



The transition towards a Circular Economy in Brussels from an Exnovation Perspective
Actors’ Perceptions on Targeting Delinearisation

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Summary

The research report presents a case analysis on the transition towards a circular economy in Brussels from an exnovation perspective. It focuses on the governance of the ways out from the linear economy or ‘delinearisation’. The objectives of this research consist in: (1) elucidating the shifting place of exnovation in the strategies and debates on the circular economy transition; (2) observing associated conflict dynamics and; (3) revealing gaps in the current governance of the transition towards a circular economy. This case study develops on a framework combining transitions studies concepts and a transdisciplinary research design. It is based on a retrospective-prospective approach articulating three data collection methods: documentary analysis, interviews, and a multi-actor workshop. The main findings are presented below (‘Highlights’). Based on these findings, our conclusion emphasises the need for the Region to initiate an inclusive debate on the circular economy transition covering both innovation *and* exnovation policies and focusing on the conditions for accelerating and making this transition *just*.

Highlights

- The governance of the transition towards a circular economy in Brussels clearly focuses on policy interventions for supporting circular innovations. The Region is currently shifting from a niche stimulation to a niche acceleration strategy.
- Despite the government's stated intention to move away from the linear model, exnovation policies are virtually absent from strategies and policy debate for circular economy transition. One noticeable exception to that observation is the removal by 2030 of public support for companies that are not socially and environmentally “exemplary” that is currently debated as part of the development of the future Regional economic transition strategy.
- The discussions on exnovation policies engender intense tensions and conflicts among the actors of the transition towards a circular economy. This contrasts with the rather consensual character of the discussions on policies supporting circular innovations.
- The discussions on exnovation policies appear to be also deliberately avoided in some political arenas, like elected assemblies or the Economic and Social Council (Brupartners). This silence leads to ignoring many actors, including scientists and social and circular entrepreneurs, who point to the urgency of policy interventions targeting destabilisation and planned decline of the linear economy.
- The difficulties in resolving tensions and conflicts and the attempts to avoid discussions on the subject are partly explained by a tendency of actors to focus exclusively on the negative effects of these policies (e.g.: the impacts of taxes, bans or subsidies withdrawal on the competitiveness of enterprises and/or on vulnerable social groups) without considering the possibility of measures for mitigating such effects. Anticipating and mitigating possible unintended consequences of delinearisation policies is however essential to reach a compromise and build societal support and ensure a just transition.

The transition towards a Circular Economy in Brussels from an Exnovation Perspective Actors' Perceptions on Targeting Delinearisation

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1. Introduction

This report explores the potential of the exnovation concept for addressing sustainability transitions in Brussels and the case of transitioning towards a circular economy in particular. This issue may seem surprising as the circular economy is very often associated with the idea of encouraging innovative business models, and more generally, with new ways of organising the economic life for a more cyclical and sustainable use of physical and energy flows (Christensen 2021; Pieroni, McAlloone, and Pigosso 2019). On the other hand, the concept of exnovation is not well known and its recognition requires a certain mind shift, to step outside of one's comfort zone (D. Heyen, Hermwille, and Wehnert 2017). Thinking about exnovation means thinking about the acceleration of transition processes and related ambitious policy mixes in an era shaped by climate, environmental and societal emergencies.

The GOSETE research project² defines exnovation as processes of destabilisation, decline and phase-out of unsustainable production and consumption modes (Callorda Fossati et al. under submission). A problematisation in terms of the 'exit from the linear economy' or 'delinearisation' is outlined with the circular economy being considered from an exnovation perspective. In that sense, innovation and exnovation represent the 'yin and yang', the 'heads and tails' of sustainability transitions, they are connected as a duality rather than as dichotomous categories (and therefore they imply some complementarity rather than sharp opposition). While this formulation in terms of flip side or duality may make the idea of exnovation intuitive, its implications for local, Brussels-based actors, especially in terms of policy mixes, are open to debate.

Regional public authorities play an active role in supporting the emergence and stabilisation of circular innovation niches in Brussels. Support mechanisms as formulated in the Regional Circular Economy Plan (PREC 2016-2020) include, for example, the Circlemade cluster which supports circular innovations in various fields, or a partnership with the Ecobuild cluster which networks actors in sustainable and circular construction. There are numerous examples of circular alternatives in Brussels, and particularly within the social economy. Inspiring examples are highlighted in the functionality economy (Usitoo, Tournevie, Coucou), housing (Batiterre, BC Materials, Communa), food (FruitCollect, PermaFungi, BEES coop), etc. The new Regional Innovation Plan (PRI 2021-2025) also intends to support innovation in the circular economy ('optimal use of resources'), which is now considered as a 'strategic area of innovation'. Despite these various developments and support schemes, the idea that 'the transition is already here' is far from being empirically and theoretically supported. The deployment of newcomers' circular activities is proving to be slow (e.g., Usitoo)³, or even leading to business failures (e.g., TaleMe)⁴. These examples point to the typical difficulties of niche innovations to deploy if the dominant rules and routines have not yet changed: newcomers (social entrepreneurs and start-ups) are confronted to the persistence of the dominant model that is deeply rooted in technologies, infrastructures, market structures, regulations, lifestyles, and consumption practices. What is more, beyond the newcomers, the scope of transitioning seems limited. A survey conducted in 2019 by the consultancy agency Sonecom at the request of hub.brussels, showed that almost three quarters of Brussels companies are not aware of the concept of circular economy⁵. However, many of the companies that are not familiar with the concept adopt some practices that can be linked to the circular economy. This last observation points to the very definition of the circular economy.

²<https://exnovation.brussels/en/governance-sustainable-economy-transition-challenges-exnovation/>

³<https://app.livestorm.co/brupartners/economie-circulaire-de-quoi-parle-t-on-or-circulaire-economie-wat-is-dit-nu-juist?type=detailed>

⁴<https://www.lecho.be/entreprises/textile/la-start-up-tale-me-a-ete-declaree-en-faillite/10092922.html>

⁵<https://hub.brussels//app/uploads/2019/09/L%E2%80%99C3%89conomie-Circulaire-en-R%C3%A9gion-de-Bruelles-capitale-Enqu%C3%AAtes-aupr%C3%A8s-des-entreprises-bruxelloises.pdf>

There are dozens of definitions and approaches to the circular economy (Kirchherr, Reike, and Hekkert 2017; Merli, Preziosi, and Acampora 2018; Ogunmakinde, Sher, and Egbelakin 2021). The Brussels region has adopted the definition proposed by the French Agency for the Ecological Transition (ADEME) in 2014. According to ADEME, the circular economy can be defined as “an economic system of exchange and production which, at all stages of the life cycle of products (goods and services), aims to increase the efficiency of resource use and decrease the impact on the environment while developing the well-being of individuals”⁶. As with most existing definitions, this definition lacks an explicit and articulated theoretical foundation. The diversity of understanding is not without risks: it could lead to the concept of circular economy collapsing or running into a conceptual impasse (Kirchherr et al. 2017). Moreover, this is coupled with the fact that the concept has been developed mainly in practitioner, business and policy-making circles without any systematic account of how it integrates advances in sustainability sciences such as those on thermodynamics, system boundaries, the physical scale of the economy, the survival of new circular economy innovations, the net sustainability impact of inter-organisational circular economy strategies and the very definition of physical flows (Korhonen, Honkasalo, and Seppälä 2018).

This vagueness and conceptual fragility in the definition of circular economy is not trivial and invites us to clarify what would distinguish this second case study from other cases where the transitioning to the sustainable economy is examined from an exnovation perspective. In particular, we can put into perspective the ‘case 1’ (the LEZ and the phasing out of internal combustion engine vehicles) which has already been investigated as part of the GOSETE research project. For the latter, exnovation appears to be a deliberate policy targeting, through control measures in the first instance, the technological core of a focal socio-technical system.

We make the hypothesis that **exnovation in this second case study which addresses the circular/linear economy manifests in more hesitant and diffuse ways**. We are no longer dealing with a deliberate exnovation policy being planned, implemented by governmental actors but with a more diverse configuration of public, private and civil society governance actors. Multiple and intertwined exnovations can be imagined (as the flip side of circular innovations), but few of them are (yet) articulated in political agendas.

We therefore raise the following questions:

What is the place of exnovation in regional circular economy transitioning strategies and discourses of local actors? How do different actors perceive its role in policy mixes for circular economy transition? What are the apparent and latent conflicts? Which gaps in existing circular economy transitioning strategies and public debates in Brussels can the concept of exnovation reveal?

The rest of the report is organised as follows. **Section 2** situates the concept of exnovation in the sustainability transitions literature on policy mixes and politics, and in an understanding of the circular economy transition as a potential deep transition. **Section 3** presents the ‘mixed’ methodological approach, i.e., combining both retrospective and prospective analysis we used for developing this case study. **Sections 4 and 5** present the case analysis with the purpose of elucidating the shifting place of exnovation in the policy mixes and debates for circular economy transition and associated conflict dynamics. The significance and scope of the results are discussed in **section 6**.

⁶ <https://www.ademe.fr/expertises/economie-circulaire>

2. Analytical Framework: Exnovation and the Politics of Policy Mixes for Sustainability Transitions

2.1. Exnovation as a Set of Emerging Policy Intervention Points for the Circular Economy Transition

The exnovation concept emerges in the field of transitions studies as part of the German energy transition (*Energiewende*) debate, referred to by studies that address that country's nuclear and coal phasing-out (e.g. Arnold et al. 2015; David 2017; Heyen et al. 2017). The basic observation is that despite the rapid growth in renewable electricity generation, **the pace of progress towards the broader and urgent goal of deep decarbonisation remains slow** (Geels et al. 2017). The idea of intentionality beyond innovation journeys is central to the concept. Thus, Heyen, Hermwille and Wehnert (2018, p.326) define exnovation as “the purposive termination of existing (infra)structures, technologies, products and practices”. David's definition is similar, but more explicit about the systemic scope of the process: [exnovations refers to] “deliberate means of removing entire (unwanted) sociotechnical systems instead of only modifying a specific aspect of them. Exnovation is the de-routinisation and de-institutionalisation of specific practices bound up with technologies” (David 2018, p.340).

The idea of intentionality immediately raises the questions of ‘who’, ‘why’, ‘how’. Heyen, Hermwille and Wehnert explain that **exnovation can be “driven by different actors** (the innovator but also other actors), for different (economic, ecological, ideological, or other) reasons, and it may occur in the short term or over a longer term and step by step” (D. Heyen et al. 2017, p.326). However, the authors distinguish between cases where the existing is abandoned “in the economic self-interest of business actors”, and cases where the existing is abandoned “for reasons of socio-ecological sustainability and through ‘exnovation governance’” (ibid.). It is these latter cases that are the most interesting from the perspective of sustainable transformations, the author points out, and in these cases, governments are key actors. Thus, the literature tends to associate ‘purposive termination’ (or ‘deliberate means’) with governmental action or policy intervention. As we will discuss below in this section, a reflection on the nature of these interventions is carried out in the framework of recent research on policy mixes for sustainability transitions.

The literature is still characterised by a **dichotomous understanding of ‘exit’ processes**. One branch of the literature sees the decline and termination of technologies and socio-technical regimes as ‘quasi-evolutionary processes’ and as more or less spontaneously emerging transitions. In this understanding, **market forces are the main driver** (Turnheim and Geels 2012, 2013). The concept of (regime) ‘destabilisation’ is then emphasised. Another branch, more rooted in political science, revisits concepts such as ‘policy termination’ and ‘phase-out’ in the context of the sustainability challenges facing public authorities and formulates new concepts such as the ‘**governance of discontinuation**’ (Stegmaier, Visser, and Kuhlmann 2021). This branch emphasises that transitions can also be purposive, i.e., political actors have a certain capacity to influence the course of transitions. To what extent could the exnovation concept, conceived as an umbrella concept, facilitate the integration of these two branches of the literature? The question is of course a tricky one, especially as it concerns processes ‘in the making’ or in ‘real time’ where the discernment of actors’ intentionality is subject to multiple interpretations and controversies.

As suggested above, **the literature on policy mixes for sustainability transitions has recently taken up the issue of exnovation as a concern over ‘points of intervention’ that have been little explored** theoretically and little practised in the policy arenas. The pioneering work in this direction is that of Kivimaa and Kern (2016). The notion of policy intervention point refers to the identification and justification of transitions policy targets (Kanger, Sovacool, and Noorkõiv 2020). More precisely, policy intervention points are “particular areas in the socio-technical system or its environment where the

application of appropriate policy instruments would likely facilitate transformative change in the system's directionality" (*ibid.* p.6). It should be noted that in this framework the 'justification' (e.g. why targeting exnovation would be a good idea) refers to foundations in the transition literature (mainly abstract categories related to regime destabilisation, transitions pathways and transitions management) rather than to the analysis of actors' viewpoints. Kivimaa and Kern (2016) examined low energy policy mixes in Finland and the UK according to whether they support niches⁷ (i.e., the creative side of innovation, namely 'C') or engage with an extended conception of the 'motors of creative destruction' that supports actions aiming at regime⁸ destabilisation (i.e., destructive side of innovation, namely 'D'). While the foundations and policy instruments that support the creative side of innovation are well-known (Schot and Geels 2008; Raven, van den Bosch, and Weterings 2010), the same cannot be said for policies that correspond to the 'D' side, which remains under-investigated as well as less popular or politically difficult. In other words, supporting niches and destabilising regimes are two intervention points that are not equally addressed. Thus, Kivimaa and Kern (2016) developed a **typology of transitions policies which on the exnovation side covers four types of policies:**

- Policies that aim to control the dominant regime (D1);
- Policies that aim to significantly change the rules of the regime (D2);
- Policies that aim to reduce the support for the regime (D3);
- Policies that aim to change social networks and replace key actors (D4).

It is important to note that while exnovation is politically difficult, the emblematic German case shows that it has **great potential to be effective in achieving sustainability goals**. In an original study Rogge and Johnstone (2017) found that the German nuclear phase-out policy has had a positive influence on manufacturers' innovation expenditures for renewables and is considered by far the most influential policy for the expansion of renewable energy in that country.

These different types of policies identified (D1-4) are all different ways of targeting (unsustainable) socio-technical regimes. Indeed, Kivimaa and Kern's work is mainly inspired by the branch of the literature that has conceptualised 'regime destabilisation', notably through the analysis of historical cases. It is also important to note that the common distinction between types of instruments (economic incentives, regulation, and information) is not structuring the typology of policy mixes (Rogge and Reichardt 2016). **What matters is the precise objective of destabilising the regime** (the particular kind of systemic change) **that is pursued**.

Thus, **control policies (D1) are necessary to put pressure on the regime**. This idea is found in the literature on 'transitions management' (Kemp and Rotmans 2004), which early on concluded that the promotion of innovation niches would not lead to successful transitions as long as the competition conditions remained unfair, with 'artificially' low prices for the regime that is externalising the environmental costs of its activities. The instruments associated with D1 cited by Kivimaa et Kern are diverse (taxes, import restrictions and regulations) and can include strong pressures such as banning a technology or product (e.g., the ban on single-use plastic utensils or the ban on combustion engine vehicles).

Structural reforms (D2) are necessary to undermine the coherence of regimes that otherwise favour status quo or evolutionary patterns (rather than radical transformations) (Geels 2011). Kivimaa and Kern give the example of the privatisation and liberalisation of electricity markets in the 1990s, which completely changed the selection environment in which utilities were operating. The reverse move towards a commons-based system that some advocate (Nayak 2021) might also be an example of

⁷ Under the Multi-Level Perspective (MLP) on transitions approach (Geels 2002), the niches are protected spaces within which radical innovations can develop (e.g.: thanks to R&D laboratories, pilot projects, subsidies).

⁸ Under the MLP, the regime corresponds to the locus of established (unsustainable) practices and associated rules (Geels 2002).

structural reform policies. This category of structural reforms is broad in the sense that it invites to consider what factors can undermine regime coherence and the different interest groups that maintain alliances throughout (Normann 2019). Kivimaa and Kern note that structural reforms tend to involve new overarching laws.

The termination of policies (D3) is needed to *de-institutionalise* support for the regime. The typical example is the withdrawal of direct or indirect subsidies to fossil fuels. This type of measure is likely to have substantial effects on the economic break-even point of the regime activities, price dynamics and consumption, but would also have a political and symbolic effect (Erickson et al. 2020). The **policy termination literature**, which is experiencing some renewed interest (Ferry and Bachtler 2013; D. Heyen et al. 2017; Stegmaier, Kuhlmann, and Visser 2014), explores the factors that make this avenue difficult to embark on and identifies criteria for assessing the extent of change. The obstacles relate to the sunk costs associated with termination of a policy, the negative political connotations of policy termination, and the active resistance of interests associated with the policy (implementers, stakeholders, beneficiaries). Furthermore, policies may continue to operate, in a modified form, long after formal decisions to terminate have been taken, or some elements of a policy may cease to exist without the policy itself being terminated. To assess the extent of policy termination the literature traditionally distinguishes four elements (Ferry and Bachtler 2013): how the policy in question relates to the functions of the state; how it relates to institutions (formal organisational relationships among government agencies); how it relates to political strategies; and finally how it relates to individual programmes and instruments. The latter are the easiest to terminate, often with the argument of the superior effectiveness of a substitute (deLeon 1978). In contrast, policies in the sense of state functions are based on fundamental assumptions about the role and responsibility of governments (e.g., the welfare state, the public service state) and are therefore the most difficult to terminate. In this sense, the termination of policies as state functions is similar to D2 policies (structural reforms).

