

## Mobility and transport

The Low-emission zone as an active exnovation policy

On the way towards the phase-out of the most polluting vehicles in Brussels?



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# *Towards just exnovation addressing the dark sides of transitions (to a post-car city)*

Transdisciplinary research for a Healthy Planet – resources and sufficiency

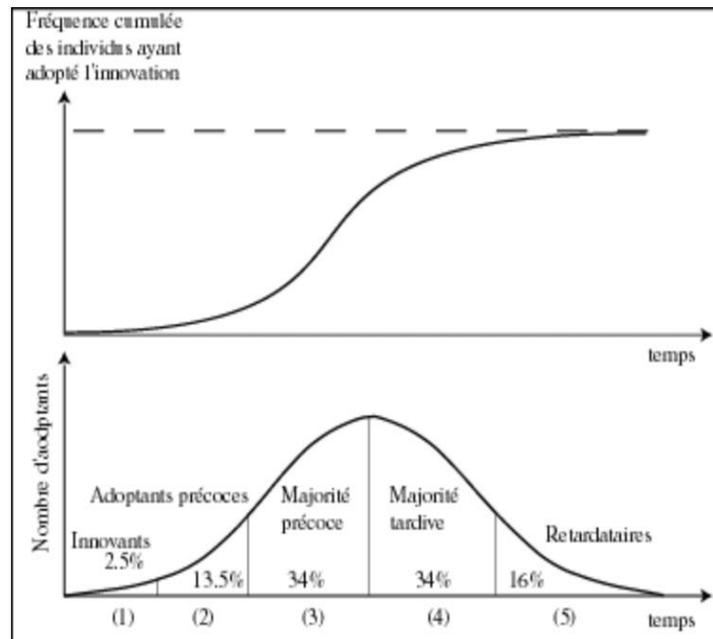
16/02/2024

# 1. Exnovation?

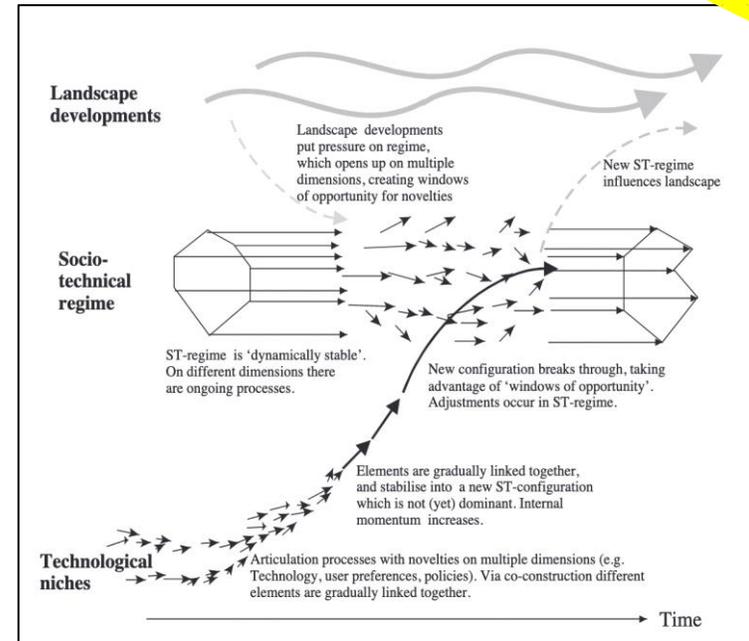
## ❖ Sustainability Transitions studies

- Focus on the emergence of **sustainable** innovations : how to induce/explain systems' change?
- Originally, not a lot of attention given to « exiting » **unsustainable** systems

