techno-economic factors	Resource allocation
	Increased resource value
	Higher cost of conventional resource
	Low cost of production (recycling)
	Low transport (recycling) cost
	Promotion of territorial resources
	Low market price of the conventional resource
	High market price of the conventional resource

2.2.1. Governance factors and stakeholder strategies

In the context of our study, governance factors and stakeholder strategies represent those most directly linked to the emergence of competitions. The coexistence of at least two actors around the same resource is a prerequisite for the emergence of a competitive situation. Tensions emerge when sharing arrangements are perceived as inequitable, poorly regulated, or historically contested (Florin 2016; Tall et al., 2025; Ayeb, 2009). The sharing of the resource is therefore at the heart of conflicts and competitions, because it increases the pressure put on the resource, in particular by increasing the number of actors around it.

The greater the number of actors who are interested in a resource, the greater the risk of having competition for this resource (Carrascal, 2009). Similarly, a resource can be used for different, sometimes complementary but often opposing uses (Tall et al., 2025; Ayeb, 2009). As a result, each use needs to secure its supply, which can create tensions between players and lead to competition for resources. When specific means are put in place, techniques and strategies mobilized to secure supplies, we then speak of a strategy of actors, whether they are political (Emilie, 2012; Florin, 2016) or a private actor (Agovino, 2024; Tanguy, 2019). The work of Tanguy (2019) illustrates this dynamic by showing that in the face of the challenges of ecological and energy transition, each port area is developing its own strategy. These choices are intended to differentiate themselves from other players. This generates competitive situations, for example, access to investments, pilot projects or infrastructure. The principle of mimicry, mentioned by Agovino et al. (2024), particularly in situations of competition by comparison, is one of these actors' strategies. Indeed, in a context of competition, some territories tend to imitate the strategies of their neighbors, which are considered more efficient, in order not to be marginalized and not to lose competitiveness. Tall *et al.* (2025) tells us about an agricultural society, which shares the water of Lake Guiers in Senegal, with local farmers and herders. However, as the quantity of water available had decreased, it decided, outside of any concerted framework and legal authorization, to appropriate the water resource by digging a second irrigation canal. This situation thus breaks the balance of sharing established with the other actors, making them enter a phase of competition for this resource.

Finally, in these competitive situations, there may be power asymmetries between actors in a territory that will strongly influence the dynamics of competition. Indeed, some actors have much greater financial, technical, organizational or institutional resources than others (Florin, 2016). These advantages allow them to have easier access to resources, to negotiate more

favorable terms and to have greater influence on public decisions. Less powerful actors may then have more difficulty accessing the necessary resources for their activities.

2.2.2. Socio-demographic and demand factors

These factors are directly linked to resource needs and thus contribute to the emergence of competitions. Population growth is one of the main drivers of increased resource consumption. As the population grows, so do the needs for goods, services, energy or materials. This increase in demand is putting increasing pressure on available resources and can lead to competition between players seeking to secure their supplies. Changing lifestyles also play an important role. Changes in consumption habits, the development of new products or the increase in living standards can modify the quantities and types of resources required. These transformations have a direct impact on the pressure on resources and can contribute to the emergence of new competitions. The socio-economic conditions of the territories are another factor to be taken into account. Economic inequalities influence the ability of actors to access available resources. Some territories or companies have financial means that make it easier for them to secure their supplies, while others may encounter more difficulties. Tanguy (2019) perfectly illustrates this vision through the Fukushima nuclear disaster in 2011. The latter has significantly disrupted global energy markets, causing strong demand for Japanese natural gas. Faced with these upheavals, some players in the energy sector in France have had to adapt and look for new sources of supply or new outlets. These changes could lead to new competition around alternative energy sources such as biogas or hydrogen from water electrolysis. Finally, the growing expectations of consumers and society in terms of sustainable development, recycling, circular economy and environmental performance are gradually changing markets. Demand for recycled materials and secondary resources is increasing in many sectors. This development reinforces the interest in these resources and attracts new players, which contributes to intensifying competitions around their access and development.

2.2.3. Physical and territorial factors

Physical and territorial factors encompass all spatial, geographical, technical and temporal characteristics that influence the availability and accessibility of resources. First, resources are not evenly distributed across space. Some areas have significant resources, while others do not

(Wu et al., 2025). Carrascal (2009) emphasizes that the problem of water resources is not its insufficiency, but rather its unequal distribution in time and space. Resources, even if available, are not always equally accessible to all actors. This imbalance can lead to inequalities between territories and competition for resources. As Tanguy (2019) points out, territories compete to ensure their supplies when resources are unevenly distributed and they must share them. Geographical and technical barriers are also significant. The distance between supply and production territories (Zhang et al., 2023), storage capacity or the technical characteristics of certain resources may limit their availability. A resource available in large quantities may thus be inaccessible because the technical or logistical conditions do not allow its exploitation in good and optimal economic conditions. Accessibility therefore becomes a major element structuring the balance of power between actors, favoring some actors to the detriment of others.

Quantitative variations in resources represent another major factor in competition. When the quantities available decrease, more players become more likely to position themselves on lower volumes (Boujnikh & Humbert, 2010), which accentuates competitive situations. The literature shows that the quantitative decrease in a resource, real or supposed, accentuates the dynamics of competition between actors (Ayeb, 2009; Tardy, 2015; Carrascal, 2009). Scarcity acts as a catalyst for tensions, pushing actors to develop or strengthen their strategies for securing, appropriating or capturing resources.