Participation-related policies (D4) are needed to *re-politicise* transitional change. To illustrate these policies Kivimaa and Kern take examples from the literature on transition management: the rebalancing of participation in political advisory councils with the entry of niche actors or the formation of new organisations or networks to carry out the tasks and deploy new skills related to system change. These policies address the persistent problem of ‘closed’ governance networks: networks in which the limited diversity and entry of new actors leads to accordingly limited diversity and creativity in the range of possible solution strategies. This is what transition studies have identified as a recurring finding about the mutual dependency between government and regime actors as being a major source of lock-in. More generally, as Normann puts it: “One reason that it is difficult to challenge the interests of established industries is that these interests tend to be organised in networks in which political parties, unions, business organisations and various state actors have great influence. Changes in the structure of such networks represent an important condition for destabilisation policies” (Normann 2019, p.103).

The seminal work of Kivimaa and Kern conceives exnovation policies as policies targeting the ‘destructive side of innovation’, thus deploying a focus on the destabilising forces of socio-technical regimes. A more recent publication (Kanger et al. 2020) that combines a systematic literature review with insight from the Multi-Level Perspective (MLP) on transitions approach (Geels 2002), shows that beyond stimulation and acceleration of niches, but also beyond the destabilisation of regimes, **the literature on policy mixes for sustainability transitions has neglected three critical points of intervention:**

- addressing the **broader repercussions of regime destabilisation;**
- providing **coordination to multi-regime interaction;**
- and **tilting the landscape.**

To address the **broader repercussions of regime destabilisation** means that policy action should aim at ‘disembedding’ the system from its environment while anticipating and mitigating possible unintended consequences of this process. Examples given by Kanger and colleagues range from campaigns against the cultural frameworks of the dominant regime (one can think of anti-smoking campaigns or perhaps also of campaigns against car-dependency), payments to industry for the closure of fossil fuel plants, provision of financial and educational support to deal with structural unemployment and skills mismatches, facilitation of regional diversification of industrial activities. This partly overlaps with the notions of ‘policy instruments for socio-economic adjustments’ (Heyen et al. 2017), counter-measures (Geels et al. 2017), ‘transitional assistance policies’ (Green and Gambhir 2020) and also echoes the points of attention on ‘just transitions’ raised by analysis of coal phasing-out processes in Germany and elsewhere (Galgoczi 2019). This intervention point is primarily associated, Kanger and colleagues argue, with the ‘substitution’ type of transition pathway, i.e., when “sudden landscape pressure in the context of mature niches leads to a rapid substitution of the regime” (p.3).

The other two intervention points identified by Kanger et al. as almost missing in literature are primarily attributed to the ‘reproduction’ type of transition pathway (there is no major landscape pressure, niches do not develop, and the regime reproduces). **Coordination policies aim** to ensure complementarity in the input-output relationships between regimes. They are particularly important in urban systems, which are made up of multiple overlapping functional systems that present a high degree of interdependence (e.g., Hodson, Geels, and McMeekin 2017). The typical example of coordination policies points to the feedback loop between urban sprawl and car-dependent mobility. Thus, these two ‘problems’ have to be tackled together. On the other hand, Kanger et al. state that **the landscape**⁹, contrary to what is frequently suggested by its conceptualisation in terms of an exogenous force, **can be the subject of policy interventions**. It entails altering the global conditions that enable the redirection of local socio-technical systems. The example provided here by the authors is the participation in international negotiations to reach collectively binding agreements that would create these global conditions to break the reproduction pathway. Interestingly, the question of the role of international organisations and networks in transition processes is addressed in a recent article by Kern, Sharp and Hachmann which focuses on the case of the circular economy and more precisely on the role of the EU in the emergence, alignment, and diffusion of circular economy rules.

The **transition towards a circular economy** raises the question of exnovation, of intentionality in the search for ways out of the linear model and of intervention points in this direction, in a particularly complex way. Kern and colleagues (Kern, Sharp, and Hachmann 2020) conceptualise the transition towards a circular economy as a ‘**potential deep transition**’, i.e. a process that is expected to take place over the long term (‘temps long’ in Braudelian terms), and to reach a scale comparable to that which led to industrial modernity in the 19th and 20th centuries and which resulted in major negative social (inequalities) and environmental (climate change, loss of biodiversity) consequences. As a result, the transition to the circular economy is not limited to one socio-technical system. It involves a transversal transformation across production and consumption processes in various societal systems and economic sectors. The authors explain that the circular economy deep transition would still be in its early stages and more precisely in the ‘*frenzy phase*’ which appears to be particularly interesting because it is at this point that the meta-rules of the new meta-regime (which would be represented here by the tetralogy reduce, reuse, recycle, recover) are formed, not without contestation about their interpretation (on their radicality) and competition with other frameworks (more focused on reducing

⁹ Under the MLP approach, the socio-technical landscape corresponds to the slow-changing mega trends (e.g.: spatial structures, political ideologies, societal values, beliefs, concerns, geopolitics, demographics) and exogenous shocks (e.g.: wars, disasters, crises) that form the broader context in which regimes and niches develop. (Geels 2002).

consumption). It is important to note that the implementation of these meta-rules (4Rs) is non-uniform in the sense that to date the circular economy is mainly shaping waste management and recycling practices, while the practices of reusing or remanufacturing materials and reducing material consumption remain niche phenomena (Winans, Kendall, and Deng 2017). This finding is the reverse of what the hierarchical prioritisation of the 4R rules establishes (first reduce and reuse, and only then recycle and recover energy from waste incineration) and suggests that the challenges of circular economy exnovation relate to a **complex delinearisation process**, which is also about coherence within these meta-rules rather than a simple opposition to the meta-rules of the declining meta-regime.

Faced with such complexity in the transition to the circular economy, Kern and colleagues (2020) invite researchers to adopt a ‘more actor-based approach’ to capture how actors produce convergence and divergence around the meta-rules in formation. In the same vein, Kanger and colleagues (2020) suggest making a more explicit connection between the intervention points of transition policies and issues of agency, power, and politics.

2.2. Conflicts Surrounding the Development of Exnovation Policies

Several researchers consider that **policy interventions that aim to destabilise or phase-out established unsustainable technologies, practices, industries, or business models are likely to engender conflicts** (Heyen et al. 2017; Leipprand and Flachsland 2018; Stegmaier et al. 2021). Heyen and colleagues state that “there is no transformation without conflict. This is particularly true in cases of deliberate exnovation where incumbent actors are affected economically.” (Heyen et al. 2017 p.328). In the same vein, Leipprand and Flachsland explains that “Policies supporting the destabilisation of existing regimes are likely to be particularly conflictual and difficult to implement, reflecting the fact that the costs are concentrated among few powerful actors with strong lobbies, and that the benefits are unspecified or diffused across many recipients.” (Leipprand and Flachsland 2018 p.199).

Conflicts in deliberate exnovation processes have been observed in several empirical studies. Leipprand and Flachsland (2018) have analysed the discourses and the framing strategies that have emerged since the shift in German energy transition debate from the development of renewable energies towards the coal phase-out. They show that while a broad consensus has been constructed among established stakeholders and public authorities in Germany on the transition to an energy system based principally on renewable sources, a consensus on coal phasing-out is far from being achieved. The analysis of the framing strategies reveals that the emergence of a discussion on coal exnovation is associated with high conflicts and a re-intensified polarisation of the debate. Leipprand and Flachsland observe that in this ‘new’ debate, “actors still form coalitions with traditional allies” (Leipprand and Flachsland 2018 p.190) and use the same lines of arguments than those mobilised in the previous energy transition debates: While actors in favour of the *status quo* point out the potential negative impact of the coal phasing-out on the economy and supply security, actors supporting change highlight the environmental benefits associated with the exnovation of coal. There is a certain repetition-of-moves pattern that proves difficult to break out from. For his part, considering that German policymakers fail to achieve the removal of carbon-intensive energy production because of deep fossil fuel incumbency, David (2018) brought to light the repertoires of contention of social movements, which aim at bringing about exnovation of fossil fuel. The question of the coal phasing-out is apparently conflictual in other European countries. Galgoczi (2019) observes stiff resistances from regions whose economies strongly rely on coal mining and coal-based energy production, like Poland, when in 2018 the European Commission proposed to remove state aid for power plants that do not meet Emission Performance Standard.

Besides the hot topic of fossil fuels phasing-out, historical cases of successful exnovation policies have been studied as well. A well-known case, and a case that is close to the issue of a circular economy, is the discontinuation of incandescent light bulbs (ILB) in Europe (Stegmaier et al. 2014, 2021). This case study reveals conflicts between, on the one hand, environmentalists and lighting industries who were supporting the discontinuation of energy-inefficient light bulbs and, on the other hand, societal groups who felt concerned about the potential impacts of energy-efficient lighting on health. It appears that citizens also mobilised against the ban of incandescent bulbs at the end of the policy-making process, when the decision was already taken. Stegmaier and colleagues however consider that “the ILB phase-out is an exceptional case in which resistance was relatively small and coalitions among actors broad” (Stegmaier et al. 2014 p.123). According to the authors, this low level of resistance and the successful implementation of this exnovation policy is partly attributed to the implication of the different stakeholders in the construction of a compromise acceptable for all the parties: “Nobody was completely satisfied, nobody was completely disappointed, so it was doable” (Stegmaier et al. 2021 p.18). Another important element to consider is that the producers concerned had already been completing the substitution of the ILB by successors (LED lamp) for years; they happily supported governmental exnovation policies to accelerate the substitution process.

Another historical case is equally familiar to Brussels region stakeholders: the implementation of tobacco control policies. Studying the policies in the United States, Normann (2019) reveals the important power struggles between, on the one hand, groups that denounced the impact of cigarettes on health and, on the other hand, the tobacco lobby initially composed of tobacco manufacturers and farmers who highlighted the social benefits of tax revenues and employment generated by the tobacco industry. It appears that both parties mobilised different discursive strategies to discredit each other. Norman observes that the “The successful introduction of tobacco control policies was preceded by changes in networks, which led to a redistribution of power” (Normann 2019 p.110). The changes that have weakened the pro-tobacco alliances are twofold: the distancing of farmers from the pro-tobacco lobby following conflicts with manufacturers, and the loss of power of the Democratic Party, which had strong relation with the tobacco industry. In addition to these changes in alliances, Normann also identifies the contribution of changes in the discourse of anti-tobacco groups, who have placed more emphasis on the costs for public health of cigarette consumption. Interestingly, after decades of conflicts over tobacco exnovation issues, the Philip Morris multinational corporation has recently called on the UK government to ban cigarettes within ten years, what would make its own Marlboro brand illegal¹⁰.

The above studies are very instructive about the conflicting nature of deliberate exnovation. Although they reveal the emergence of conflicts, **most of these studies do not analyse these disputes in depth**. Apart from the case studies carried out by Leipprand and Flachsland (2018) and Normann (2019), the other analyses describe these conflict situations in little detail. Just as the transitions literature on ‘intervention points’ and ‘policy mixes’ they give us some rough idea of the kinds of exnovation governance that have been experimented with, implemented, and discussed in various sectors and countries. Still, they tell us rather little about the concrete transition challenges that are being confronted by regional-level governance actors in Brussels and elsewhere: Who takes part in these disputes? Who is absent or silent? Have some actors ignored or escaped the conflict? How does each party justify its position? Does each party have the same resources to defend their viewpoints? How to characterise the asymmetries of power in conflicts over exnovation? What alliances are being created? How do the different parties come to an agreement? How are the different viewpoints articulated in a compromise? Stegmaier and colleagues point out this limit: “a close look at the (types of) actors and interaction involved in the dedicated governance of discontinuing technologies and

¹⁰<https://www.theguardian.com/business/2021/jul/25/tobacco-firm-philip-morris-calls-for-ban-on-cigarettes-within-decade>

regimes is also required, if the concept of discontinuation governance shall encompass the full complexity of the interconnectedness of structure, process and action. Some results require more attention, such as the silence and absence of employee representatives from the ILB [incandescent light bulb] discontinuation negotiations.” (Stegmaier et al. 2021 p.19).

To find more in-depth analysis of conflicts, it is necessary to broaden the scope of the literature review from exnovation to transitions in general. There is indeed a **vibrant literature on agency, power, and politics in transitions** (Köhler et al. 2019). The conflictual and contested nature of transitions and the relevance of exploring the political dimensions of socio-technical transformations has been gradually acknowledged in the field of transitions studies (Geels 2020; Hess 2014; Kanger et al. 2020; Lockwood et al. 2017; Markard, Suter, and Ingold 2016; Rosenbloom, Berton, and Meadowcroft 2016). This has led to a proliferation of conceptual and empirical research on the conflicts between niche and regime (Hess 2016; Proka, Hisschemöller, and Loorbach 2018), the interactions between actors (de Haan and Rotmans 2018; Jørgensen 2012), the power struggles (Avelino 2017; Avelino et al. 2016; Sovacool and Brisbois 2019), the discursive framing struggles (Geels and Verhees 2011; Leipprand and Flachsland 2018; Roberts and Geels 2018; Rosenbloom et al. 2016), the advocacy coalitions (Markard et al. 2016), the policy contestation and active resistances from regime incumbents (Geels 2014; Smink, Hekkert, and Negro 2015), and the role of social movements as actors in the politics of transitions (David 2018).

If the political dimensions of transitions arouse more and more interest in transitions studies, several scholars consider that **the role of power, politics and discourses in transitions remain under-investigated and deserve further research** (Geels 2020; Roberts and Geels 2019). Geels (2020) also states that, to explore political conflicts, the transition studies’ conceptual and analytical frameworks need to be enriched from other disciplines, like political science and historical institutionalism.

In the present case study, we carry out an analysis of exnovation and the transition towards a circular economy based on a research framework combining transitions studies concepts as introduced in this section and a transdisciplinary research design. The latter is driven by the understanding of ‘real-world’ and ‘real time’ exnovation challenges in Brussels (what different actors do, claim and know about exnovation) and mobilises insights from several disciplines, including socio-economics, pragmatic sociology, political science and sustainability assessment. The pragmatic sociology analytical tools (see for example Boltanski and Thévenot 1991; Barthe et al. 2013; Lemieux 2018; Nachi 2017) are briefly presented below (Box 1), as they are interesting for examining conflicts, negotiations and power struggles that transcend the niche-regime dichotomy.

Box 1. Justification Theory (Boltanski and Thévenot 1991)

The justification theory offers a reading grid to explain the conflicts observed in a given situation. It makes it possible to “relate the actions and judgments of the actors studied to sets of rules (grammar) whose respect is expected in their community” (Lemieux 2018 p.78). The tools for “grammatical analysis of the action” proposed by Boltanski and Thévenot (1991) are the “*Cités*”. The *Cités* correspond to regimes of justification or ‘orders of worth’ (“*ordres de grandeur*”) that are commonly mobilised by people to justify their actions in situations of conflict. The *Cités* are associated with different “conceptions of what the social organisation should ideally be” which co-exist, and which constantly confront each other in our modern societies (Lemieux 2018 p.54). Boltanski and Thévenot (1991) have identified six *Cités*, each corresponding to a specific conception of the social order developed in the main Western political philosophies:

- **Domestic Cité:** tradition, hierarchy
- **Industrial Cité:** efficiency, performance, productivity
- **Civic Cité:** representativeness, collective
- **Inspired Cité:** creativity, innovation
- **Market Cité:** fruitful exchanges, wealth creation
- **Opinion Cité:** fame, image

Boltanski and Thévenot (1991) acknowledge that their model is dynamic and that new *Cités* can be discovered. Since the publication of the book “On Justification” in 1991, researchers have been looking for other *Cités*, including the **Ecological Cité** (Lafaye and Thévenot 1993; Latour 1995; Mermet 2007; Rougemont 2017). The existence of an *Ecological Cité* is

extremely controversial. It is very difficult to define this *Cité*, in particular because the political ecology on which this *Cité* develops is still an emerging philosophy. Without venturing into a discussion of the arguments for and against the advent of an *Ecological Cité*¹¹, and considering that the order of worth of the six other *Cités* are not sufficient to cover the entire repertoire of justification mobilised in conflicts on environmental issues, we will take into consideration, just like Latour (1995), Mermet (2007) and Rougemont (2017), an *Ecological Cité* and will therefore take into account seven *Cités* for discussing the conflicts on the transition to circular economy in Brussels.

¹¹ Lafaye and Thévenot (1993); Latour (1995); Mermet (2007); Rougemont (2017)

3. Methodology

The **objective of the present case study** can be summarised as follow:

1. Capture the **evolution of the place of exnovation in the transition to a circular economy** by analysing the policy mixes for the circular economy transition as well as the debate associated with the elaboration and implementation of such policies
2. Understand the **conflict dynamics surrounding the elaboration and implementation of innovation and exnovation policies aimed at fostering the transition towards a circular economy** by observing situations where these policies are discussed

The methodology developed to meet these objectives combines **three data collection methods**: documentary analysis, interviews, and workshop. These three methods complement each other since they allow to collect different types of data which, when assembled, offer elements of answer to the questions.

Through the **documentary analysis**, we aimed to shed light on the place of exnovation in the policy mixes for circular economy transition and in the debate associated with the elaboration and implementation of such policy mixes. We analysed policies and measures of the main strategies of the Brussels circular economy policy (i.e., PREC) through the lens of the above-presented exnovation policies' typology developed by Kivimaa et Kern (2016). Other plans and legislations related to the circular economy policy from the Brussels Government and various other documents, including press articles and communications from various actors, were also analysed. More information of this desk research is presented in appendix (see Methodological Note 1).