S – curve : innovation diffusion



Rogers, 1962



Geels, 2005

**Anchored pro-innovation bias**

# 1. Exnovation?

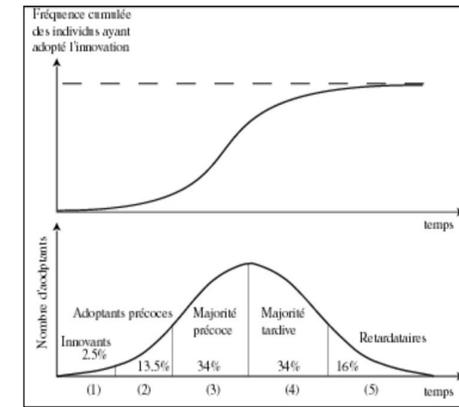
## ❖ Sustainability Transitions studies

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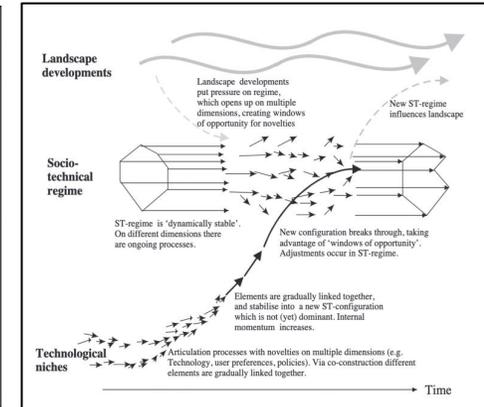
## ❖ => towards exnovation policies/governance

- = deliberately « exiting » unsustainable systems

- ✓ Nuclear, coal, publicity, air co, pools...
- ✓ Cars in cities, diesel, SUV...
- ✓ Linear modes of production, ownership...
- ✓ Globalized E-commerce...
- ✓ Industrial agriculture, meat consumption
- ✓ .... (possibly endless)



Rogers, 1962



Geels, 2005



## 2. Exnovation? Illustrations of complexity issues

### ❖ « Undead regime and system parts »

- Final losses, e.g. nuclear waste
- Unterminal exceptions, e.g. patrimonialised cars
- Direct temporary substitute, e.g. electric SUVs

### ❖ ... Call for long term governance

- Change of actors, change of responsibilities, change of legislation, change of state systems...
- Unclear “stranded public budgets” → inversion of subsidisation logics

**Exnovation → « living on our ruins »** (Bonnet et al. 2021)

## Aftercare

Undesirable long term effects



## 2. Exnovation? Illustrations of complexity issues

### ❖ Exnovation = multiples dimensions of « losses »

- Subtractive logics induce direct losses, quite opposite to stacking and piling of alternative and regimes
- Private, collective and public stranded investissements
- Industrial sectors and their “brown” jobs (vs green jobs)
- Institutional distrust, loss of societal references

### If justice equals (only) distribution, than...

- Governance of losses needs clear criteria to identify/quantify losses and losers
- normative Justice calls refers to given (re)distribution principles

### Exnovation & distribution

→ calls for a compensation economy, i.e. valuations, financierisations...

Source : [www.europe-en-france.gouv.fr](http://www.europe-en-france.gouv.fr)

Le Fonds de  
Transition Juste



# Losses

## Beyond win/win

Source : Wikipedia “just transition”, mars 2023



# 3. Exnovation through a social-ecological justice lense

articulating justice to humans and justice to nature

- Social-ecological justice : *“the right of human and non-human worlds to live and flourish together in their environments free from social and ecological destruction and degradation”* (Yaka 2019, p.11)



# 3. Social-Ecological Justice Framework

articulating justice to humans and justice to nature

- **Social-ecological justice** : *“the right of human and non-human worlds to live and flourish together in their environments free from social and ecological destruction and degradation”* (Yaka 2019, p.11)

## A multidimensional conceptualization of social-ecological justice

- **Recognitional justice**: acknowledging the plurality of needs, values and perspectives in the social and political realm and having special consideration for vulnerable groups;
- **Procedural justice**: ensuring the access to information, decision-making, civic space and courts to enable the real, meaningful and continual participation of all groups concerned;
- **Distributive justice**: ensuring a fair distribution of the rights, resources, risks and responsibilities related to environmental degradations and ecological transition;
- **Restorative justice**: Repairing damages caused by environmental degradations and ecological transition as well as preventing future damages (Fransolet & Vanhille, 2023)

... applied to **intra-generational justice, inter-generational justice and inter-species justice + Cosmopolitan justice**



