Prospective research

What is the strategic value of “exnovation” for sustainability transition strategies in Brussels Capital Region (BCR)?

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Key messages

1 Exnovation refers to the active unmaking of unsustainable socio-technical configurations. Unsustainable configurations may correspond to incumbent technologies, broader mature regimes, or new negative trends.

2 Exnovation and innovation are the inherently interconnected two faces of sustainability transitions, like two faces of the same coin.

3 Given that a certain pro-innovation bias reigns in society when it comes to imagine sustainability transitions, the exnovation mindset is poorly developed in the BCR
→ *Think exnovation!*

4 While the diffusion of (sustainability-oriented) innovation does not automatically and creatively destruct “unsustainable things”, exnovation is virtually missing in BCR transition strategies
→ *Plan exnovation!*

5 Exnovation (as well as uncontrolled innovation trajectories) involves losses, but those are not immutable
→ *Guarantee just exnovation!*

Introduction

While environmental threats appear to be more serious and more urgent than anticipated, the pace of transformation of our economies and societies is too slow; climate objectives are far from being achieved. The sense of urgency regarding the need to rethink sustainability transitions is further exacerbated with the political world and public services being under pressure because citizens increasingly reject traditional political actors and processes. At the same time, the field of 'Sustainability Transitions' studies is experiencing a paradigm shift with the recognition of the deep rootedness of a pro-innovation bias; innovation is systematically associated with promises of progress, which are framed as prospects of improvements in environmental performance or quality of life. Therefore, the assumption that innovation has a principal role in facilitating transition processes is not frontally questioned.

In practice and policy, transitioning generally means that multiple network governance constellations are being developed for the stimulation, co-creation, and institutional anchorage of sustainability-oriented technological or social innovation. Beyond this bright and mobilising side of transitions' governance centred on innovation, this project deliberately targets its crucial but often neglected and underspecified counterpart: *Exnovation* refers to the active unmaking of unsustainable sociotechnical configurations of the economy and society.

Methods, approaches and results/body

GOSETE is grounded in in-depth case studies of initiated, upcoming, or necessary exnovation processes in the BCR. Case selection has been strongly informed by the views of the project's mentors (i.e. Bruxelles Environnement, hub.brussels, bru.partners, BRAL). Case selection and their further demarcation and definition led to 3 sets of cases:

A. Urban mobility transitions and the programmed end of diesel and petrol cars (Internal Combustion Engines –ICE) as mediated and implemented via the Low Emission Zone (LEZ);

B. The expected circular economy transition that runs the risk of being a stacking rather than a shift of rules and routines from linear to circular ones;

C. The unanticipated transition of the retail trade sector and the called upon "phase-out of [unsustainable forms] of e-commerce".

The GOSETE project confronts these case studies as "wicked", ill-defined challenges that need to be approached from a variety of scientific and practical angles. The project's interdisciplinarity draws on a quite unique combination of expertise in transitions governance, sustainability assessment and legal studies. GOSETE reaches out to transdisciplinarity via regular engagement with mentors and stakeholders of the cases and the organisation of broad and inclusive societal debates on exnovation challenges.

The most salient and robust results are:

R1 : Exnovation has to do with the active unmaking of mature unsustainable technologies (e.g. ICE vehicles targeted by the LEZ), broader mature unsustainable regimes (e.g. the automotive regime targeted by some other Good Move measures) and new negative trends (e.g. the rise of SUVs).

R2 : Exnovation policies are needed because the implementation of innovations (or alternatives to existing systems) does not automatically displace their less sustainable equivalent modes. Implementing innovations may increase overall produced and consumed quantities, as illustrated by the rebound and induction effects linked to new energy sources, circular innovations and e-commerce. In parallel, exnovation policies are not virtuous by definition either; they must be well designed. An exnovation policy like the LEZ targeting the use of a technology (i.e. ICEs) may generate considerable side effects, incl. an increase in vehicle production quantities via the accelerated renewal of the fleet. GOSETE develops upon such effects by configuring systemic sustainability assessments going way beyond classical life cycle assessments.

Methods, approaches and results/body

R3 : The repertoire of exnovation policies is much broader than linear prohibitions and bans (which tend to raise issues such as extensive proofs of harm, acceptability, compliance, enforcement, or exceptions). The series of exnovation governance mechanisms include changes in the existing incumbent and dominant socio-political networks, removal of public support for “non-exemplar” companies (and funding reallocation to sustainable niches), or significant change in rules that enable unsustainability practices. Exnovation-oriented policy interventions go beyond imagining purposeful decline and need to address its broader repercussions (aftercare, multiple-regime interactions, unjust losses).