By **interviewing** persons that have been actively involved in the circular economy knowledge and policy-making processes in Brussels, we intended to bring additional pieces of answers on the place of deliberate exnovation in the transition towards a circular economy, but also to replace and articulate all the data collected in a historical perspective (i.e., retrospective approach). An additional objective of the interview survey was to describe and understand the conflict dynamics surrounding the elaboration and implementation of innovation and exnovation policies aimed at fostering the transition towards a circular economy in Brussels. By identifying exnovation policies that could be implemented to accelerate, the interviews also aimed to feed the workshop (see below). The interviews were conducted in May and June 2021. Eight people who are or have been actively involved in the transition towards a circular economy in Brussels were interviewed. Amongst them, we find members of ministerial cabinets, administrations and other public bodies, business federations, circular/social enterprises, consultancy agencies and universities. The interviewees were invited to discuss, on the one hand, the emergence and development of circular economy as a political agenda in Brussels and, on the other hand, past developments, and possible future development of the place of exnovation in associated policies and debates. More details on the interview survey are provided in appendix (see Methodological Note 2).

The objective of the **workshop** was to create a situation in which delinearisation policies could be discussed with concerned Brussels-based actors. Since exnovation policies are, as we will see later, hardly discussed in the debate surrounding the elaboration and implementation of policy mixes for circular economy transition, we decided to create an 'artificial' situation of discussions to make observable the conflicts that the development of delinearisation policies could generate. The discussions concerned the potential effects and the conditions of implementation of a mix of exnovation policies that could be implemented in the near future in order to strengthen or accelerate the transition towards a circular economy (i.e., prospective approach). The set of policies explored covered the four types of exnovation identified by Kivimaa et Kern (2016). In this 'exnovation arena', we focused more specifically on three domains of economic and strategic importance for the region:

the construction industry, the Waste Electronic and Electrical Equipment (WEEE) management chain, and urban mobility. The workshop took place on 31 May 2021 and gathered 26 participants. While the interviews targeted people, who are or have been actively involved in the knowledge-/policy-making process in the circular economy in Brussels, the workshop was much more open insofar as all the actors identified as being concerned by the circular economy transition policy were invited to participate. Amongst the participants, we find experts of the three sectors studied and ‘generalists’. The participants were representatives of different parts of the society, namely administrations and other public bodies, business federations, trade unions, consumers/users organisations, environmental NGOs, circular/social enterprises reusing goods and materials, consultancy agencies and universities. Despite our efforts to represent the diversity of points of view on the issue, certain sectors/industries and categories of actors were more present than others. The unbalanced participation had implications on the course of the workshop, which will be evoked in the section devoted to the discussion (see Section 6). In order to facilitate the dialogue on the prospective and apparently sensitive issue of the implementation of exnovation policies to strengthen the circular economy transition, we mobilised a serious game approach (see Bontoux et al. 2016; Stanitsas, Kirytopoulos, and Vareilles 2019). The participants were invited to play the role of a member of the “Regional Council for the Transition”, an imaginary consultation body bringing together all the actors concerned with the transition. Their task was to write an advice for the attention of the government on a series of exnovation policies likely to compose the firsts moves of the future long-term strategy of ‘transition towards a 100% circular economy’, a fictive strategy including innovations and exnovation policy measures. The workshop protocol and a detailed list of the participants is presented in appendix (see Methodological Note 3).

The combination of these three data collection methods has thus made it possible to study the case of the transition towards a circular economy in Brussels from an exnovation perspective according to a processual **retrospective-prospective approach**, as summarised in the figure below (Figure 1). This combination of prospective and retrospective analysis reflects the earlier discussed ideas on a long-term process underpinning the circular economy (deep) transition – of which various involved actors hope that it will move from the current early phases (of ‘pre-development’, ‘take-off’ or ‘frenzy’) towards advanced phases of ‘acceleration’ and ‘stabilisation’ or ‘synergy’ and ‘maturity’.

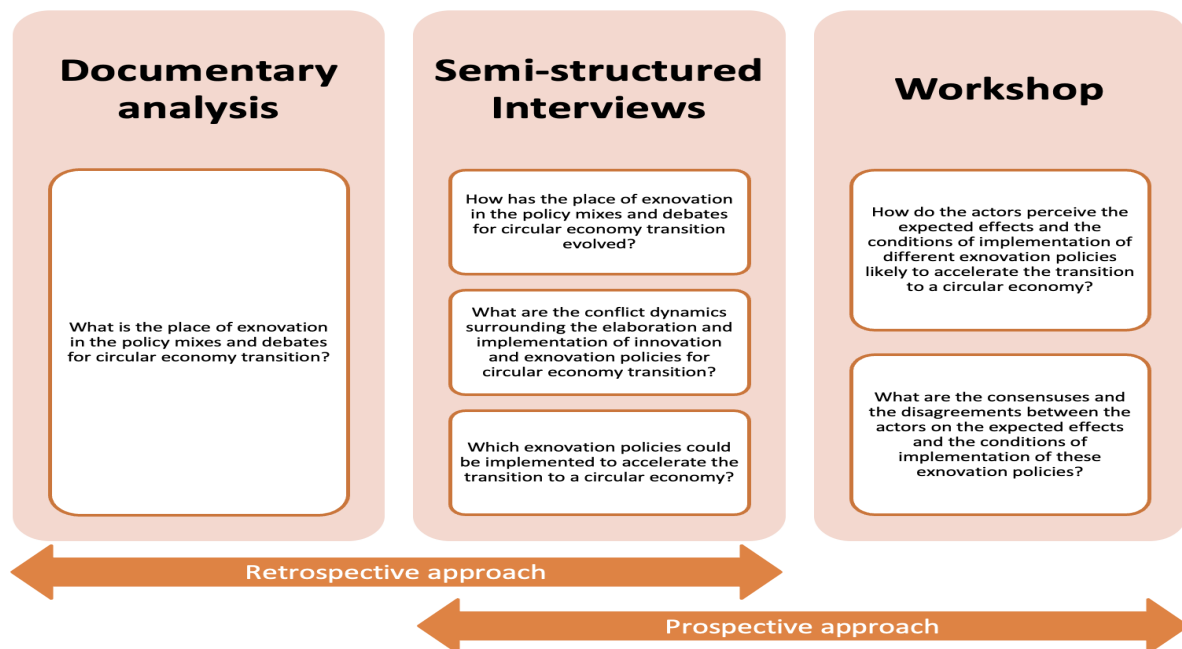


Figure 1. Processual retrospective-prospective approach implemented for the case study

4. Evolution of the Place of Deliberate Exnovation in the Transition to a Circular Economy

This section analyses the evolution of the place of exnovation within the circular economy strategies adopted by the Brussels' Government and in the debates/institutional processes associated with the elaboration and implementation of these policies¹². This exploration of the place of deliberate exnovation in the circular economy transition strategies and processes is articulated around the main phases of such processes as identified by the persons we interviewed: (1) the emergence and institutionalisation of the circular economy policy; (2) the development and implementation of the PREC and; (3) the post-PREC era. For each of these phases, we attempted to describe the situations of conflicts as narrated by the interviewees. The analysis concludes with a prospective reflection on the possible future developments of exnovation in circular economy strategies.

4.1. Emergence and Institutionalisation of the Circular Economy Policy (≈2000 - 2016)

This first part of the section presents a series of important milestones which, according to the interviewees, marked the development of the circular economy policy that we know today in Brussels. It does not intend to display an exhaustive history of the circular economy policy of the region. The objective is rather to point out some elements of context and to show the relative recent date of public action in the area of circular economy. This helps to situate exnovation in current circular economy policies and debate.

The circular economy, a recent policy domain in Brussels

Following the creation of the Brussels-Capital Region (1989), Net Brussels (*Bruxelles Propreté*) was set up in 1990 to ensure the collection and treatment of households' waste (Collignon and Gathon 2010). The missions of this new regional institution followed in the footsteps of its predecessor (the waste inter-municipal authorities), namely to ensure public hygiene, an objective adopted in the 19th century by many major European cities (Kohlbrenner 2014). The emergence of the circular economy as a political agenda appears to be much more recent. Policies aimed at promoting a circular management of waste as economic resources only began to emerge around 2010. An interviewee explains that "the political world has always spoken of 'waste'; it has only been since the two last legislatures that we have been talking about 'resources'". If we take a closer look at the last General Policy Declaration (DPR) of the Brussels governments, we do not find any reference to the circular economy before the DPR adopted during the 2014-2019 legislature. As we will see in the rest of the section, several factors have contributed to putting the circular economy on the agenda of Brussels political authorities.

An agenda setting pushed by social and circular enterprises...

Actions led from the early 2000s by organisations promoting circular economy, such as RESSOURCES¹³, Groupe One¹⁴ or ACR+¹⁵, appear to have played an important role in the emergence of circular economy policy. They have contributed to popularising the practices and concepts of 'circular economy', 'upcycling' and 'Lansink scale' among members of administrations and political authorities. Several of the above-mentioned actors have carried out information and awareness campaigns for publicising circular practices. Social and circular enterprises reusing goods and materials have also started to make their voice heard by the public authorities, notably via their federation, RESSOURCES.

¹² As a reminder, it is based on a documentary analysis and interviews with persons actively involved in circular economy knowledge- and policy-making processes in Brussels (see Sections "3. Methodology").

¹³ <https://www.res-sources.be/fr/>

¹⁴ <https://www.groupeone.be>

¹⁵ <https://acrplus.org/>

Founded in 1999, RESSOURCES has carried out lobbying activities to make the needs of its members recognised by the public authorities¹⁶. Social and circular enterprises were demanding, among other things, deeper collaborations with the public authorities and other private actors, funding for reuse and better access to the waste/resources flows.

This last point has been the subject of strong conflicts between enterprises who wanted to develop reuse activities and Net Brussels. Most of the waste/resources collected by Net Brussels was inaccessible and non-recoverable, which posed obvious problems for enterprises aspiring to develop reuse activities. Social and circular enterprises reusing goods and materials apparently addressed many requests to Net Brussels for accessing its waste/resources flows, but these requests were most often rejected. A Net Brussels' former employee explains to us that it is very difficult for his institution to respond favourably to such requests due to significant differences in scale between the needs of social enterprises which develop artisanal activities and the flows of Net Brussels which collect 300.000 tons of waste per year. He states that social enterprises have very precise, punctual, and specific resources' needs, whereas Net Brussels collects very important, voluminous, and mixed flows, and that it is extremely difficult to join these two scales. The Net Brussels' former employee we interviewed also points out the regulatory barriers that do not allow waste to be diverted in the form of resources. Social and circular enterprises have repeatedly communicated the problem of access to Net Brussels' flows to the Government. A representative of one of these enterprises remembered that they went "to the politicians saying, 'look at what we do, and 99% of the flows, it's Net Brussels [which got them] and they are not moving'". Despite these requests, the Government had apparently not initiated a process to rethink the waste/resources management mode of its agency. Faced with such inertia, persons aspiring to develop reuse activities had to bypass the public waste management coordination. As explained by an interviewee, "the associative world and sustainable entrepreneurship did not wait for Brussels Environment or the government, and certainly not for Net Brussels (...) [They] completely bypassed Net Brussels and all normal circuits". Some sustainable entrepreneurs have indeed started to develop partnerships with small waste/resources sorting centres or with 'producers' of waste/resources. This is the case, for example, of Permafungi, which, to produce mushrooms on coffee grounds, went directly to the Horeca¹⁷ companies to collect their coffee grounds.

It seems important to note that the conflict on access to the waste/resources flows opposing Net Brussels and the actors supporting the transition towards a circular economy is still ongoing, as we will see later in the text. This conflict has crystallised during many years in the Recy-K¹⁸ project. The case of the Recy-K project is summarised in the box below (Box 2).

Box 2. The case of the Recy-K project

Recy-K is a pilot project funded by the European Regional Development Fund (ERDF) 2007-2013 program. This project was initiated by social economy enterprises, including RESSOURCES, Retrial and Relego, which aimed to build a resources treatment competence hub from a social economy perspective. Realising that the resources they needed were neither accessible nor recoverable, these enterprises turned to the agency that collects them: Net Brussels. The latter joined the project – of which it became the main promoter for the ERDF call, by committing to make accessible the waste/resources that its partners needed. The implementation of this project gave rise to serious conflicts between the social economy enterprises and Net Brussels, which significantly slowed down the process. A member of a social economy enterprise involved in the project denounces Net Brussels' reluctance to make its flows accessible as well as the unproductive attitude of the public waste management operator: "The associative world and Net Brussels were in a fight because we wanted to make circularity [and] they had the incinerator, they had to run the incinerator. (...) For 6-7 years, they kept us hanging out. We had dozens of meetings. They said they wanted it, but they did everything to torpedo it. (...) It's horrible, because

¹⁶ It can be noted RESSOURCES is not a member of the main Brussels' council for societal dialogue: the Economic and Social Council (Brupartners).

¹⁷ The hotels, restaurants and cafés sector.

¹⁸ <https://www.arp-gan.be/fr/Recy-K.html>

we have the ideas, and they have the flows". A Net Brussels' former employee acknowledges that his institution deliberately delayed the project by adopting a position of "we are going to drag the thing out and we'll see". He however pointed to a form of radicalism in the vision of the circular economy expressed by some social economy enterprises that were partners of the project. He explains that some of them considered that "the circular economy is only 100% of recovered waste: The one who wants to put a new nail in his process is not circular economy". All these conflicts have led to the voluntary or forced departures of most of the social economy enterprises which have initiated the project. When the waste/resource collection site finally opened in 2016, it was almost emptied of its initiators.

... and relayed by public authorities

The arrival of Ecolo in the Brussels Government in the mid 2000s also contributed to putting the circular economy on the political agenda. The Minister Évelyne Huytebroeck (Ecolo), who was in charge of environmental policy during the legislatures 2004-2009 and 2009-2014, supported the emergence of circular economy policy by demonstrating opportunities of circular economy in terms of employment and economic development to representatives of other political parties, who did not see the point of making the circular transition a political project. This led to the implementation of the "Employment-Environment Alliance". The high potential for job creation of the circular economy, in particular among low-skilled people, has been a crucial argument in convincing traditional political parties to support the advent of this model. To convince the sceptics, public authorities that aimed to put the circular economy in the political agenda referred to foreign studies quantifying the number of jobs that the circular economy could create. The Brussels public authorities have also commissioned this type of study for the Brussels territory. This includes an exploratory analysis on 'green jobs' in Brussels carried out in 2010 by the Brussels Employment Observatory.

Some representatives of traditional political parties asked to be convinced of the economic opportunities that the circular economy could generate, but also of the feasibility of implementing such a model in Brussels. It is in this context that politico-administrative authorities, including Brussels Environment and Hub.brussels, have started to finance the development of pilot projects and to put these projects in the spotlight. Studies were also carried out to objectify the conditions of application of the circular model at the Brussels scale. Both the Green Group (Ecolo) at the Brussels Parliament and Brussels Environment commissioned studies exploring avenues to manage materials and energy flows in a more circular way on the regional territory (Calay 2013; Ecores, ICEDD, and BATir 2015). This last study served as the basis for the preparation of the PREC, which we will discuss in more detail in the following section.

Evolutions at the European and national level that contributed to the development of circular economy policy in Brussels

Evolutions at the European and national levels appear to have also contributed to place the circular economy on the political agenda of the Brussels government. At the European level, there is notably the work carried out by the Ellen MacArthur Foundation since 2010 to promote the circular economy, and the debates within the European Parliament, which led in 2015 to the adoption of the EU action plan for the Circular Economy. The emergence of circular economy policies in other European regions, starting with Flanders and Wallonia, has also helped to put the circular economy on the political agenda in Brussels.

Employment-Environment Alliance 2010-2014: The ancestor of the PREC

Most of the interviewed persons situate the premises of Brussels' circular economy policy in the Employment-Environment Alliance 2010-2014. This programme was part of the 'Sustainable urban growth pact' concluded between the government, economic actors, and trade unions in 2011 (Calay, 2013). It was co-piloted by the Minister of Environment, Évelyne Huytebroeck (Ecolo), the Minister of Employment and Economy, Céline Fremault (cdH) and the Minister President, Rudi Vervoort (PS). The

program involved, through the follow-up committee, representatives of workers and employers. Brussels Environment was responsible for coordinating this process. The Employment-Environment Alliance intended to respond to two of the five main challenges of the Brussels region identified by the Government in the DPR 2009-2014, that are employment and environment problems. To address these challenges, the program developed three objectives:

- “Developing employment for the Brussels women and men, including for the less qualified;
- Revitalising the Brussels economy by stimulating some sectors that are promising in terms of economic activity and employment and by supporting their development for a transition towards more sustainability and competitiveness;
- Improve Brussels’ environmental balance.¹⁹.

The Employment-Environment Alliance was articulated around four sectors: construction, water, resources and waste, and sustainable food. The “resources and waste” axis, and, to a lesser extent, the “construction” and “sustainable food” axes, put for the first time the emphasis on the development of resources according to a circular model.

Despite the references to the circular economy, this program was not presented as a circular economy strategy as such. One of the main recommendations resulting from the ex-post evaluation of the Employment-Environment Alliance was incidentally the development of a circular economy strategy: “From an economic point of view, the actors (including the actors of the social economy) believe that it is necessary to continue the efforts made in terms of resources and waste and that the advent of a circular economy strategy is an opportunity given the increase in the cost of raw materials” (BDO et al. 2015, p.16). The evaluation of the Employment-Environment Alliance also highlighted the need to integrate transversal policies and measures into this new strategy, in addition to sectoral actions. The ambition to develop a circular economy strategy was also found in the 2014-2019 Regional Policy Declaration mentioned above: “The region will develop a strategic vision of the environment as a resource that creates local jobs by transforming our linear economy into a circular economy while improving the capacity of our companies to reach new markets” (Gouvernement de la Région de Bruxelles-Capitale 2014 p.64). It is in this context that the Regional Circular Economy Program 2016-2020 (PREC) analysed in the following section has emerged.