# 4. Material and methods

A transdisciplinary research project to analyse the Brussels LEZ

## LOW EMISSION MOBILITY BRUSSELS

En route vers une mobilité basses émissions

ROADMAP 1.0, FÉVRIER 2021

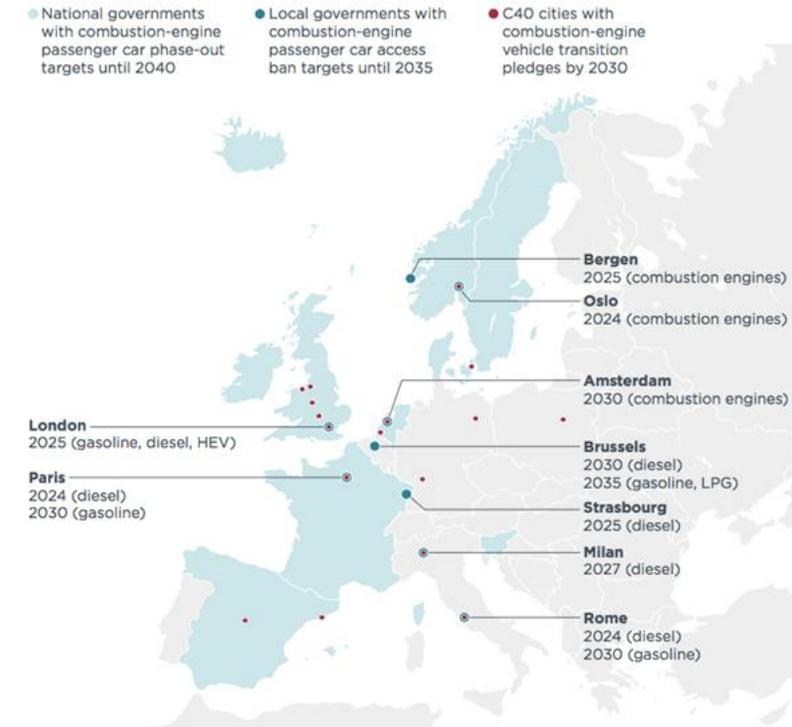
*The Low Emission Zone (LEZ) policy* (since 2018) and its deepening with the phasing out of ICE use (announced in 2021 for 2030-35)

=> A salient case of ongoing phase-out at the urban/regional level

=> Case study selection and further demarcation informed by local partners that accompanied the research project

### *Enovation arenas:*

- ❖ Early and regular meetings with project partners
- ❖ Workshops
- ❖ Observation/participation in official enovation arenas and in research seminars
- ❖ Face-to-face interviews with stakeholders
- ❖ Documentary analysis, including on the LEZ impact assessments



ICCT, 2020

# 5. Results (recognitional justice)

- LEZ: to reduce direct emissions of pollutants
- ICE use phase-out: to reduce direct emissions of GHG

<b>Recognitional justice for who?</b>	<b>Intragenerational</b> Different social groups within the present generation in Brussels	<b>Cosmopolitan</b> People beyond Brussels	<b>Intergenerational</b> Future generations	<b>Interspecies</b> Non-human domain of the living world
<b>Recognitional justice</b> How are the needs, values and perspectives of the ... considered in the design of the policy ? Is particular attention paid to the vulnerable social groups among ...?	Main aim is to reduce air pollution In Brussels Brussels, low-income households live in most polluted areas of the region (+)	Focus of policies on direct emissions of pollutants and GHG, not on indirect emissions, emitted elsewhere (-)	The ICE use phasing-out adds the aim of reducing GHG emissions (even though benefits are uncertain in this regard) (+)	No mention of objectives relating to non-humans (even through the improved air quality could improve biodiversity) (-)

# 5. Results (procedural justice)

- LEZ: no consultation
- ICE use phase-out: 1) questionnaire sent to 60 organisations, 2) focus groups and roundtables (official exnovation arenas)