R4 : Since exnovation is not separately listed as policy domain for which the regional authorities are competent, the BCR only has power to take exnovation measures if they are linked to a subject matter that falls under a policy domain for which it is competent. Where competences are divided amongst different institutional levels (EU v. Be or federal v. regional) regulatory fragmentation may occur and form an obstacle.

Conclusions

Exnovation and innovation need to be actively thought of as the two faces of our ongoing and future sustainability transitions. Innovation allows for patterns of creation of sustainability-oriented technology and of grassroots alternatives. However, the eclosion of innovation-guided trajectories can evolve without leading to the decline or "creative destruction" of unsustainable orders.

What is more, even under the hypothesis that sustainability-oriented innovations could break through by spontaneously "destroying" the unsustainable old, there is no guarantee that these processes per se will prevent socially unacceptable losses. Exnovation does not take for granted the automaticity of innovation as a dual process of *creative-destruction* as formulated by Joseph Schumpeter some 80 years ago. Indeed, in the context of serious environmental and socio-political threats, the strategic relevance of exnovation lies in its specific and novel way of envisioning complex sociotechnical trajectories of decline and their related losses or indirect unwanted effects.

Those are not conceived as the "destroying" effects of competition, but as necessary objects of responsible governance efforts and thus a major matter of concern for policy, politics, and the socially embedded economy. GOSETE has been a pioneering project in this direction and has resulted in three concrete policy recommendations for the RBC.

Policy recommendations

1. *Think exnovation!* Notably by promoting the use of tools developed by GOSETE.

State of the play: GOSETE confirms that exnovation receives little explicit attention in society and in the BCR in general. It is misleadingly associated with "punitive ecology", or "annoying ecology" and as a negative, excessive, intrusion into peoples' freedom. Political and economic leaders as well as ordinary citizens in BCR tend to idealise sustainable technological innovations or even grassroot-based social innovations as the high road to transitions. Exnovation is overlooked, or even seen as a taboo. As a result, exnovation is virtually absent from existing transition strategies in the BCR, except to some extent in aspects of energy policies and in urban mobility policies. But even in those sectors, exnovation is very difficult to follow through. Number of blockages (e.g., on the Belgian nuclear phase-out, the Good Move measures targeting the reduction of car traffic, the European standards impacting on the weight of cars) and failures (of COPs to have a commitment on the phasing-out of fossil fuel energy production) illustrate this issue. The key idea driving our call to *Think Exnovation!* is that there is a need for a change of mind-set in society and policy, in order to counteract the prevalent pro-adding-innovation bias and its detrimental effects on peoples' perceptions of the dynamics of transitions.

→ We recommend a concrete and immediate way of engaging with exnovation thinking: promote and stimulate the widespread use of dedicated tools, starting with training sessions for every administration, ministerial cabinets, and consultation bodies (including Brupartners). What matters is to collectively recognise, debate, and imagine future actions which would be specifically targeting unsustainability in sociotechnical systems. Those tools include:

A. "The X-curve", to visualise sustainability transitions as being two-sided processes, including the emergence of sustainable alternatives and the decline of unsustainable configurations.

B. "The ABC-book" [developed by GOSETE], to find and to get to grips with the words that are missing in mainstreaming transitions debates (e.g., "unsustainable", "negative trends", "removal of subsidies", "aftercare", "losses", (regulatory) "fragmentation").

C. Other local and more particular exnovation-related tools and expertise that exist need to be inventoried and mobilised (e.g., the ARAU's 25 proposals for a Bois de la Cambre free from car-traffic, the IEB & AQL calculator of greenhouse gas emissions produced by one of the most unsustainable practices of the construction sector, i.e. demolition-reconstruction).

Policy recommendations

2. *Plan Exnovation!* By integrating exnovation trajectories in existing BCR transitions' strategies in line with a set of identified governance principles.

State of the play: In recent years, the challenges of sustainability transitions have reinforced the region's orientation towards strategic planning (e.g. Good Move, Good Food, Circular Economy Plan, Shifting Economy). However, research shows that while some recently planned measures seem to match the repertoire of exnovation policies (e.g. ICE phasing-out, moratorium on new malls, and conditionality of public support to social and environmental exemplarity), the "big picture" of exnovation still seems to be missing. This relates strongly to the societal taboo to think and speak about exnovation (see PR1), but also to the lack of expertise on how to plan "the way out" from deeply embedded unsustainabilities.