Slow adoption of the concept of circular economy

Despite these developments, it is important to underline that the process of appropriation of the concept of circular economy among Brussels actors is slow. Several respondents indeed underlined the low level of knowledge of political representatives of traditional parties and members of some public administrations, like Net Brussels, on the issues associated with the transitioning to a circular economy. Appropriation of the concept also seems slow among companies. As previously mentioned, a survey carried out in 2018 by Sonecom among 400 companies representative of the Brussels economic fabric reveals that three companies surveyed out of four state that they have never heard of the concept of the circular economy (hub.brussels et al. 2018).

4.2. Development and Implementation of the PREC (2016 - 2020)

This part is devoted to analysis of the PREC 2016-2020 and to the observation of the debates that surrounded the developments and the implementation of this first circular economy strategy of the Brussels’ region. The PREC reveals a virtual absence of debate on deliberate exnovation policies as well as a low conflictuality during this period.

¹⁹<https://environnement.brussels/lenvironnement-etat-des-lieux/rapports-sur-letat-de-lenvironnement/rapport-2011-2014/lenvironnement-6>

The PREC: A strategy aiming to transform environmental objectives into economic opportunities

The Regional Circular Economy Program 2016-2020 (PREC) is the first circular economy strategy adopted by the Brussels region. It follows in the footsteps of the Employment-Environment Alliance in that it aims to reconcile ‘the economy’, with ‘the social’ and ‘the environment’. However, the environmental dimension seems weaker in the PREC than in its predecessor. Improving the quality of the environment is no longer seen as an end in itself, but as an economic opportunity. The three main objectives of the strategy are formulated as follows:

- “To transform environmental objectives into economic opportunities.
- To relocate the economy to Brussels in order to produce locally whenever possible, reduce travel, optimise land use and create added value for Brussels inhabitants.
- To help create employment.” (Be Circular 2021)

A development and implementation process involving a wide range of actors

The development and implementation of the PREC was based on an innovative governance approach bringing together actors who were not used to work together. The process was led by four administrations, namely Environment Brussels, Hub.brussels, Net Brussels and Innoviris, as well as their responsible ministers, Céline Fremault (cdH), Didier Gosuin (DéFI), and Fadila Laanan (PS). A wide range of actors identified as having a role to play in the transition to a circular economy in Brussels have been involved in a co-construction process (including incumbent and niche actors). In total, 15 administrations and 91 organisations participated in this co-construction process. As Hughes Belin and Cédric Hananel explain in their book on the circular economy in the Brussels-Capital region, the governance of the PREC involves “a mixture of bottom-up (co-construction with actors in the field) and top-down (vision, arbitration and framing by political decision-makers)” (Belin and Hananel 2019).

Brussels put in the spotlight by Europe for the mobilising character of the PREC

A member of an administration co-piloting the PREC underlined that, thanks to the innovative public/private bottom-up approach developed by the PREC, Brussels had won the 1st prize of the 2016 edition of the “Regional Innovation Award”, which focused that year on the topic of the circular economy. This distinction awarded by the Assembly of European Regions (AER) aims to honour European regional authorities who are developing innovative initiatives in their territory. In a press release from the three ministers in charge of the PREC, the importance of the award for the region’s brand image is underlined: “This award has symbolic value and produces a significant return in terms of image and visibility for the winning regions” (Be Circular 2018). In this press release, Fadila Laanan, secretary of state for the Brussels region, insists on the vocation of the PREC to “position the Brussels-Capital Region as a particularly innovative European region and as a pioneer in public policy support for the development of the circular economy through a voluntary approach to the efficient management of the resources that compose it” (Be Circular 2018).

A broad and transversal strategy challenged by the plurality of the economy

The PREC is based on a broad and all-inclusive approach to a circular economy integrating functional economy and industrial ecology and supporting the development of other “promising economic models” such as the social economy. Unlike the Employment-Environment Alliance, which was based on a purely sectorial approach, the PREC emphasises the transversal dimension of the transition to a circular economy. It contains 111 measures divided into four axes: cross-functional measures, sectorial measures (construction, resources and waste, trade, logistics, food), territorial measures and governance measures. The PREC was evaluated at mid-term and updated in 2019. Its update led to the withdrawal of measures that have ‘no economic’ vocation. Topics considered as ‘mainly environmental’ (e.g. many waste and resources management policies) and/or ‘not belonging to the

economy' (e.g. grassroots social innovations) measures have been transferred to other strategic plans such as the Resource and Waste Management Plan (Gouvernement de la Région de Bruxelles Capitale 2018) and the Good Food Strategy (Fremault 2015).

A strategy where exnovation is virtually absent

The preliminary results of the analysis of PREC measures through the prism of the exnovation policies typology developed by Kivimaa and Kern (2016) indicate a low representation of exnovation policies compared to innovation policies²⁰. Of the hundred or so policy measures analysed, only two were related to exnovation policies in the sense of Kivimaa and Kern, i.e. focusing on regime destabilisation. The first exnovation policy is a measure that aims at changing the socio-political networks (D4) and the second one is a control policy (D1):

- ECOSOC 2: Social enterprises (existing or new) will be identified as privileged partners in the implementation of measures when they have the necessary skills or can develop them.
- RD 3: Environment Brussels and Net Brussels will be able to use the incineration tax as a lever for the circular economy.

A strategy focusing on innovation

The analysis reveals that the PREC is mainly made up of policies aimed at cultivating niche innovations. The PREC includes a wide range of aids for enterprises that plan to develop activities based on a circular model. Among these aids, we find calls for projects that financially support innovative enterprises, the financing of pilot projects, the provision of spaces for circular economy projects, the creation of networks of circular economy actors to promote social learning and the development of value chains, the funding of research and innovation activities in relation with the circular economy but also the development of training in circular economy professions. The repertoire of 'niche cultivation' is very much in evidence.

All the persons met during the interviews share the observation that exnovation policies are virtually absent from the main circular economy strategy of the Brussels Government. A member of an administration in charge of piloting the PREC affirms that "fundamentally, the PREC did not disrupt the system in place, neither by its scale, nor by the nature of its actions, it was really the idea to emerge a kind of niche which made it possible to demonstrate that these alternatives were realistic and could take their place in the Brussels-Capital region".

An innovation support strategy to show the potential of the circular economy in Brussels

The aforesaid statement introduces a first element mentioned by the interviewees to explain the virtual absence of exnovation policies in the PREC, which is that the objective of the PREC was not to promote the phasing-out of linear economy, but to bring out innovation niches to demonstrate, via concrete examples, that it is possible to develop activities based on a circular model in Brussels. Hughes Belin and Cédric Hananel have also underlined this aspect in their book: "The Regional Program in Circular Economy has so far shown that the Brussels region can convert to this new system" (Belin and Hananel 2019). The ambition to demonstrate that circular alternatives exist, and work is not surprising when we know that the circular economy is a recent political field and that many private and public actors still ask to be convinced about the applicability of such a model in the region. In this regard, a member of a cabinet involved in the development of the PREC referred to the innovation diffusion curve to justify the overrepresentation of innovation support policies compared to exnovation policies.

²⁰ The analysis of PREC measures using the Kivimaa and Kern framework is being developed as part of a Master thesis written by Thomas Tassenoe (Master en sciences et gestion de l'environnement) and supervised by Ela Calllorda Fossati.

He explained that at the start of the process, we push innovators and early adopters so that they test the innovation, then we implement support policies to disseminate the innovation among the majority, and it is only at the end of the process, that we adopt obligations to convert the laggards.

A unifying process that deliberately avoids sensitive subjects, like exnovation

Another factor evoked for explaining the low representation of exnovation policies is the ambition to bring together as many actors as possible around the initiation of this transition process. It appears that one of the objectives pursued through the PREC was to initiate a dynamic of transitioning towards a circular economy in which all the stakeholders would be involved, including those representing the traditional economy. The idea was to make traditional business federations, such as the construction federation, actors of the transition, and not opponents. With this in mind, the public actors in charge of piloting the PREC have voluntarily avoided questions likely to generate friction and resistance from some actors. They have placed the emphasis on policies to support circular innovations, which, unlike policies aimed at fostering the phasing-out of the linear economy, generate consensus among most of the stakeholders. A member of an administration involved in the development of the PREC explains: “We were in a relatively broad position so that politically it could speak to everyone, so that at the corporate level we do not end up with big blockages from the beginning. (...) We have avoided all the classic ‘stick elements’; we were really on a program of stimulating circular economic supply”. This willingness to bring stakeholders together to work for the transition has led to the development of a very consensual program supported by many actors, but which include very few exnovation policies, because they were perceived by public authorities as likely to generate resistance.

A strategy making circular business models competitive on the market by supporting them rather than disadvantaging linear models with exnovation policies

An additional reason raised by members of administrations who piloted the development on the PREC for explaining the over-representation of innovation support policies compared to exnovation policies in the PREC is that circular businesses need such support. They consider that circular businesses need aid to get started, but also to develop and sustain their activities. They explain that many circular start-ups can hardly survive without subsidies, because they are not sufficiently competitive compared to linear activities. Circular activities are indeed more labour intensive than linear activities, which generates higher production costs. One solution mentioned by several interviewees (including the aforementioned members of administrations) to make circular activities more competitive compared to linear activities would consist in increasing the taxation on products according to their socio-environmental impacts (i.e., socio-eco tax modulation) and reducing the taxation on labour. The implementation of such a tax shift however seems to generate strong resistance from some actors, such as (non-sustainable) business federations and representatives of right-wing political parties, and has not been discussed as part of the PREC. The conflicts on the implementation of socio-environmental taxes have been observed during the workshop that we organised and will be discussed in more detail later in the report (See Section 5).

A co-construction process dominated by representatives of the regime

Finally, some respondents explain the under-representation of exnovation policies in the PREC by an over-representation of the traditional social partners, like federations representing ‘classic’ businesses and workers unions, in its development and implementation process. As mentioned previously, the public authorities in charge of the PREC have made a lot of effort to involve the actors likely to oppose this program to make them allies rather than enemies. A member of an administration in charge of the PREC explains that: “The idea is to bring a public vision and confront it with stakeholders in the region. For the traditional public authorities, the first partners remain the ‘social partners’ who are more traditional and more representative of the traditional economy. Maybe it (i.e., deliberate exnovation)

is something that is less acceptable...”. According to this respondent, these historical social partners are arguably less inclined to support or accept delinearisation policies, since they represent businesses or workers who rely on activities that are principally non-circular.

This last point concludes the analysis of the PREC from an exnovation perspective. We would like to point out that other strategies, such as the Resource and Waste Management Plan 2018-2023 and the Good Food Strategy 2016-2020, contribute to the development of the circular economy in Brussels. The policies and measures of these strategies were not analysed in detail as part of this study. They were, however, mentioned during the interviews. According to several respondents, these strategies, like the PREC, contain little exnovation policies. However, the verification of this hypothesis would merit further investigation.

4.3. Post-PREC Era (from 2021)

This part focuses on the recent changes that have marked the development of the circular economy policy, namely the accession to power of a new greener government in 2019, the adoption of a General Policy Declaration (DPR), the end of the period of implementation of the PREC 2016-2020 and the development of the strategy that will succeed it, the ‘Regional Strategy for Economic Transition’ (SRTE). It shows the hesitant – and conflicting – emergence of a discussion on deliberate policy interventions to destabilise the linear economy.

The ambition of the new greener government: to deploy circular economy on a larger scale

The PREC ended in 2020. In the meantime, the 2019 regional elections have taken place and a new greener government has been put in place. For several persons we interviewed, this change of government marks a turning point in the circular economy policy in Brussels. While the circular economy was still an emerging policy area in the previous legislature, it finds itself at the heart of the new government’s Regional Policy Declaration. The new government apparently intends to put the transition at the heart of its economic strategy and to deploy the circular economy potential of the region. A member of an administration explained that “[the PREC] has contributed to support a series of new small economic projects. We can’t really talk about transition since we have mostly innovated. Economic actors have been able to demonstrate that a certain way of doing business is possible, but the existing has changed very little. (...) The ambition of the region now is really to massify, to ensure that the circular economy becomes the norm”.

A general policy declaration providing for exnovation of linear economy

This ambition to deploy the circular economy on a larger scale is accompanied by the emergence of an ambition to encourage the phasing out of the linear model. A member of an administration explains that in the DPR 2019-2024, “there is much more of this logic to phase-out existing economic models which would no longer be compatible.” If we take a closer look at the DPR, we observe that the government is asserting its will to phase-out the linear model: “For the Government, it is necessary to move from a linear economic model to a circular economic model. The ambition is not only to meet environmental and resource management requirements, but also to promote the opportunities of new sectors that create jobs that cannot be relocated.” (Gouvernement de la Région de Bruxelles-Capitale 2019 p.56). More importantly, one of the flagship objective of the DPR in terms of economic transition concerns the development of an exnovation policy: “The Government’s objective is that by 2030, only exemplary economic models in social and environmental terms will still benefit from regional public support” (Gouvernement de la Région de Bruxelles-Capitale 2019, p. 56). This policy can be associated with a ‘reduced support for dominant regime’ exnovation policy (D3) (see Section 2).

Developing the successor of the PREC: the SRTE

The translation of the objective aiming to stop supporting companies that are not “exemplary” by 2030 into an operational policy program is currently being discussed as part of the process of elaboration of the Regional Strategy for Economic Transition (STRE). The SRTE, which is expected for 2022, will succeed the PREC. Four administrations (Brussels Environment, Hub.brussels, Brussels Economy-Employment and Innoviris) were mandated by their responsible ministers (Alain Maron and Barbara Trachte, both from Ecolo), to develop and implement this strategy. The SRTE, which aims at combining environmental and economic objectives, is intended to be even more transversal than the PREC, in the sense that it should cover the entire economy and brings together several strategies.

A strategy based on a co-construction process opening up the governance network to eco-niche actors

The SRTE also aims to deepen the innovative governance approach developed under the PREC by involving all the actors of the transition in a process of co-construction. Unlike the PREC, which involved more actors representing the ‘traditional’ economy, the SRTE aspires to guarantee the representativeness of other fringes of the economy. One respondent explains: “Brussels Environment was tired of hearing BECI²¹ and UCM²² always saying the same things”. Certain actors who call on public authorities to develop more ambitious transition policies were invited to participate in the elaboration of the SRTE, but also in the arenas of the Resource and Waste Management Plan and the Good Food Strategy. Among these actors there is the Kaya Coalition. This organisation created in April 2019 gathers 200 or so “enterprises of the ecological transition” that defend a “strong” sustainability vision and advocate for a transition to a “regenerative economy that respects planetary boundaries”. The Kaya coalition supports the implementation of a policy mix comprising innovation policies, but also exnovation policies, including the development of “strong taxation of negative externalities via environmental/circular VAT” with a view to reducing the demand for non-sustainable products (KAYA 2019). The integration of these transformative actors in the process of developing circular economy policies can be associated with ‘changes in socio-political networks’, i.e. with a ‘D4’ type of exnovation policy (see Section 2).

Conflicts on the adoption of exnovation policies in the SRTE

It is interesting to note that, unlike the PREC that was very consensual, the SRTE generates – or offers institutional space to articulate – conflicts. Conflicting visions emerge, notably in the discussions on the conditions for the implementation of the above mentioned exnovation policy provided for under the last DPR. The suppression of the regional support for businesses that are not “exemplary” in social and environmental terms appears to arouse strong opposition from representatives of some sectors. A member of an administration involved in the development of the SRTE recalls that when the suppression of support for “non-exemplary” companies was discussed with companies within Brupartners, a lot of economic actors put themselves in a defensive position against politico-administrative authorities, because they felt that they could be (negatively) impacted. This policy seems to generate fears among certain sectors represented by Brussels Enterprises Commerce and Industry (BECI), in particular the digital and artificial intelligence sectors. The fears of these sectors are understandable given the social and economic impacts that some companies in these sectors generate. These companies feel that they are directly targeted by the policy of eliminating support for “non-exemplary” companies. They consider that this policy calls into question their place in the economy of tomorrow and threatens their survival/continuity.

In view of these issues, the suppression of support for companies that are not “exemplary” gives rise to considerable negotiations between the public authorities and business federations. These

²¹ Brussels Enterprises Commerce & Industry

²² Union des Classes moyennes

negotiations concern especially the definition of social and environmental exemplariness criteria for companies as well as the conditions for implementing an operational system for granting subsidies based on these criteria – i.e. What is a company exemplary in social and environmental terms? Are non-exemplary companies not entitled to any subsidy or are they still entitled to some subsidy if they reach a certain threshold for certain criteria? Is the government actually at all in the position to ‘pick the winners’, as it is heavily discussed in transitions governance debates? Considering these very difficult discussions with the business federations, a member of an administration in charge of the SRTE is also anticipating intense inter-cabinet negotiations regarding the adoption of this exnovation policy. A person working for a sustainable development consultancy agency that we interviewed fears that all these negotiations will lead to the adoption of a policy that is ineffective for phasing-out unsustainable activities.

Caution from public authorities in the development of exnovation policies in the SRTE

Faced with resistance of some business federations against policies aimed at destabilising the linear model (or meta-regime), public authorities in charge of the development of the SRTE seem to adopt a cautious attitude. A member of an administration involved in the elaboration of the new strategy explains: “We are still trying to phasing-out a certain model, but we are still extremely cautious (...) There are things that are possible, but there are a lot of things that are difficult for the sectors to accept (...) [exnovation] is still quite exploratory, because it is the hardest to bear politically”.