<b>Procedural justice for who?</b>	<b>Intragenerational</b> Different social groups within the present generation in Brussels	<b>Cosmopolitan</b> People beyond Brussels	<b>Intergenerational</b> Future generations	<b>Interspecies</b> Non-human domain of the living world
<b>Procedural justice</b> How is/are the ... involved in the elaboration and implementation of the policy ?	Lack of participation of vulnerable households, but later consultation to include them (+/-)	Inclusion of Walloon and Flemish associations, but not of commuters, and lack of inclusion of people outside Belgium (+/-)	Lack of participation of associations representing young people, but of Greenpeace (+/-)	Lack of inclusion of associations defending biodiversity specifically, but participation of Greenpeace (+/-)

# 5. Results (distributive justice)

- Impact assessments commissioned by public authorities on various issues (official exnovation arenas)
- Other assessment gathered by reviews

<b>Distributive justice for who?</b>	<b>Intragenerational</b> Different social groups within the present generation in Brussels	<b>Cosmopolitan</b> People beyond Brussels	<b>Intergenerational</b> Future generations	<b>Interspecies</b> Non-human domain of the living world
<b>Distributive justice</b> How are the (positive and negative) impacts of the policy distributed between ...?	Air quality benefits, especially for vulnerable households who live in most polluted areas, low motorization rate of poor households, who own yet more non-compliant vehicles (+/-)	Displacements of air pollution impacts to other areas, outside of the LEZ, with the export of banned vehicles and the increased EVs production (-)	Climate benefits of LEZ uncertain because of expected low modal shift (=> increased vehicle production) and EVs do generate indirect GHG emissions (-)	Air quality benefits locally, but increased (soil, water, air) pollution elsewhere because of the gradual shift from ICE to EV production (+/-)

# 5. Results (restorative justice)

- Businesses: support for the purchase of zone-compliant vehicles for goods transport (incl. retrofit)
- Individuals: supports only the switch to alternative transport modes

Restorative justice for who?	<b>Intragenerational</b> Different social groups within the present generation in Brussels	<b>Cosmopolitan</b> People beyond Brussels	<b>Intergenerational</b> Future generations	<b>Interspecies</b> Non-human domain of the living world
<b>Restorative justice</b> How does the policy <u>repair past damages and prevent future harms</u> on ... ? What about those negatively affected before the existence of these measures?	The financial support measure targets primarily the modal shift of individuals: it is available for households (with a higher amount for low-income households) and it does not support the purchase of compliant vehicles (contrary to the support to businesses) (-)	The financial support measure: -is not available to commuters outside BCR -may fund the retrofit of business vehicles -is conditional to modal shift. An important modal shift could help reduce the demand for new EVs (+/-)	The financial support measure is conditional to modal shift and available to all: an important modal shift could help reduce GHG emissions linked to transport (+)	The financial support measure is conditional to modal shift and available to all: an important modal shift could help reduce pollutant emissions linked to transport (+)

# 6. Discussion and conclusion

## ➤ **About the LEZ**

- Summarizing the effects of the LEZ
  - The LEZ / ICE use phase-out as a mobility exnovation policy with limited effectiveness and raising (unresolved) justice concerns
- Putting into perspective with other mobility exnovation policies
  - Low-traffic zone, low-danger zone, etc.

## ➤ **About the way to address/grasp justice of exnovation policies**

- Relevance of the social-ecological framework to assess justice of exnovation policies
- Consolidating this framework on the basis of this research

## 4. Exnovation... more ?

Info & contact: <https://exnovation.brussels>



The image shows a screenshot of the website [exnovation.brussels](https://exnovation.brussels). The header features the logo "exnovation.brussels" on the left, with "exnovation" in black and ".brussels" in a smaller font. To the right of the logo is a navigation menu with the following items: "Exnovation ?", "Nos chantiers", "Ressources", "Évènements", "Contact", and "FR". A search icon is located at the far right of the menu. Below the header, the main content area has a light green background. On the left side, there is a small grey box with the word "hot" in white. The main text in the center reads "Nous explorons l'autre face des transitions vers l'économie durable" in a large, dark teal font. On the right side, there is a black and white photograph of a dome-shaped structure, possibly a piece of industrial or scientific equipment, with a vertical pipe extending from its top.

exnovation  
.brussels

Exnovation ? Nos chantiers Ressources Évènements Contact FR

hot

Nous explorons l'autre face des transitions vers l'économie durable