→ We recommend integrating exnovation planning in existing policy plans according to the following principles:

A. Set ambitious exnovation targets through balanced actor representation. Socio-political networks need to change to tackle the advantages given to dominant actors and prevent them to avoid, delay, minimise, or backlash exnovation. (*Beyond vested interests*)

B. Examine the "what question" of exnovation. Exnovation should be staged frontally when evidence and claims on the limits of "optimisation", "efficiency", "rationalisation", "improvements"... gain momentum (*Beyond optimisation of regime solutions*). Second, exnovation has to do with the unmaking of mature technologies (e.g. ICE vehicles), but also of broader socio-technical regimes (e.g. automobility regime), and of new negative trends (e.g. the rise of SUVs) (*Beyond technological substitution*). Third, impact assessments of exnovation policies should be multidimensional (environmental, socioeconomic), multi-actor-oriented (companies, workers, and users), and go beyond local impacts and performances of the various alternatives, to include global impacts (and thus indirect emissions) and rebound effects (or more generally, impacts on overall quantities) (*Beyond Life Cycle Analysis*). Finally, public inquiry should be deepened and systematic to build a collective perception of what could be the focus of exnovation policies (*Beyond confirmation bias*).

C. Examine the "how question" of exnovation processes. To secure actors' expectations, exnovation plans need to persist despite possible changes in political cycles (*Beyond short-termism*). Also, the variety of the repertoire of exnovation policy instruments should be deployed (*Beyond flagship measures*). Before enacting new rules, the BCR should assess opportunities in existing law (including basic principles of law) for pursuing exnovation purposes (*Beyond the magic of new*

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regulation). Third, where powers are divided between different authorities, effectiveness should be ensured through (ethical) negotiation to avoid loopholes, fragmentation and increase of complexity and unintended impacts (*Beyond regulatory fragmentation*). Fourth, practical effectiveness should be ensured by foreseeing and implementing effective compliance with and enforcement of adopted rules (*Beyond the formalism of regulation*). Finally, exnovation planning should deal with the remnants of phase-out (e.g. aftercare of the end-of-life of ICE vehicles) and broader socioeconomic consequences of induced decline (*Beyond termination*).

3. *Guarantee just exnovation!* By identifying, assessing, and addressing losses.

State of the play: Exnovation processes involve losses; but those are not immutable. GOSETE's urban mobility case (LEZ) illustrates how social justice concerns are largely missing in the implementation of exnovation policies. What seems still not sufficiently recognised – or not seen as mitigatable – is the fact that exnovation policies affect actors differently (e.g. rich and poor motorised households own different types of polluting cars) and that vulnerable actors are less able to cope with losses and have a lesser capacity to recover or adapt. In parallel, citizens' perceptions of unjust exnovation appears to be a powerful lever of inaction or backlash.

→ We recommend the region to engage more proactively with "Just exnovation" – as an integer part of any "Just Transition" – by assessing and addressing potential losses, in particular for vulnerable actors, according to the following principles:

A. Recognise social differences in impacts. It matters anticipating who is affected by exnovation and what are the constraints that vulnerable actors have, to cope with potential losses. For example, 30% of households in the lowest income quartile own a car. Their car will be subject (earlier) to the ban while they are likely to experience a (particularly) high car-dependency. The latter needs to be overcome, not neglected.

B. Recognise destabilisation and short-term hardships. It matters anticipating the sequencing of exnovation impacts and particularly short-term hardships. For example, in the short term, substitutes or alternatives to ICE may be too expensive for some, inaccessible or ineffective, or the introduction of "Mailles appaisées" may disorient drivers and retailers. Short-term impacts need to be monitored and assisted.

C. Recognise indirect effects beyond the policy domain. It matters anticipating indirect impacts and particularly those that are likely to concern vital functions of the city like housing and retail. For example, exnovation policies in the mobility domain may indirectly affect the rent affordability for households and retailers. For those policies to benefit the current inhabitants and retailers and to avoid their eviction, parallel and coherent housing and retail policies need to be considered.

Policy recommendations

D. Favour exnovation policies that minimise losses for the most vulnerable and where this is not fully possible, provide compensation or social benefits to **guarantee access to fundamental rights** like the right to mobility).

E. Cultivate transformative justice. This means to imagine **future provision systems and social relations** that reduce and prevent exclusion, harm, and violence. For example, we can think of André Gorz's visionary text on the "social ideology of the bagnole", or the critical concern raised during a GOSETE debate about who owns and controls everything that enables transportation (including concerns over the Tech Giants and the appropriation of the data for/from shared and low emission mobility).

List of publications

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Project & the research team

This policy brief is part of a collaborative ULB (SONYA) & VUB (PREC) research project called GOSETE (2020-2022). The aim of the project was to analyse different contexts in which exnovation plays out and to develop a societal debate and guidelines for the institutional design of transition strategies addressing exnovation.

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Prospective research

Through the Prospective Research programme, the Brussels-Capital Region is hoping to fund research projects from a dual perspective: to provide a solid regional prospective vision; to build solutions to the specific challenges it will face in the years to come. The solutions proposed by the funded projects must take into account Brussels' urban complexity as well as the Region's environmental, social and economic transition objectives. The programme targets researchers in human science as much as researchers in exact or applied science.

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