In addition to the difficulty of building political support for exnovation policies, a concern over “to leave no one behind” in the transition process appears to incite some public actors not to develop policies aimed at destabilising non-sustainable economic models. A member of another administration piloting the SRTE told us that his institution does not advocate for a “100% circular pro-exnovation vision”. He/she explains that his/her administration considers that its role, as a public service, is not to exclude certain economic activities. Rather, his/her administration defends an “inclusive vision of the transition”. The interviewee explains that this ambition of “leaving no one behind” drives public authorities to promote the implementation of policies that encourage circular innovations, rather than policies aimed at destabilising the linear model. He states that “There is this political option that is taken to leave no one behind and precisely to have a range of services or economic aid that will allow each and every company to enter into this transition... because of this will, there is no will, no strong choice to exnovate”. This lack of will to exnovate through dedicated policies in the discussion on the SRTE is also observed and deplored by other interviewees.

Taboos on exnovation policies

While exnovation policies appear to have little place in the discussions on the SRTE, this issue seems to be completely taboo in other arenas. A person working for a sustainable development consultancy agency explains that the phase-out of the linear economy is a taboo subject within certain bodies, like the elected assemblies and the Economic and Social Council of Brussels (and the equivalent institutions at Walloon and Belgian levels): “There is a form of fear to discuss these divestments or to disadvantage current economic actors: it is a taboo subject, because I think that today there are extremely few political parties or even political actors, including the social partners who question the system”. He states that in these arenas the implementation of exnovation policies is “*onbespreekbaar*” (i.e., unmentionable) and that it is impossible to put the issue on the table. This is particularly the case with the implementation of an environmental/circular tax. Despite the calls from many actors, notably scientists and entrepreneurs of the ecological transition from the KAYA Coalition with the ‘Sophia’ Plan²³, most political representatives refuse to discuss the possibility of developing a taxation of negative externalities of products. Such tax reform seems to raise fears among political authorities,

²³ <https://www.groupeone.be/plansophia/>

because some business representatives state that its implementation would penalise local companies and reduce their competitiveness, which could lead to relocations and job losses. To avoid any discussion of tax reform, some right-wing parties also argue that taxation should be neutral and that it should not be altered. One respondent believes that this is a false argument to cut short any discussion. He justifies his point by showing that these same political authorities agree to discuss tax advantages for enterprises that reduce environmental externalities (e.g.: compensation linked to tonnage for enterprises like *Les Petits Riens*).

The SRTE: Another strategy focusing on innovation?

Policies aimed at supporting the destabilisation, decline and abandonment of the linear economy are virtually absent in the discussion on the SRTE. Several respondents point out that, aside from the highly controversial discussions on the policy of removing support for socially and environmentally “non-exemplary” companies, there is little, if any, discussion on the phasing-out of the linear economy. The focus still is on innovation policies. A member of a ministerial cabinet responsible of the SRTE explains that the discussions which are currently being carried out as part of the elaboration process of the strategy mainly concern the mechanisms to be implemented to support companies who plan to develop a circular activity in Brussels. This and the elements mentioned above suggest that shifting from PREC to SRTE could correspond to shifting from a niche stimulation strategy to a niche acceleration strategy.

Emergence of resistances and scepticism regarding innovation support policies

It seems interesting to underline that the deployment of innovation support mechanisms to encourage a large-scale development of the circular economy does not achieve consensus among stakeholders. According to a member of an administration, some members of innovative circular companies oppose granting support to develop circular activities to companies that do not really need it. He illustrates his point with the dissatisfaction expressed by small circular businesses when the government decided to finance “Circular Bike” and “We Play Circular”, two projects submitted by Decathlon as part of the BeCircular 2020 call for projects²⁴: “After showing, we multiply. This is really the strategy, and the most innovative actors, who we call ‘innovators’, can blame it on us. The problem we had at the end of last year was that the Region funded Decathlon for a circular economy project. It made the small structures react very strongly, wondering why the public authorities are supporting an economic actor who is in very good financial health and who does not need this for transitioning”. This same administrative member remembers a similar case with members of innovative enterprises in circular construction who were against the opening of the Ecobuild Cluster to more traditional companies: “In the Ecobuild cluster, at the beginning, it was the pioneers, they wanted to stay together. When we opened up to others, there were those who left, disagreeing (...) This is how to be inclusive in the transition? How to bring the masses without losing the frontrunners?”. It is interesting to note that this public service representative highlights again the importance of not losing anyone along the way to ensure an inclusive transition.

While they are not opposed to the implementation of policies to support innovation, some people doubt the effectiveness of the instruments implemented by the government. One respondent considers that most of the projects financed by the region via its calls for projects fall within purely artisanal logic. According to him, this type of project has “no positive impact on the environment”, because the volumes of waste treated, and the recovery rates are much too low. He is also sceptic about the positive socio-economic impacts of artisanal projects. The interviewee says: “artisanal logics are very interesting in terms of awareness, speech and communication to the general public, but they

²⁴ https://www.circulareconomy.brussels/circular-bike-project_decathlon-belgium-2/

are worth nothing in terms of circular treatment and classic environmental treatment, even in socio-economic terms”.

Towards a structural reform of Net Brussels?

In this last point, we propose to come back to the ‘case’ of Net Brussels. As previously explained, there have been strong conflicts over the access to the waste/resources flows opposing Net Brussels and actors supporting the deployment of a circular economy. Several respondents state that the conflict persists, since the waste/resources collected by Net Brussels are still inaccessible and non-recoverable for the enterprises that would need them for developing circular activities.

During the “Circular Economy Week of Brupartners²⁵”, which took place from 26 to 30 April 2021, Olivier Bosteels, an expert from Net Brussels, confirmed this observation. He explained that there is a significant quantity of high added value waste in Brussels that could be recovered according to a circular model (≈ 250.000 tons), but which is virtually not recovered, because Net Brussels does not have the tools to collect them in a preserving way and to store them while waiting for circular enterprises to pick them up. Instead of being recovered, most of this waste goes to grinding channels, which generates negative impacts on the environment. Based on this observation, Olivier Bosteels identified several conditions to make Net Brussels’ waste accessible to circular economy enterprises that would need to reuse them:

- Purchase carriage and hire staff to carry out preserving waste collections
- Build “Material Parks” to store, sort and recondition materials
- Finance research and development to explore if and how different waste collected by Net Brussels could be treated in a circular manner.

He stressed the importance of rapidly implementing these recommendations as part of small or medium-scale tests with a view to initiating a circular waste economy in Brussels, emphasising the significant amount of employment that such activities could create.

This vision in favour of a circular waste management model presented by Olivier Boostels is the result of a reflection carried out over the past few years by some Net Brussels’ employees on a voluntary basis, without any mandate or support from their institution. Their vision is apparently very different from the vision supported by Net Brussels. An interviewee explained to us that Net Brussels’ vision is the one of its Director General, Vincent Jumeau. At the head of the agency since 2009, Vincent Jumeau, former Deputy Head of Cabinet to Emir Kir (PS)²⁶, is renowned for defending the *status quo* in terms of waste management. Several respondents evoked the scepticism and the resistance of Net Brussels’ Director General to the idea of rethinking the waste flows management model to support the development of a circular economy. An interviewee explains that Net Brussels, which was re-founded in the 1990s, has specialised in a purely logistical vision of processing waste in the form of waste (and not of resource) with the incinerator as its main tool. According to him, the incineration is the preferred option for Net Brussels’ Directorate General, because it avoids exporting the waste abroad for treatment or burying it, which was done not so long ago. The respondent states that this “archaic vision” of waste management is motivated by objectives of public cleanliness and social cohesion. The circular economy is not part of the objectives of the institution. The Recy-K project (see Box 3), for which Net Brussels is responsible, seems to be a project in which the agency spends as little financial and human resources as possible. One respondent explains that this project has become a “very embarrassing [project], for which there was voluntarily no investment from Net Brussels after it opened. (...) No governance, no strategic project, no communication”.

²⁵ <https://www.brupartners.brussels/fr/la-semaine-de-l2019economie-circulaire-de-brupartners-programme>

²⁶ <https://www.dhnet.be/archive/vincent-jumeau-a-bruxelles-proprete-51b7eb82e4b0de6db998a806>

Several respondents attribute Net Brussels' pro-linear economy attitude to problems of governance. They explain that the functioning of Net Brussels is hampered by a very hierarchical mode of governance based on a logic from "the 80s, or at best the 90s". Knowledge and power are concentrated in the hands of a single person, who is the Director General. The latter is surrounded by a "puppet" executive committee with very little diversity of ideas, "almost exclusively male, made up of civil engineers". An interviewee states that "this agency is rotten, it's dramatic, clearly, the audits show it. (...) The people who are in it, I don't think so. And the functional skills, certainly not".

Net Brussels' governance problems have been revealed by the audits commissioned by Fadila Laanan (PS) when she was the state secretary in charge of waste management (2014-2019)²⁷. These audits highlighted the need to fundamentally change the way the agency operates. On 23 June 2021, his successor, Minister Alain Maron (Ecolo), presented to the Brussels Parliament a plan to structurally reform the agency. This plan develops seven objectives, including the reform of governance and the promotion of the circular economy for waste²⁸. In terms of governance, the plan provides for the replacement of life appointments by a five-year term renewable once (conditional upon a positive evaluation) for the position of Director General. The new General and Deputy Directors are expected to take office in 2022²⁹. The Net Brussels' reform plan can clearly be associated with a 'changes in socio-political networks and replacement of key actors' type of exnovation policy (D4) and less clearly with structural reform type of exnovation policy (D2).

4.4. Exnovation Policies Likely to Strengthen and Accelerate the Transition to a Circular Economy

This last point concerns the identification of exnovation policies likely to strengthen and accelerate the transition to a circular economy in Brussels. We asked the participants to identify delinearisation policies that could be implemented in the near future. The objective was to define possible future exnovation policies to be discussed as part of the workshop (see Section 5). The policies mentioned during the interviews are listed in the table below (Table 1). While most of these policies can be quite clearly classified according to the typology built by Kivimaa and Kern (2016) on exnovation as destabilisation, some do not seem to match any type defined in this framework and need further investigation. The latter are placed at the bottom of the table.

²⁷ <https://bx1.be/dossiers/dossiers-redaction/bruxelles-proprete-un-changement-en-profondeur-du-mode-de-fonctionnement-simpose-selon-les-audits/>

²⁸ <https://bx1.be/categories/news/bruxelles-proprete-bientot-reformee-que-contient-le-plan-dalain-marion/>

²⁹ <https://www.rtf.be/info/regions/bruxelles/detail-bruxelles-proprete-le-ministre-marion-presente-son-plan-pour-reformer-les-structures-de-l-agence-et-les-collectes-de-dechets?id=10790031>

Type of exnovation policies	Exnovation policies that could be implemented to ensure the phase-out of linear economy in Brussels
Control policies (D1)	<ul style="list-style-type: none"> ● Incorporate circularity criteria into the conditions for granting construction permits ● Strengthen the conditions for granting demolition permits ● Increase VAT on building demolitions ● Increase taxation of construction waste ● Prohibit by law planned obsolescence ● Prohibit by law the placing on the market of products that are not or not enough circular ● Impose on businesses a maximum percentage of non-circular products they can offer. The maximum percentage of non-circular products could be degressive in time (e.g., max. 55% of linear products in 2025, max. 80% in 2030) ● Prohibit by law the production of waste during events ● Make companies accountable for their environmental and social performance (note: this measure target both innovation and exnovation)
Significant changes in regime rules (D2)	<ul style="list-style-type: none"> ● Tax Reform: Internalise the socio-environmental externalities of products in their price and reduce the taxation on labour (i.e., tax shift) ● End Bebat's monopoly on battery recycling
Reduced support for dominant regime technologies (D3)	<ul style="list-style-type: none"> ● Withdraw public support from companies that are no or not enough circular (under discussion as part of SRTE)
Changes in socio-political networks, replacement of key actors (D4)	<ul style="list-style-type: none"> ● Develop a more open governance that further involve actors advocating the phase-out of the linear economy ● Develop a more open governance mobilising knowledge from the field (e.g., 'do-ocracy') ● Develop and increase the involvement of 'activist researchers' ● Exclude dominant actors who support the <i>status quo</i> from decision-making processes ● Restructure Net Brussels' management and transform the agency into a resource logisticians (under discussion)
Policies difficult to classify according to Kern's typology.	<ul style="list-style-type: none"> ● Reform public procurement rules: integrate and deepen the socio-environmental performance criteria (under discussion) ● Reconfigure modes of public action: develop guidelines to steer the linear economy phase-out (e.g., sectorial phasing-out roadmaps, transition observatory) ● Reconfigure the economic system to end the paradigm that optimises wealth creation (alternative/complementary indicators to GDP, degrowth) ● Deconstruct the beliefs that contribute to maintaining the <i>status quo</i> and create new imaginaries (via the recourse to spirituality in the political arenas, for example) ● Conduct information and awareness campaigns to deconstruct beliefs such as "the cheapest/new is the best" ● Multiply actions of civil disobedience

Table 1. Delinearisation policies identified by the interviewees

5. Discussing the Implementation of Exnovation Policies: A Serious Game and Multi-Actor Approach

This section presents the results of the workshop we organised to address the following future-oriented kind question: Which policies for the Brussels economy to phase-out the linear model? The objective of the workshop (see section 3) was to explore situated viewpoints on targeting exnovation in policy mixes. It implies an emphasis on the perception of concerned actors and a certain setting of the situation. The situation setting consists in imagining the functioning of the Regional Transition Council (fiction in line with the serious game approach) and more specifically in the elaboration of advice on a series of exnovation policies by working groups defined by activity domain (construction industry, WEEE management chain and urban mobility). It should be noted that the workshop is not limited to a sectorial or domain approach for at least three reasons: 1) the working groups include experts with a specialist profile in the domain but also experts with a more generalist knowledge of the circular economy; 2) the third type of measure examined by the working groups, i.e. structural reforms (or significant changes in regime rules), is rather transversal in scope; 3) the fourth type of measure examined in the plenary (replacement of key actors in socio-political networks) with all participants is eminently transversal in scope. The following table displays the exnovation policies analysed in thematic groups (construction industry, WEEE chain and urban mobility) and in plenary (Table 2).

Type of exnovation policies // Domain	Phasing-out of the linear construction	Phasing-out of the linear management of WEEE	Phasing-out of the mobility based on private property and individual use
Reduced support for dominant regime practices (D3)	Withdrawal of tax incentives for demolition and reconstruction	Reduced support for the EPR system (reallocation of the EPR fee)	Withdrawal of the 'salary car' system
Control policies (D1)	Ban on the construction of non-demountable buildings	Closure of the Brussels-Energy incinerator furnaces	Reduction in the number of parking spaces for individual cars
Significant changes in regime rules (D2)	Tax reform	Tax reform	(Exnovation-oriented) Awareness campaign
Replacement of key actors in socio-political networks (D4)	Implementation of a "Regional Council for the Transition"		

Table 2. Exnovation policies analysed in thematic groups (construction industry, WEEE chain and urban mobility) and in plenary

This section is organised in three parts. Even before formulating an advice on the specific way in which it is possible and desirable to target exnovation in policy mixes for the circular economy transition, it is essential to characterise the focal system and the regime to be exnovated (5.1). Then, a section is dedicated to the working groups' perception of the idea of targeting exnovation, via three key measures of different types (control policies, policy termination and structural reforms) and beyond (5.2). Finally, we focus on the issue of replacing key actors in socio-political networks (5.3).

5.1. The ‘What’ Question of Exnovation: Contextual Problematisations of the Linear Economy

A first step for the working groups was to characterise what is to be understood as “linear economy” in the three selected domains (see section 3). For example, what characterises the linear model in the construction industry? The answers obtained are neither exhaustive nor systematic. However, they allow the delineation of the regimes to be exnovated. Indeed, to target exnovation in policy mixes, it is necessary to have a contextual understanding of the target, i.e., regime structures, practices, beliefs, and actors involved. The characteristics are listed and some, those targeted by at least one of the three key measures proposed, are underlined in the text. It is already clear that, taken together, the three key exnovation measures do not target the regime as a whole. This applies to all three domains under study.

For the construction industry

- Urban sprawl
- Extraction and use of non-renewable (e.g., limestone, sand...) and non-renewed (e.g., wood) raw materials as building materials
- Consumption of non-renewable resources (energy, water) in the construction/renovation phase (i.e., on site)
- Cost-effectiveness principle in the construction/renovation phase of buildings, which favours industrial processes, the use of the cheapest labour regardless of quality standards or skills, undeclared work, and the selection of construction contractors solely based on their price (without considering the environmental or circular management of the company, the building site, or the materials).
- Inefficiency in the use phase of buildings (i.e., a lot of unoccupied space)
- Construction of non-reversible buildings whose use cannot be changed (e.g., conversion of offices into housing) without major alterations. These buildings are therefore subject to an increased risk of functional obsolescence.
- Construction of buildings that cannot be demountable, particularly through the use of composite materials. The components of these buildings cannot be extracted for repair, reuse, or recycling. At the end of their life, non-removable buildings are demolished rather than deconstructed/disassembled.
- Demolition of buildings
- Generation of construction/renovation and demolition waste (+/- 30% of BCR waste)
- Real estate speculation, indissociability of building and land ownership.