Conversely, when the quantities available increase, new opportunities may appear (Record, 2024), encouraging the emergence of new uses, new recovery channels and new players (Bertolini & Brakez, 2008). These variations can also be seasonal (Carrascal, 2009).

Finally, the quality of the resource, the degradation of which can make recovery more complex (Darly & Torre, 2008) and more expensive by requiring additional sorting, preparation or treatment operations (Record, 2024). This situation can reduce the interest of certain players in the resource, pushing them to turn to substitute resources, or accentuate competition on the fraction of the resource that is of good quality. Conversely, an improvement in quality increases its economic attractiveness, which can attract more players and strengthen competitive situations. Thus, competitions are not only about the quantities available, but also about the ability to access resources that meet the requirements of the recovery sectors.

2.2.4. Economic and techno-economic factors:

Economic and techno-economic factors include all the market mechanisms, costs and economic conditions that influence access to resources and the competitiveness of the value chains. They

play an important role in the emergence and intensification of competitions. Popin (2021) shows how in the Moscow region, the financing of household waste collection and treatment activities, which represent the equivalent of four billion euros for companies in the sector, creates an environment conducive to the emergence of competition between actors in the sector, whether between companies, local authorities and private operators, or between legal structures and informal actors, including criminal organizations. Certain economic or geopolitical factors can also influence the emergence of new competitions by attracting new players to the market. Thus, the economic crisis of 2001 in Buenos Aires led to the emergence of several informal actors, the cartoneros, involved in waste recovery (Carre, 2010). The inclusion of new players around this resource has intensified competition for access to recoverable waste deposits.

Among these factors, there is also the development of raw material prices, which also plays a central role. Tanguy's study (2019) shows that natural gas prices on the markets can lead to competition with other energy resources such as wood energy. With the rise in the prices of virgin raw materials, secondary resources from recycling are becoming more and more economically attractive (Beir et al., 2023). This new attraction could increase the number of players interested in the same resource and strengthen competition. This is also the case when the economic value attributed to a resource increase (Philippe-Dussine, 2001). Florin (2016) explains how the economic profitability and the high demand for recycled waste, especially cardboard, will lead the Istanbul public authorities to appropriate recoverable waste and privatize the sector, generating at the same time competitions with waste pickers. Conversely, when a resource loses its economic value, it can become less attractive and encourage actors to turn to other resources, thus shifting competition (Beir et al., 2023). In the same logic, when the production costs related to recycling channels fall, thanks to technological innovations, new sectors can become profitable and emerge on a regional scale. This situation then increases the number of players likely to covet the same resource. Zhang et al. (2023) analyze how, faced with disproportionate costs of collecting hazardous waste that are unevenly distributed across territories, public authorities are looking for solutions by creating specialized platforms that compete directly with treatment centers for access to this deposit. Finally, technological advances, the development of new sorting, recycling or recovery techniques, can make it possible to access resources previously considered not technically recoverable. These innovations can create new niches and change the existing balances between players, leading to the emergence of new forms of competition.

Conclusion

The circular economy model, as opposed to the linear model, is often presented as an alternative that allows a transition to more sustainable economic development, which promotes the reduction of dependencies on primary materials and therefore pressure on the primary resource, the optimization of the use of secondary resources and the creation of waste recovery chains. However, its implementation in the territories implies institutional, organizational and economic transformations. These transformations are accompanied by factors that can lead to the emergence of dynamics of competition between actors and between territories. These dynamics can be categorized with regard to several typologies of emergence factors. Resource-related factors such as the unequal geographical distribution of deposits, the limited quantities of secondary resources, the deterioration of their quality, as well as the coexistence of uses on the same resource. The coexistence of several actors in the same territory and their strategies to secure access to deposits. Finally, the factors of emergence linked to the rise in market prices, the increase in demand for raw materials, as well as production and collection costs, which influence the attractiveness and profitability of secondary resources. In addition to these factors, there are socio-demographic and demand factors, such as population growth, changes in consumption patterns or increasing requirements for the circular economy and environmental performance. Such developments increase the need for resources, attract new players and intensify competitions for their access and development.

The literature also shows that these factors of emergence can lead to various forms of competition for resources. Competitions of use, between actors, modes of valorization, between resources, between territories, by comparison, between sectors of activity and competitions between technologies. These different forms of competition do not always describe distinct phenomena, but rather correspond to different approaches to analyzing the same competition situations. They make it possible to highlight certain specific dimensions of competition according to the actors, resources, uses or fields studied.

To consolidate this work on the emergence factors identified in the literature, it would be relevant to compare our results with the vision of the different actors in the territories via interviews. They would make it possible to validate the existence of the identified factors or to reveal other factors not identified in the literature. They will also make it possible to collect the perception that the players have on the competitions, their impacts and how they respond to them. Finally, cross-referencing bibliographic results and interview results would open up the possibility of developing indicators capable of qualifying the level of competition at the level

of a territory. This approach will make it possible to move from a theoretical concept of territorial competitions to a tool to guide territorial planning strategies in the circular economy.

Thus, if collaboration is the basic principle of interactions between actors in circular economy strategies, it emerges that dynamics of competition over resources also emerge. Taking into account the existence of these dynamics is an essential challenge for a more realistic and sustainable territorial transition to the circular economy. Better identifying and characterising the factors that lead to the emergence of competitions would make it possible to anticipate them and move towards forms of cooperation and collaboration between territories and actors.

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