For the WEEE chain

- Economic growth paradigm
- Extraction and use of non-renewable raw materials (metals, minerals)
- Planned obsolescence in the sense of products deliberately designed to fail prematurely
- Planned obsolescence associated to the acceleration of technological change (e.g., current EEE will not be compatible with 5G and will have to be renewed even if it works)
- Product design determined by the search of the lowest production costs (e.g., plastic washing machine drums are cheaper but break faster than metal ones, similarly the use of glue for product assembly poses problems especially for IT disassembly)
- Marketing obsolescence with advertising and its attempt to always bring a new fashion, trend
- The Extended Producer Responsibility (EPR) system (which does not respect the hierarchy of waste management methods -i.e., priority is given to recycling over reuse-, does not reach minimum collection rate of 65%, does not include any sanction mechanism, is managed by for

profit players who seek to sell as many appliances as possible rather than extend the life of products -i.e., failures in introducing eco-design)

- Quasi-monopoly of repair for producers (European legislation blocking the 'right to repair for all', producers discredit third party repairers and absolve themselves of any responsibility)
- High labour costs relative to the cost of (new/imported/) goods. This is a problem as many of the processes involved in re-use are labour intensive
- Undervaluation of labour in WEEE (recognition, labour conditions, payment)
- Informal system of WEEE management (what treatment of WEEE? Who benefits?)
- Incinerated WEEE (a minority of the WEEE of the BCR)

For urban mobility

- Urban sprawl: a land use planning meaning that we have consumed all the available space because the places where we live can be far from the places where we work
- Car industry: Upstream, a gargantuan and internationalised value chain, which carries weight in terms of jobs, with a powerful lobby, but also subject to supply vulnerabilities (current shortages of electronic chips in the automotive sector)
- Car-dependency: the car/driving as an extension of the private sphere, of the personality, of an individualised lifestyle
- Amalgamation of personal car and freedom, like amalgamation of cigarettes and freedom. Personal car as something that gives us the means of free action (to travel, etc.), without considering the inconveniences/side effects of the car's omnipresence. However, the real freedom, the real right is the right to mobility, not to own a car.
- Tax regime for company cars (car as individualised indirect salary, inequality according to professional status)
- Privatisation of urban public space, especially for parking

5.2. From Key Exnovation Measures to Comprehensive Policy Mixes

This section describes how the working groups of the Regional Council for the Transition have approached the idea of targeting exnovation in mixed policies, and in particular the implementation of three key exnovation measures. Beyond these three measures, a more general reflection on exnovation policies was encouraged and led to contrasting reactions.

For the construction industry

The members of the construction working group mostly disagree with the proposed measures. They consider that none of the three exnovation measures are applicable and acceptable as initially proposed. The main implementation conditions identified for the three measures are summarised in the rest of this section. On the other hand, for the members of the group, these exnovation measures must be accompanied by measures to support circular innovations (“stick and carrot” logic). The most frequently mentioned support measures are the reduction of VAT on re-use materials and the development of an adapted training offer. However, the apparent consensus on the rejection of exnovation measures was nuanced in an anonymous ex-post survey of participants.

Withdrawal of tax incentives for demolition and reconstruction

The withdrawal of the reduced VAT rate of 6% for the demolition of buildings and the reconstruction of housing is an example of policy termination. It is the measure that has been most strongly opposed by the members of the working group. Some consider that this withdrawal of a support mechanism to the construction industry could have negative impacts on the objectives that were pursued by the government when introducing it (i.e., to boost economic activity, to promote access to quality housing for all, to improve the energy efficiency and to reduce undeclared work). In addition, most participants

questioned the effectiveness of the measure. They explained that for some buildings, if one considers the amount of materials and energy to be used during the construction phase in relation to the gain in energy efficiency, demolition/reconstruction is a more environmentally efficient solution than renovation. Therefore, a condition for the implementation of this measure is that demolition/reconstruction projects should be subject to prior environmental impact assessments to evaluate whether it is more environmentally efficient to renovate or to demolish and rebuild. If demolition/rebuilding is the most environmentally efficient solution, the reduced VAT rate of 6% could be maintained. Most participants also felt that additional measures should be implemented to make demolition/rebuilding circular.

Ban on the construction of non-demountable buildings

This control policy provoked discussions on various levels, starting with the scope of the measure. Most of the participants consider that by focusing on demountability, the measure has a much too narrow scope. Indeed, they felt that it should include other criteria of circularity, such as reversibility, modularity, longevity, or the reuse of materials. Several members also felt that the measure could lead to an increase in the cost of construction, thereby reducing access to housing and slowing down the energy renovation of buildings. Therefore, as a first step, most members propose to apply this measure only to public procurement. More precisely, they propose to integrate circularity criteria in the conditions of contract for the construction of public buildings. To make this measure applicable, several members insist on the need to develop a training offer adapted to the workers of the construction sector so that they learn to work in a circular way, but also to the workers of the public services that will be brought to manage public procurement contracts integrating circularity criteria. The imposition of circularity criteria in public procurement should allow the deployment of circular construction practices and, consequently, increase their accessibility. In the long term, some members do not exclude the possibility of extending these criteria to all construction projects.

Tax reform

Most members of the working group recognise the potential of this structural reform in relation to the objective of phasing out the linear model. However, the integration of the environmental externalities of products into their selling price raises several concerns, particularly in relation to its potential negative impact on the local economy. Several members fear that locally produced construction materials will be abandoned in favour of cheaper imported materials, because they are manufactured in regions that do not apply environmental taxes. Faced with this risk of unfair competition, most members felt that this measure was only applicable at European or even global level. One member of the group proposed an alternative solution, namely the establishment of a border adjustment mechanism for goods produced in regions that do not apply an environmental tax. On the other hand, while the members of the working group are not opposed to reducing taxation on labour, some insist on the need to ensure that the tax shift is neutral for the state budget so as not to reduce the budget for social security and other services provided by public authorities. Several members also highlighted a number of issues that need to be clarified, including the definition of the environmental (or even social) externalities to be internalised and the activities that will benefit from the reduction in labour taxation.

Beyond key exnovation measures

The resistance expressed by the group vis-à-vis the proposed exnovation measures dominated the debate, with the result that the possibility of other relevant exnovation measures could not be explored. Measures to support innovation were highlighted throughout the discussion. For example: encouraging the use of reused materials (through tax incentives or subsidies), encouraging the maintenance and repair of existing buildings (i.e., intervening before they deteriorate too much),

encouraging a change in the perception of the value of materials (i.e., developing a preference for ecological materials rather than for new ones).

For the WEEE chain

The members of the working group on the phasing out of the linear management of WEEE globally welcome the proposed measures. Two of the three proposed innovation measures were retained (positive advice) and considered implementable under certain conditions. The third measure was not adopted, although it was not rejected in principle.

Reallocation of the Extended Producer Responsibility (EPR) fee

The group reached a consensus on this measure, which should have a real impact on WEEE, and formulated a certain number of points of attention regarding its implementation. This measure is considered effective in its capacity to reduce support to the dominant regime as represented by the EPR system. More precisely, the measure would contribute to prioritising repair and re-use over recycling and to reduce the volumes of WEEE. The reflection on the conditions for the implementation of the measure starts with a review of the state of play: today, reuse is mainly financed by social policies (rather than by environmental policies); the EPR contribution (Recupel) is an operating cost linked to a private service rather than an eco-tax (public service delegation); there is no sanctions system for producers who do not reach the collection target (65%). Secondly, two conditions were formulated for the implementation of the measure: the fund that will be reallocated (to prevention, reuse, repair...) must be managed by regional public authorities; and an inter-regional cooperation agreement must be concluded to counter the tendency for divergent WEEE management policies between the 3 regions. The difficulties in implementation were identified as being mainly due to the resistance of producers, who were not represented at the table. It should be noted that Recupel was invited to participate in the workshop but did not respond to our invitation. The European regulations in this area were also identified as a factor limiting the modalities of the reform. A participant nuanced this observation by explaining that a measure of this type (reallocation of the EPR) had already been implemented for batteries (agreement with Bebat for part of the fee to be paid into a fund for re-use).

Closure of furnaces at the Brussels Energy incinerator

The WEEE group decided by consensus not to endorse this control measure, which would have a “weak”, “anecdotal” and “symbolic” impact on WEEE. WEEE can be found in residual waste that is incinerated (in the white bag), but a large part of this waste is still organic waste. Moreover, risks of perverse effects for the management of residual waste have been identified, if the incineration capacity decreases and without a decrease in the production of residual waste (e.g., return of landfills). However, the group does not oppose the measure. It noted that this is not a specific measure for WEEE, nor is it a really cross-cutting measure. The group considered that this measure should be discussed in another working group, including the stakeholders more directly concerned and impacted.

Tax reform

The group supported this measure of structural reform (significant changes in regime rules). As a structural reform it appeared to be transversal in scope and consisting in fact of several sub-measures that are more or less dependent on each other (taxation of new/imported goods, eco-modulation of taxation, fines, taxation of labour). Eco-modulation should orient consumer choices towards the purchase of more sustainable EEE. This aspect of the reform is already covered by the European Directive on WEEE and one participant underlined the reluctance that this has caused among producers (WEEE Forum). Additionally, the points of attention raised concern the risk of perverse effects in relation to vulnerable populations (impoverishment of the poorest, littering) and the risk of fiscal competition (if the tax increase is not harmonised/synchronised between countries/regions).

Furthermore, participants noted that the region has limited competences regarding tax reform (import taxes, VAT, social security contributions...).

Beyond key exnovation measures

In contrast to the construction working group, the WEEE working group welcomed the idea of targeting exnovation in mixed policies and identified a series of additional and complementary measures going in this direction. If several of the additional measures identified targeted exnovation, others were aimed at stimulating and accelerating niches. Finally, the group pointed out the need to think about measures targeting the informal treatment of WEEE and its integration in the official system.

Measures targeting exnovation:

- The measure concerning EPR could be more radical and aim at a new organisation of producer responsibility sharing the responsibility on the product over its whole life cycle (Product Stewardship) and not only in relation to production as it is currently the case. However, this idea raises major implementation issues (notably consistency with European legislation).
- The EPR measure should be accompanied by a system of sanctions. Such a system would enable public authorities to sanction producers if they do not meet the targets (particularly in terms of collection). The current system involving approval or advisory mechanisms is considered to be insufficient.
- The EPR measure should be accompanied by changes in the logistical rules of the system. The collection of WEEE in Brussels is very unsatisfactory and this can be partly explained by the urban nature of the region (less space in homes, shops or processing companies, vertical housing, higher rate of non-car ownership, etc.). Today, the logistic rules of the EPR system are not adapted to the dense city. For example, to be eligible as a Recupel collection point, a shop must meet certain surface standards (8 possible storage units). This could be reduced to 4 units for example. The need for new rules is not specific to Brussels, but specific to the city; cities such as Namur or Antwerp could also benefit from this. Urban sprawl should not be the underlying assumption of WEEE logistics issues.
- A law banning planned obsolescence, similar to the one enacted in France, should be enacted and implemented. Regulation can have faster and simpler effects for the citizen-consumer than tax incentives. This is surely a federal measure, not a regional one.
- The federal government should put pressure on producers by moving forward on eco-design in product standards.
- European lobbying for eco-design should be strengthened (precisely in Brussels), as the producers (international groups) are organised at this level.
- Certain commercial practices that push consumers into compulsive and unreasoned behaviour should be banned.

Measures targeting the stimulation and acceleration of niches:

- Incentives for repair and re-use should be introduced (e.g., lowering VAT to 6%, repair vouchers).
- Public access to the EEE should be stimulated according to a logic dissociating access and ownership of EEE and so of social innovation (as in the past there were public telephone cabins or as there is a public mobility service with the STIB)
- Sensitisation campaigns on good practices for WEEE should consider the multicultural and cosmopolitan aspect of Brussels (for audiences that speak neither French nor Dutch and that it is important to reach to improve the official collect)
- A reform of public procurement should be undertaken. An environmental clause exists for public procurement but should be more binding. For example, public authorities should justify why they do not include the clause, i.e., a different approach inspired by what exists in certain

European directives. This would be a first step that would allow public authorities to reflect on the implementation of a circularity clause (which anticipates the future of the product, which does not make it a waste).

For urban mobility

While members of the mobility working group welcomed in principle the idea of targeting exnovation, the proposed exnovation measures were viewed as somehow inappropriate. They would be insufficient or lacking in ambition. The second phase of the exploration, which consisted of thinking ‘beyond key measures’, quickly became the focus. However, the exnovation measures received some consideration and were assessed in terms of their impacts and conditions for implementation.

Withdrawal the company car system

Company cars are vehicles provided to employees for their personal use. They constitute almost 40% of the Belgian car fleet and benefit from a significant tax advantage. The withdrawal of this tax advantage that is conceived as a ‘reduced support for the dominant regime’ type of measure could result in a decrease of new cars purchased. It would also influence reducing inequalities between employees (as wealthier households benefit the most). However, the measure risks generating problems of access to mobility if compensatory measures are not in place. The withdrawal should therefore be accompanied by compensatory measures (e.g., the mobility budget which guarantees the right to mobility, and which also supports the business models that operate for shared mobility). Difficulties in implementation are identified if the measure is conceived according to a ‘car ownership phase out’ rationale, as the company car is the typical example where the user is not the owner (even if it is an unlimited individual use that he/she enjoys).

Reduction in the number of parking spaces for individual cars

The expected effects of this control measure include gains in the usability of public spaces (e.g., streets, squares). The measure is however considered insufficient on its own and should be implemented together with other exnovation related measures more focused on traffic (reducing the number of roads for car traffic, reducing the space dedicated to car traffic in the roads) or awareness raising measures on the space occupied by cars (e.g., 1 parking space for car, 5 spaces for bicycle). The destabilising effect of this measure on the automobility regime was not discussed as such.

Awareness campaign

This measure envisages the possibility of developing awareness campaigns from a ‘structural reform’ perspective. Can awareness campaigns lead to ‘significant changes in regime rules’? Several ideas have been mentioned in this regard. For example, carrying out awareness-raising actions against car ownership rather than just promoting the use of shared cars or more generally shared mobility or MaaS. In the same vein, participants suggested that car advertising and the Brussels Moto Show should be banned. Furthermore, it was indicated that the promotion of shared mobility should be better framed and only promote models that aim at democratic governance and thus avoid a windfall effect for the actors of uberisation.

Beyond the key measures

Unlike the WEEE working group, the mobility working group preferred not to address the issue of identifying additional exnovation measures. This was also the case for the construction working group, but for very different reasons. The mobility working group decided to take a more “holistic view” of exnovation issues. In doing so, it is in line with a central concern in exnovation research: a new perception of the problem is a necessary precondition for change, even before the formulation of the actual policy agenda of deliberate exnovation policies.

The working group agrees that: (1) the three proposed ‘key measures’ do not go far enough, are of limited ambition; (2) it is necessary to define carefully what kind of mobility system we want to develop, (3) it is also necessary to define what kind of urban development we want and not to isolate mobility from other issues. In this sense, the working group has formulated a series of recommendations:

- We should think in terms of “freedom to move” and “right to mobility” rather than in terms of freedom to have a car or right to a car
- We should think in terms of time savings on travel (i.e., the superior performance in urban areas of a MASS service compared to the individual and ownership-based car mobility).
- We should reduce the number and length of travels (ASI strategy - Avoid, Shift, Improve), and have policies to ‘avoid’ the need to go to a shopping mall on the other side of the city to run an errand. A related exnovation policy would be to get out of or ban shopping malls because that is typically what affects the way we move. This implies thinking in terms of exnovation of the need for certain types of travel, and therefore from a broader societal perspective.
- Short-distance mobility such as the “15-minute city” implies not to isolate mobility from other issues. Other policies must be developed, such as economic policies and employment/activation policies, which reduce travel needs because they are strongly anchored in the territory (e.g., the experiment with zero long-term unemployed in France).
- Beyond the exit from individual car ownership, the question that should be asked is that of the ownership of everything that is used to move and its governance. Why not tend towards more public transport? A shared mobility where the means of transport (or what makes it possible to move in general, including data) is owned or controlled by two or three large international for-profit companies raises new problems. In this sense, a structural reform of MASS inspired by the commons movement should favour decentralised and democratic governance.

The manifestation of conflicts over exnovation in the multi-actor dynamic generated by the workshop

It seems interesting to note that during the workshop, the conflicts were not clearly revealed in the thematic group discussions, but during the plenary discussion. While the discussions in thematic groups seemed quite consensual, the restitution of the results of these discussions in plenary session gave rise to disagreements between those who were reluctant to implement destabilisation policies (the members of the construction group) and those who considered that this type of policies is needed (members of WEEE group) or even that they were not ambitious enough (members of the mobility group).

The apparent consensus of discussions in thematic groups can be explained by the imbalances in the representation of different points of view in these groups. While the construction group mainly comprised representatives of regime actors (notably the key business federations concerned) and public administrations, the mobility group was mainly made up of niche actors and of public institutions. Niche actors and public authorities were also over-represented in the WEEE group. The bias generated by the over-representation of some points of view was confirmed through the survey we conducted among participants after the workshop. A member of the construction group stated that he/she did not fully share the conclusion presented by his/her group in plenary and that he/she had a more favourable opinion on exnovation policies.

5.3. A Focus on Replacement of Key Actors in Socio-Political Networks

The concluding plenary session of the workshop focused on the fourth type of exnovation policy defined by Kivimaa and Kern (2016), namely, policies that aim to replace the key actors in socio-political networks and involve more new (transformative) actors in policy processes to foster new

alliances that support sustainability transitions. This echoes a common finding in the exnovation literature: deliberate phase-out policies involve “changes in the mutual dependency between established industries and political and state actors” (Normann 2019, p.111). A policy of replacing key actors may seek to integrate new actors into existing consultation and advisory bodies or to create new hybrid forums for this purpose. It is this second approach that was adopted in the design of the workshop where, following a serious game approach, the participants were presented as members of the new Regional Transition Council. Although this council is fictitious, the idea of implementing it came from new Brussels transition actors (Carte Blanche published in *La Libre Belgique* on 14 May 2020).

We consulted the participants about their views on a ‘real’ implementation of a Regional Transition Council made up of established actors (business federations, trade unions, etc.), but also actors involved in circular and sustainable innovative projects and citizens. Some participants were in favour of developing a more open consultation on transitions pathways involving all the actors concerned, including citizens. However, the participants considered that it was not necessary to create a new council for this purpose, as there were already many of these councils. The institutional complexity that would result was perceived negatively. Other avenues were mentioned, such as the creation of a (possibly permanent) working group on sustainability transitions issues within Brupartners or the Environment Council, and the organisation of open exchange sessions on these issues between parliamentarians and different actors (e.g., the participatory process on education organised in Flanders). One participant also expressed some concerns about the feasibility and relevance of direct citizen participation. In his/her view, citizens can be represented by organisations working on citizen participation (such as BRAL) or NGOs.

Independently of the establishment of a Regional Transition Council, several participants stressed the importance of anticipation and planning. They explained that it is essential to set long-term objectives for exnovation so that all actors involved in these decline processes can be prepared. In this respect, the policy of phasing out combustion engines was cited as an example.

Finally, participants also highlighted the need to remove the taboos around exnovation and stressed the importance of conducting a public and mediatised dialogue around the transition process on both innovation and exnovation.

6. Discussion and Conclusion

This final section is organised in two parts. The first part summarises and discusses the main findings of the case study. The second part of the conclusion develops a series of policy recommendations and avenues for future research.

6.1. Main Insights of the Research

Although exnovation challenges become more prominent for the governance of circular economy transition in Brussels, the strategies and debates remain strongly focused on innovation policies.

- The case study reveals that the strategies and debates on the transition to a circular economy still strongly **focus on policies for supporting circular innovations**. The shifting from PREC to (future) SRTE can be associated with a shifting from a niche stimulation strategy to a niche acceleration strategy (see Kanger et al. 2020).
- There is a stated intention from the current Brussels government and its predecessor of **moving from a linear economic model** to a circular economic model, but this intention is practically **not translated into political actions** that live up to the intention.
- **Exnovation policies focusing on regime destabilisation** in the sense of Kivimaa and Kern (2016) **are virtually absent** from the strategies and debates on the transition towards a circular economy.
- The issues likely to generate conflicts, like the implementation of exnovation policies, have been deliberately avoided within the framework of the PREC to mobilise as many actors as possible around this project.
- Exnovation policies seem to be also very little discussed in the process of developing the (future) SRTE³⁰. One noticeable **exception** to that observation is the current debate on the **withdrawal by 2030 of public support for companies that are not socially and environmentally “exemplary”** provided for the Regional Policy Declaration 2019-2024. The development of this policy generates tensions with business federation, which incite public authorities to adopt a cautious position regarding the development of this exnovation policy. Some fear that the resistance from the business federation will lead to the adoption of a policy that is ineffective for phasing-out unsustainable activities.
- Another noteworthy difference between the PREC and SRTE is the **opening up of the governance network to transformative actors** (socio and circular innovative enterprises). While the PREC involved more regime actors (i.e.: ‘classic’ business federation and workers’ unions), the SRTE aspires to guarantee the representativeness of other fringes of the economy, including niche actors. This reveals certain disenchantment with the old mindset of transitions and awareness by some public authorities that such mindset can only be challenged by a reconfiguration of the actors network.
- **Discussions on exnovation policies appear to be also deliberately avoided in certain political arenas**, like the elected assemblies and the Economic and Social Council (Brupartners). This silence leads to ignoring many actors, including scientists and social and circular entrepreneurs (e.g., the Kaya Coalition), who point to the urgency of policy interventions in favour of destabilisation and planned decline of the linear economy.

³⁰ As the SRTE is still under development, we cannot exclude the hypothesis that additional exnovation policies can be discussed before its adoption in 2022.

The discussions on exnovation policies engender intense conflicts, which contrasts with the rather consensual character of the debates on policies supporting circular innovations.

- The policies supporting circular innovations tend to generate little tensions compared to exnovation policies
- The political project of developing a circular economy can be seen as a **broad compromise between economic development, employment, and environmental objectives**. This compromise was officially recorded in the ‘Employment Environment Alliance’, which marks the entrance of the circular economy on the political agenda of the Brussels Government.
- Alongside this broad compromise, we have observed some **resistances to the development of the circular economy**. These resistances relate to the governance and management practices of a central actor: Net Brussels. Such resistances are not surprising, insofar as **Net Brussels** should exnovate its usual and “efficient” waste collection and management practices to allow other actors to develop circular activities.
- In addition, as part of the recent shift in the policy strategy from niche stimulation to **niche acceleration**, some niche actors are starting to show their **disagreement concerning the deployment of innovation support mechanisms for all**, including established enterprises. We can also not exclude the hypothesis that the policies promoting circular economy generate conflicts in the future. Tensions are likely to arise if no exnovation policy is implemented to complement innovation policies. Some actors could perceive the circular economy as a green growth agenda that is inappropriate to deal with contemporary sustainability challenges.
- The rather consensual character of circular innovation policies contrasts with the conflicts that exnovation policies tend to engender. Through the interviews and during the workshop, **we observed intense conflicts over exnovation policies**.
- In these conflicts, we can distinguish **three main positions: the proponents, the opponents and the reticents to exnovation policies**. Each position is defended by specific logics of justification corresponding to conflicting conceptions of the social order.
- The main arguments of those in favour of targeting delinearisation concern the need to dismantle the linear economy to allow innovative circular business models to develop and sustain beyond public subsidies and to ensure the ecological transition. Some also state that it would give a more coherent image to the Region, which presents itself as a region at the forefront of the circular economy. Various actors, including members of enterprises from the social and circular economy, members of civil society organisations and administrations at the forefront of the sustainability transitions governance, defend the position in favour of exnovation policies. However, the workshop showed that for some actors exnovation measures taken on a one-by-one basis or even as a set of ‘key measures’ can be considered as not ambitious enough and may require a more holistic vision.
- People who are opposed to targeting delinearisation often justify their position by emphasising the negative impacts that the implementation of exnovation policies would generate on the competitiveness of companies, and by extension on employment. It is the same argument as the one evoked to avoid debates on the question. Opposition to exnovation policies comes mainly from members of ‘classic’ business federations (i.e., regime actors).
- Between these two opposing positions, some adopt a hesitant posture about the implementation of delinearisation policies, highlighting the risks of “leaving some behind” associated with these policies. We have observed such apprehensiveness among different actors, including members of workers unions and of administrations. It is interesting to note that the fears of leaving some

behind in transition processes does not lead to a discussion on the policies to mitigate such risks. This gap in current public debates on circular economy transition will be discussed in more detail in the next section.

- One exnovation policy discussed during the workshop **seems to benefit from a large support**, i.e.: **a policy aiming at changing socio-political networks** by developing a more open dialogue on the transition towards a circular economy involving all the actors concerned, including citizens. If the general idea of opening a dialogue does not arouse opposition, it is however likely that conflicts will emerge over how to involve other voices in the policy and decision-making processes. It is probable that some actors who currently have a greater capacity for influence on political decisions are not ready to lose this advantage and oppose the idea of granting an equivalent capacity of influence to actors defending visions that threaten their own.
- The tensions on the implementation of exnovation policies can also be read in terms of **competing worldviews**. In the figures below, we have mapped the observed conflicts on the policies supporting the development of circular economy (innovation) (Figures 2) and on the delinearisation policies (exnovation) (Figures 3). This representation developed by using the model of the *Cités* (Boltanski and Thévenot 1991, see Box 1 in Section 2) as a reading grid does not aim to capture all the nuances of the multiple conflict dynamics over the different policies of transition to a circular economy. The objective is rather to show the contradictions between major worldviews on innovation *versus* exnovation policies and to highlight the politicisation of the debate on the transition towards the circular economy when the questions of implementing exnovation policies are addressed.

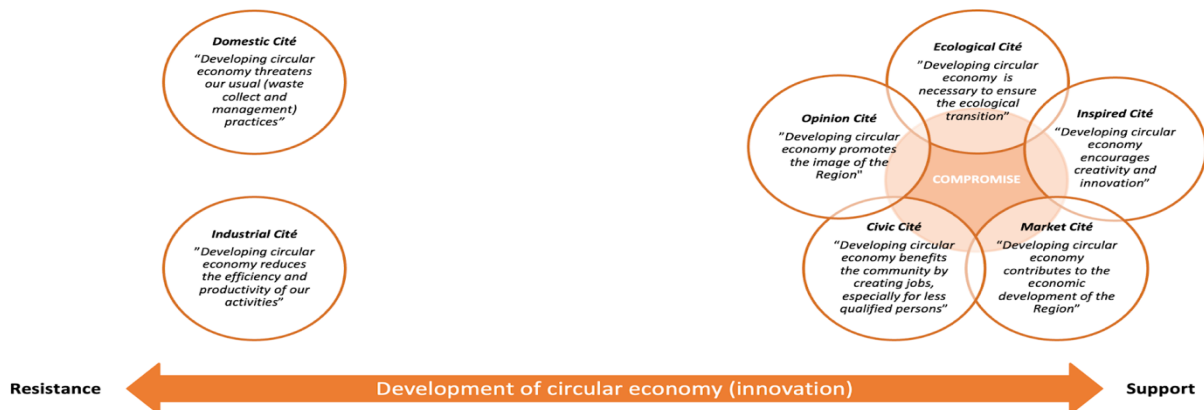


Figure 2. Conflicts on the policies aimed at developing circular economy (innovation)



Figure 3. Conflicts on the delinearisation policies (exnovation)

6.2. Recommendations for Policymakers and Avenues for Future Research

Putting the conditions to ensure a just transition at the heart of the discussions on exnovation policies

The difficulties in resolving conflicts on exnovation policies and the attempts to avoid discussions on the subject are partly explained by a tendency of actors to focus exclusively on the negative effects of delinearisation policies (e.g.: the impacts of taxes or bans on the competitiveness of firms and on vulnerable social groups) without considering the measures for mitigating such effects. As previously mentioned, an argument raised by several interviewees and workshop participants to justify their reluctance to implement delinearisation policies concerns the risks associated with these policies of leaving some people or enterprises by the wayside. If we think that these concerns are amply justified, we are surprised that they did not lead to discussions on the development of measures to address such risk. **Anticipating and mitigating possible unintended or undesirable consequences of delinearisation is indeed essential to reach a compromise, build societal support and ensure a just transition.** It is necessary to address this gap by placing the conditions to ensure a just transition at the heart of the discussion on exnovation policies.

It is interesting to note that this policy intervention point, as critical as it is, has also received little attention in the literature on policy mixes for sustainability transitions (Kanger et al. 2020). Even if researchers are starting to take an interest in ‘policy instruments for socio-economic adjustments’ (Heyen, Hermwille, and Wehnert 2017), counter-measures (Geels et al. 2017) or ‘transitional assistance policies’ (Green and Gambhir 2020), the question of “How to address the broader repercussions of regime destabilisation?” remains under-investigated and deserves further attention (Kanger et al. 2020). With that aim in mind, we believe that it would be relevant to bridge the literature on the governance of exnovation with the emerging research area on **just transitions** (Agyeman 2014; Heffron and McCauley 2018; McCauley and Heffron 2018).

Developing an inclusive debate on the transition to a circular economy covering both innovation and exnovation policies

We conclude by emphasising the **need to lift taboos on delinearisation policies and to initiate a debate for more balanced policy mixes for sustainability transitions.** Many Brussels’ actors call for a public debate on delinearisation policies, claiming that such policies are necessary to allow circular business models to survive and to ensure the circular economy transition. From a social justice perspective, political authorities cannot continue to ignore these calls and avoid discussion on exnovation policies. It is therefore essential that the Region initiates a public debate on the transition to a circular economy covering both innovation *and* exnovation policies. This debate must involve all the actors concerned by the transition (or their representatives) in order to ensure procedural justice and the recognition of the plurality of needs and values (Jenkins et al. 2016; Schlosberg 2007; Sovacool et al. 2017; Williams and Doyon 2019). The debate on the transitioning to a circular economy should ideally aim to build a compromise between the different points of view on:

1. A desirable vision of the future of the economy;
2. The translation of this vision into long-term objectives and milestone;
3. The innovation and exnovation policies to be implemented to reach these objectives;
4. The potential negative impacts of these policies and the measures to mitigate them; and
5. The indicators to monitor this transition.

As part of the present case study, we have initiated a ‘proto-debate’ on some of these issues. We believe that it has contributed to inform and sensitise Brussels’ actors on the relevance to combine innovation and exnovation policies in the policy mixes for circular economy transition. Following the workshop, we conducted an anonymous survey of the people who took part in this discussion. The

survey reveals that a little more than half of the respondents affirm that following the workshop, they better understand the role of exnovation in the transition towards a circular economy. For some participants, the concept of exnovation remains, however difficult to grasp, which is not surprising insofar as it requires a radical change in the way of thinking policy mixes for circular economy transition. The survey thus highlights the **cognitive effects of ‘exnovation arenas’**, but also the **need to deepen and multiply discussions on exnovation policies** to alter the perception of the actors on policy interventions for destabilising or phasing-out established unsustainable technologies, practices, industries or business models.

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Appendices

Methodological Note 1: Documentary analysis

The first mode of data collection was documentary analysis. To apprehend the place of exnovation in the policy mixes aimed at fostering the transition to a circular economy and in the debate associated with the elaboration and implementation of such policy mixes, we looked for explicit and implicit references to exnovation in various documents. The heart of the documentary analysis consisted of the analysis of the main program of the current circular economy policy in Brussels, namely the **Regional circular economy program or “PREC”**. The policies and measures of the PREC have been analysed through the lens of the exnovation policies’ typology developed by Kivimaa et Kern (2016), which, as a reminder, distinguishes four types of exnovation policies: control policies (D1), significant changes in regime rules (D2), reduced support for dominant regime technologies (D3), and changes in social networks, replacement of key actors (see Section 2).

The PREC analysis was supplemented by the analysis of additional sources such as other plans and legislations related to the circular economy policy from the Brussels Government, press articles, as well as documents, reports, communications, and websites from various actors involved in the elaboration and implementation of circular economy policies. We also took into consideration the videos from the YouTube channel of the Chair in Circular Economy and Urban Metabolism³¹ of the ULB, the “Circular Economy Week of Brupartners³²”, which took place in April 2021 and the Conference “Imaginaires and Practices of Circular Economy”³³ organised in May 2021.

Methodological Note 2: Interviews

Alongside the documentary analysis, we conducted extensive interviews with a number of persons actively involved in the circular economy knowledge- and policy-making in Brussels. The transcriptions of the interviews constituted an additional source of data for understanding the place of deliberate exnovation in the transition to a circular economy. The interviews aimed to collect additional data, but also at connecting and articulating all the data collected in a temporal perspective. The objective was to retrace the evolutions of the place of deliberate policy interventions that aim to destabilise or phase out linear economy in the policy mixes for circular economy transition and in the debate surrounding the development of these policy mixes. An additional objective of the interview was to describe and understand the conflict dynamics that took place in such debates. The last objective of the interviews was to identify a set of exnovation policies likely to accelerate the transition to a circular economy to be analysed as part of the workshop. The rest of the note presents the profiles of the persons interviewed as well as the interview process.

Profile of the persons interviewed

A purposive sampling approach was adopted to identify the respondents. The following criteria have been defined to choose the people to interview:

- 1) The person has been actively involved in the knowledge-/policy-making process in circular economy in Brussels for many years and/or has a good knowledge of the history of the development of circular economy policy in Brussels
- 2) He or she has a broad and deep knowledge of the policies and issues of the circular economy in Brussels
- 3) He or she played a key role in the development and implementation of the PREC.

³¹ <https://www.youtube.com/channel/UCwaliuWsJWhdhk-KUfQHIYA/featured>

³² <https://www.brupartners.brussels/fr/la-semaine-de-l2019economie-circulaire-de-brupartners-programme>

³³ <https://cerisy-colloques.fr/economiecirculaire2021/>

We first identified several persons meeting one or more of these criteria based on desk research and discussions with our sponsors. We then completed the list of persons to be interviewed based on a snowball sampling approach, i.e. During the interviews, we asked the participants if they could indicate to us other persons whom it would be interesting to meet.

In total, we contacted 14 people and 8 of them agreed to meet with us. Among the persons interviewed, we find members of ministerial cabinets, administrations and other public bodies, business federations, circular/social enterprises reusing goods and materials, consultancy agencies and universities. The following table shows the composition of the sample (Table 3). The interview being anonymous, neither the name nor the organisation name of the respondents is mentioned.

CATEGORY OF ACTORS	Number of respondents
Ministerial cabinets	1
Administrations and other public bodies	2
Business federations	1
Circular/social enterprises reusing goods and materials	2
Consultancy agencies	1
Universities	1
TOTAL	8

Table 3. Number of respondents for each category of actors

Conduct of the Interviews

The interviews were organised online, via TEAMS. During the interview, the participants were invited to speak personally, and not in the name of their organisation. The anonymous nature of the interview was specified to them. With the permission of the respondent, the discussion was recorded.

The interview consisted of three parts. In the first part, the participant was invited to share what he or she considers to be the main stages in the development of the circular economy policy in Brussels. In the second part, we tried to understand his or her perception of the evolution of the place of exnovation within circular economy plans and legislations (e.g.: PREC, future regional economic transition strategy...) and in the debates/institutional processes associated with the elaborations and implementation of these policies. In these two parts, the participant was asked to identify and describe situations of conflicts that he or she remembers. The last part of the interview developed a prospective reflection on the linear economy phase-out policies: The respondent was invited to imagine and discuss exnovation policies that could/should be implemented to accelerate the transition to a circular economy in Brussels.

Methodological Note 3: Workshop

The last method of data collection involves the organisation of a workshop. The objective of the workshop was to create a situation in which delinearisation policies could be discussed with the actors of the transition to a circular economy. By creating a situation of discussion on this issue, we intended to make observable the conflicts that the development of exnovation policies could generate. Our aim was to understand what the positions of the different actors on linear economy exnovation policies are and how they justify their position to the other actors. We decided to create an ‘artificial’ situation of discussion, because it is extremely difficult to observe conflicts on policies aimed at destabilising or phasing-out linear economy in ‘natural’ situations. Delinearisation policies have so far been the subject of very little political debate. The question seems even taboo in some arenas. Several people appear to be reluctant to talk about deliberate policy interventions that aim to destabilise or phase out linear economy. To help these people to enter a dialogue on this issue during the workshop, we mobilised a *serious game* approach. This approach will be presented a little further down in the note.

During the workshop, the participants were invited to discuss the expected effects and the conditions of implementation of various delinearisation policies. This discussion focused more specifically on the delinearisation in three domains of economic and strategic importance for the RBC: the **construction industry**, the **Waste Electronic and Electrical Equipment (WEEE) management chain**, and **urban mobility**. In addition, these domains have been selected as focal objects for the workshop since they display a certain diversity in terms of their alignment with the emerging policy area of the circular economy and thus a high potential for contrasts in the perception of exnovation policies. The construction industry and the WEEE management chain are in different ways at the forefront of the Brussels circular economy strategy and the PREC in particular. Urban mobility typically has a different policy anchorage. However, the functionality economy (component of the circular economy) mirrors issues such as shared mobility and mobility as a service (Mass) which are very present in the Brussels mobility strategy as formalised in the Good Move plan.

The rest of the section describes the profiles of the workshop participants as well as the workshop process

Profiles of the workshop participants

While the interviews targeted people, who are or have been actively involved in the knowledge-/policy-making process in the circular economy in Brussels, the workshop was much more open insofar as all the actors concerned by the circular economy transition policy were invited to participate. As a result, the interviewees have also been invited to participate in the workshop. A purposive sampling approach was adopted to identify the participants for the workshop. We used two criteria for constituting the sample:

1. The participant has an expertise on the circular economy transition strategies in Brussels/Belgium
2. He or she has specific expertise on one of the three sectors/industries analysed in Brussels/Belgium, and ideally a knowledge of the implications of circular economy policies for the sectors/industries in question.

We identified a set of people to invite to the workshop based on interviews with circular economy policy actors (see Methodological Note 2) and desk research. In constructing the sample, we took care to establish a balance between the experts of the three sectors studied and the ‘generalists’, but also to represent the diversity of points of view on the issue. With that aim in mind, we have ensured to invite representants of different parts of the society, namely:

- Administrations and other public bodies

- Business federations
- Trade Unions
- Consumers/users organisations
- Environmental NGOs
- Circular/social enterprises reusing goods and materials
- Consultancy agencies
- Universities

Despite our efforts to build a balanced sample, certain sectors/industries and categories of actors have been underrepresented, or even not represented at all. These are more particularly environmental NGOs and consumer organisations. The members of these organisations that we contacted justified their non-participation either by an overly busy agenda or a lack of expertise on circular economy issues. Experts on functional mobility are also underrepresented compared to the other two sectors/industries, and in particular the construction. The table below classifies the 26 workshop participants according to the category of actors to which they belong and their expertise (Table 4).

CATEGORY OF ACTOR	CONSTRUCTION	MANAGEMENT OF WEEE	FUNCTIONAL MOBILITY	TRANSVERSAL	TOTAL
Administrations and other public bodies	3	1	2	2	8
Business federations	4			1	5
Trade Unions				2	2
Consumers / users organisations					0
Environmental NGOs				1	1
Circular/social enterprises reusing goods and materials	1	2		2	5
Consultancy agencies	1				1
Universities	1	2	1		4
TOTAL	10	5	3	8	26

Table 4. Classification of workshop participants according to the category of actors to which they belong and their expertise

Conduct of the workshop

As mentioned previously, the implementation of delinearisation policies seems to be a subject that is difficult to broach, or even taboo for some people. To facilitate the dialogue on this apparently sensitive topic, we have mobilised a **serious game** approach. This is a role-playing game in which participants are invited to immerse themselves in a fictional situation. The serious game method is commonly used as part of participatory prospective exercises, notably by the European Commission's research centre who has developed an advanced method of serious game to co-produce, with the stakeholders, prospective scenarios aiming at supporting the EU policy making processes (Bontoux et al. 2016). Through a review of the literature, Stanitsas et al. (2019) show that serious games are also widely used for facilitating learning and thinking on sustainability transitions, in particular with the stakeholders.

The participants were invited to play the role of a member of the “Regional Council for the Transition³⁴”, an imaginary consultation body bringing together all the actors concerned with the transition, including those who are currently not (or not much) involved in the decision-making processes on this matter. Their mission was to write an advice for the attention of the government on a series of exnovation policies likely to compose the future long-term strategy of ‘transition to a 100% circular economy’, a fictive strategy including innovations and exnovation policy measures, whose development was launched by the government at the end of the pandemic to stimulate a sustainable recovery. To help the participants to get into their role, we exposed the fictitious situation in the form of a narrative story accompanied by several visual tools (e.g.: fake newspaper articles, fictitious policy documents...). The story and visual tools we used are presented in the box below (Box 3).

Box 3. Narrative story and visual tools used for the serious game

Contexte

Le 1er octobre 2021, une conférence de presse de l’OMS a officiellement annoncé la fin de la pandémie qui a paralysé l’économie mondiale pendant près de deux ans. Dans la foulée et dans l’euphorie générale, le gouvernement de la Région de Bruxelles-Capitale a décidé de lancer une initiative innovante afin de stimuler une relance durable, à savoir, la mise en place d’une ‘économie 100% circulaire’ à Bruxelles à l’horizon 2050.

³⁴ This idea came from a Carte Blanche published in La Libre Belgique on 14 May 2020 in which more than 70 associations claimed for the establishment of such a council in order to promote a democratic, ecological and socially just recovery.

LE SOIR

L'OMS annonce officiellement la fin de la pandémie de Covid-19



Tedros Adhanom Ghebreyesus, directeur général de l'OMS, lors de la conférence de presse qui s'est tenue ce vendredi.
C'est maintenant officiel : lors d'une conférence de presse qui s'est tenue hier, Tedros Adhanom Ghebreyesus, directeur général de l'OMS, a annoncé la fin de la pandémie.

Frank Vandenbroucke (sp.a), Ministre de la Santé fait le point sur la levée des mesures Covid



La Capitale

Quotidien de Bruxelles
L'ÉPREUVE EN
Bruxelles Actualité
Économie

Relance post-Covid: Le gouvernement Bruxellois s'engage dans la transition vers une économie 100% circulaire à l'horizon 2050



« Nous allons très prochainement mettre en place le Conseil régional de la transition, un nouvel organe de concertation qui alimentera le développement de la Stratégie à long terme de transition vers une économie 100% circulaire »
Barbara Trachte (Ecolo), Secrétaire d'Etat en charge de la Transition économique, explique les étapes qui mèneront à l'élaboration de la nouvelle stratégie.



Stratégie à long terme de transition vers une 'économie 100% circulaire'

Dans cette perspective, le Gouvernement a initié le développement d'une Stratégie à long terme visant à assurer le passage d'une économie linéaire à un modèle entièrement circulaire. Cette stratégie de transition comprendra des mesures de soutien aux innovations durables, mais aussi, de nombreuses mesures d'innovation visant à favoriser la sortie de l'économie linéaire.

Région de Bruxelles-capitale

Projet

STRATÉGIE À LONG TERME DE TRANSITION
VERS UNE ÉCONOMIE 100% CIRCULAIRE

Le Conseil régional de la Transition

Le développement et la mise en œuvre de ces mesures repose sur un **processus participatif expérimental**. Le Gouvernement bruxellois a, en effet, institué le “**Conseil régional de la Transition**” (CRT), un nouvel organe de concertation qui rassemble **une grande diversité d’acteurs de la transition**, en ce compris, des représentants des fédérations d’entreprises, des syndicats, des ONG environnementales, du monde associatif, mais aussi des acteurs porteurs de projets innovants durables, des scientifiques et des citoyens de tous âges et de tous horizons. Le nouveau conseil est également composé de représentants des pouvoirs publics locaux, régionaux et fédéraux afin de favoriser le dialogue et la coordination entre différents niveaux de pouvoir. Au vu de votre rôle dans la transition, chacun d’entre vous a été invité à devenir membre de ce conseil.

Des travaux préparatoires menés au sein du Conseil régional de la transition ont déjà permis d’identifier une série de **politiques et mesures susceptibles de composer la stratégie de transition vers une économie 100% circulaire**. En tant que membre du conseil, vous êtes invités à remettre un **avis à l’attention du gouvernement** sur ces politiques et mesures.



AVIS

Projet de stratégie à long terme de transition
vers une économie 100% circulaire

Séance exceptionnelle du Conseil régional de la transition pour la remise d’un avis sur des politiques de sortie de l’économie linéaire

Aujourd'hui, le 31 mai 2022, le Conseil régional de la transition se réunit pour une séance dédiée aux politiques de **sortie de la mobilité fondée sur la propriété privée et l'usage individuel**, de **sortie de la construction linéaire** et de **sortie de la gestion linéaire des D3E**.

Afin de préparer l'avis du conseil sur ces différentes politiques, vous êtes répartis en **trois groupes de travail thématiques**.

La préparation des avis en groupes de travail est dirigée par un **président**. Son rôle est de présenter les questions à l'ordre du jour, de distribuer la parole équitablement, de veiller à ce que chacun respecte le temps de parole qui lui est accordé et, si nécessaire, de recentrer le débat, et ce, en toute impartialité. Bonno est le président du groupe de travail mobilité, Ela préside le groupe de travail D3E et Aurore préside celui sur la construction.

Chaque groupe de travail nomme aussi un **secrétaire** et un **rapporteur**. Le rapporteur sera invité, à la fin de la séance en groupe de travail, à présenter en plénière l'avis préparé par son groupe. Le secrétaire prendra des notes afin d'aider le rapporteur à formuler les principales conclusions de la discussion du groupe de travail.

Chaque groupe de travail reçoit une grille **visant à faciliter la discussion et la formulation d'un avis** sur les politiques et mesures. La grille comprend trois politiques d'exnovation spécifiques à chaque secteur/filière. Ces politiques ont été définies sur la base de vos réponses aux questions qui vous étaient soumises lors d'inscription au workshop, d'entretiens exploratoires avec des experts de l'économie circulaire à Bruxelles et de recherches documentaires. Les trois politiques ont été sélectionnées de façon à couvrir trois des quatre types de politiques d'exnovation définies par Kivimaa et Kern (2016) à savoir, les **politiques de réduction du soutien** au modèle linéaire (i.e. suppression de subsides, de financements ou d'avantages fiscaux favorisant certaines pratiques linéaires), les **politiques de contrôle** (i.e. implémentation de taxes ou de normes visant à décourager, voire interdire, certaines pratiques linéaires) et les **réformes structurelles** (i.e. réformes structurelles de la législation visant à favoriser la sortie du modèle linéaire). Pour chaque politique, vous êtes invités à identifier ses effets attendus ainsi que les conditions pour la rendre applicable et acceptable.

Politique	Description	Type	Effets attendus	Conditions d'implémentation
Politique 1		Réduction du soutien au modèle linéaire		...
Politique 2		Politique de contrôle		...
Politique 3		Réforme structurelle		...

After presenting the workshop instructions in plenary session, the participants were divided into three thematic working groups, one group per sector (i.e., Phasing-out of the linear construction, Phasing-out of the linear management of WEEE and Phasing-out of the mobility based on private property and individual use). The composition of the thematic groups is presented in the tables below (Tables 5, 6 and 7).

Estelle	Castadot	Hub.brussels - ecobuild.brussels
Hervé	Camerlynck	FEBELCEM
Giulia Caterina	Verga	ULB
Laurent	Schiltz	Confédération Construction Bruxelles-Capitale
Gilles	d'Oultremont	ELICO scrl
Helene	Dubois	homegrade.brussels
Corinne	Bernair	Bruxelles Environnement
Ambroise	Romnée	ICEDD
Benoit	Dassy	CSC

Valentin	Vassart	Service public de Wallonie
Alexia	Meulders	Confédération Construction Bruxelles-Capitale
Aurore	Fransolet	GOSETE team

Table 5. Participants of the 'phasing-out of the linear construction' working group

Stephanie	Thomaes	Bruxelles Environnement Département Déchets, service réglementation et REP En contact régulier avec Récupel
Jean	Mansuy	VUB - logistique inverse des D3E
Muriel	Sacco	ULB - D3E par l'économie sociale (Weesoc)
Laurent	Drousie	Saw-B - en charge du réseau de facilitateurs clause sociale marchés publics
Luc	Deriez	Repair Together asbl - Coord des repair cafés de Bruxelles et Wallonie
Lydie	Gaudier	Cellule RISE du CEPAG/FGTB wallonne
Silvia	Dogà	UCM -
Ela	Callorda Fossati	GOSETE team
Ayana	Dotaalievà	GOSETE team

Table 6. Participants of the 'Phasing-out of the linear management of WEEE' working group

Philippe	Decap	SPF Mobilité et Transports
Martin	Lefrancq	Bruxelles Mobilité
François	Lohest	ICHEC
Laurent	Evrard	FEBELCEM
Gerd	de wilde	Makettt
Alice	Van de Vyvere	ConcertES
Piet	Van Meerbeek	BRAL - Stadsbeweging voor Brussel/un mouvement urbain pour BXL
Marie-Catherine	Michaux	Fondation Roi Baudouin
Bonno	Pel	GOSETE team
Wouter	Achten	GOSETE team
Solène	Sureau	GOSETE team

Table 7. Participants of the 'Phasing-out of the mobility based on private property and individual use' working group

Each group was first invited to define the characteristics of the system to be exnovated in the context of the transition to a 100% circular economy (i.e., linear construction, linear management of WEEE mobility based on private property and individual use). This preliminary discussion was important since any attempt to formulate exnovation policies requires a definition of the problem in terms of exnovation - i.e.: what is the system to be exnovated?

The participants then received a table comprising the ‘three key exnovation policies’ to be discussed. For each of these three policies, the members of the group were invited to discuss the potential effects and the conditions of implementation. The exercise intended to capture the consensus and dissensus on a wide range of linear economy phase-out policies and was therefore not limited to bans and other regulatory instruments to which exnovation is often reduced. ‘Three key exnovation policies’ were selected to cover three of the four types of exnovation policies defined by Kivimaa and Kern (2016) namely, reduced support for dominant regime technologies, control policies, and significant changes in regime rules (see Section 2). Due to its deep transversal nature and its critical importance in the exnovation literature (Heyen et al. 2017), the fourth type of policy (i.e. changes in socio-political networks with replacement of key actors) was not included in the analysis by sector/industry. As we will explain a bit later in the note, this type of policy was discussed at the end of the workshop, in plenary session. The following table displays the exnovation policies discussed in each thematic groups as well as the type of exnovation policies to which they relate (Table 8). These policy mixes were defined on the basis of the interviews with the persons involved in circular economy policy-making (see Methodological Note 2), documentary research, and answers to questions that were submitted to participants during workshop registration.

Type of exnovation policies // Domain	Phasing-out of the linear construction	Phasing-out of the linear management of WEEE	Phasing-out of the mobility based on private property and individual use
Reduced support for dominant regime practices	Withdrawal of tax incentives for demolition and reconstruction	Reduced support for the EPR system (reallocation of the EPR fee)	Withdrawal of the 'salary car' system
Control policies	Ban on the construction of non-demountable buildings	Closure of the Brussels-Energie incinerator furnaces	Reduction in the number of parking spaces for individual cars
Significant changes in regime rules	Tax reform	Tax reform	(Exnovation-oriented) Awareness campaign
Replacement of key actors in socio-political networks	Implementation of a “Regional Council for the Transition”		

Table 8. Exnovation policies analysed in thematic groups (construction industry, WEEE chain and urban mobility) and in plenary

Finally, participants were asked to look beyond the framework of ‘three key exnovation measures’ and to identify additional measures that could compose the future long-term strategy of transition to a 100% circular economy.

The main conclusions of each thematic working group were presented and discussed in plenary. The workshop ends with a plenary discussion on the fourth type of exnovation policy that was not discussed in the thematic working groups, namely changes in social networks and the replacement of key actors. The participants were indeed invited to give advice on the actual implementation of a “Regional Council for the Transition” involving all the actors concerned by the question.

Abbreviations

BECI	Brussels Enterprises Commerce and Industry
DPR	General Policy Declaration
EPR	Extended Producer Responsibility
EU	European Union
MASS	Mobility as a service
MLP	Multi-Level Perspective
NGO	Non-governmental organisation
PREC	Programme régional en économie circulaire (Regional Program in Circular Economy)
SRTE	Stratégie régionale de transition économique (Regional Strategy for Economic Transition)
STIB	Société des transports intercommunaux de Bruxelles (Brussels Intercommunal Transport Company)
UCM	Union des classes moyennes (Union of Middle Classes)
VAT	Value Added Tax
WEEE	Waste Electrical and Electronic Equipment