

Healthy cities, healthy people

Evidence on the benefits of low emission zones from Antwerp and Brussels

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The health benefits of LEZs

Evidence from Brussels and Antwerp

Marianne Chagnon, Stakeholder Engagement Coordinator, Health and Environment Alliance (HEAL)

About HEAL



- We are a membership based-organization, working with associations of patients and healthcare professionals, public health institutes, environmental groups
- A key aspect of our work = **knowledge translation**
- Our work on cities: [the UBDPolicy project](#) (EU-funded)



THE URBAN BURDEN
OF DISEASE ESTIMATION
FOR POLICY MAKING

New study on LEZs in Antwerp and Brussels



Environment International

Volume 199, May 2025, 109515



Full length article

Positive impact of the introduction of low-emission zones in Antwerp and Brussels on air quality, socio-economic disparities and health: a quasi-experimental study

Luk Bruyneel ^{a b}  , Bianca Cox ^c, Anne Stauffer ^d, Ludo Vandenthoren ^a, Frans Fierens ^e, Tim S. Nawrot ^{f g}, Christian Horemans ^a

- The analysis was led by the Independent Health Insurance Funds (MLOZ), with partners from KU Leuven, VITO, the Belgian Interregional Environment Agency, Hasselt University, and HEAL
- Study to evaluate if the implementation of LEZs in Antwerp (2017) and Brussels (2018) improved air pollution, if socioeconomic inequality in exposure changed, and if health was affected
- Scientific summary [here](#)
- Was also selected by the **Lancet Planetary Health** for their [Research Digest](#)



New study on LEZs in Antwerp and Brussels

Objective of the assessment

1. Evaluate if the **LEZs' implementation affected air pollution** within the boundaries of the defined zones and if spatial spillover effects occurred
2. Investigate if **socio-economic inequality in exposure to air pollution changed** over time with the implementation of LEZ
3. Assess how the LEZs' implementation **affected population health**

Data source

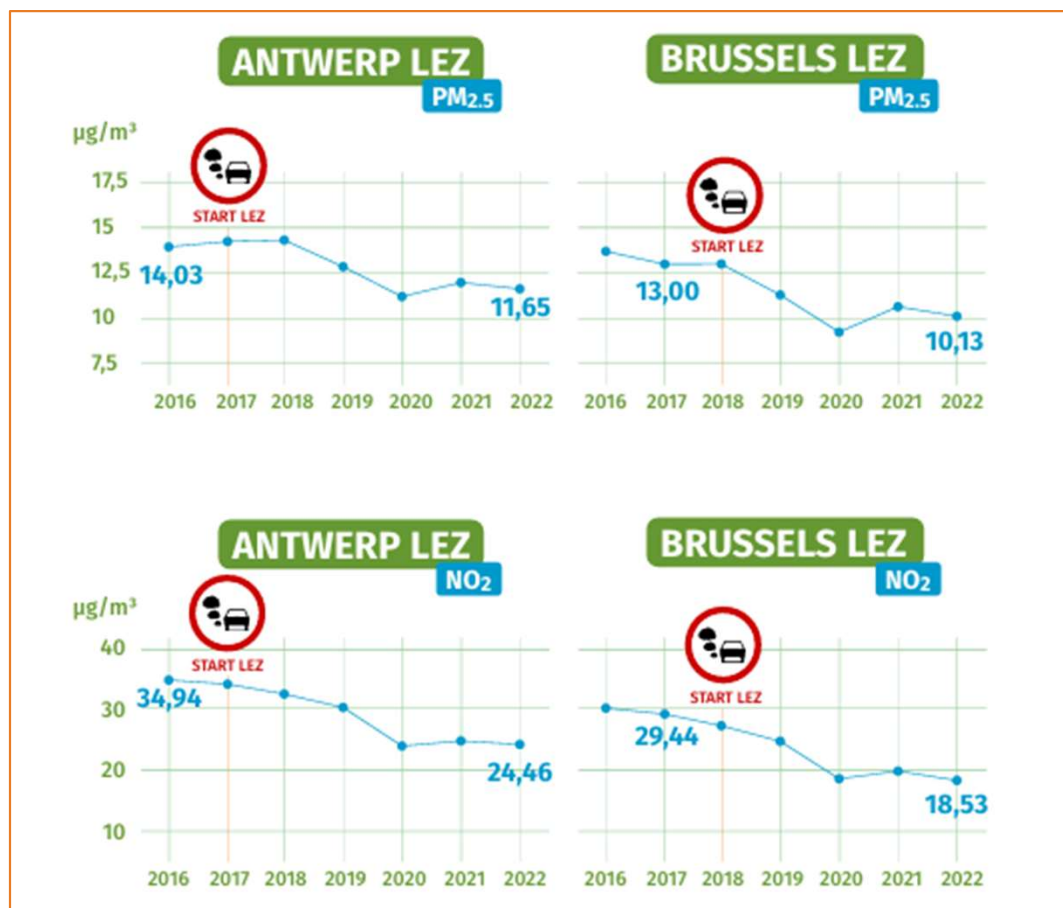
MLOZ carried out an analysis using **data from reimbursements of medical care (2014 – 2023)** from 420,000 people living within or close to the LEZs in Antwerp, Brussels and Ghent, as well as from 17 control cities

32 health outcomes (e.g. diabetes, cardiovascular disease, obstructive airway diseases, antidepressants, antithrombotic agents) **and air quality** were studied in the 20 biggest Belgian cities and 17 control cities

For the **mapping of air quality**, the data used was from the Belgian Interregional Environment Agency, and for the **socioeconomic mapping** the data came from the Belgian Index of Multiple Deprivation



Clear reduction of pollution levels



- Residents in Antwerp and Brussels saw a greater improvement in air quality compared to other cities without an LEZ
- Residents from neighboring areas (up to 5km) also benefitted from the LEZ and their air quality improved as well

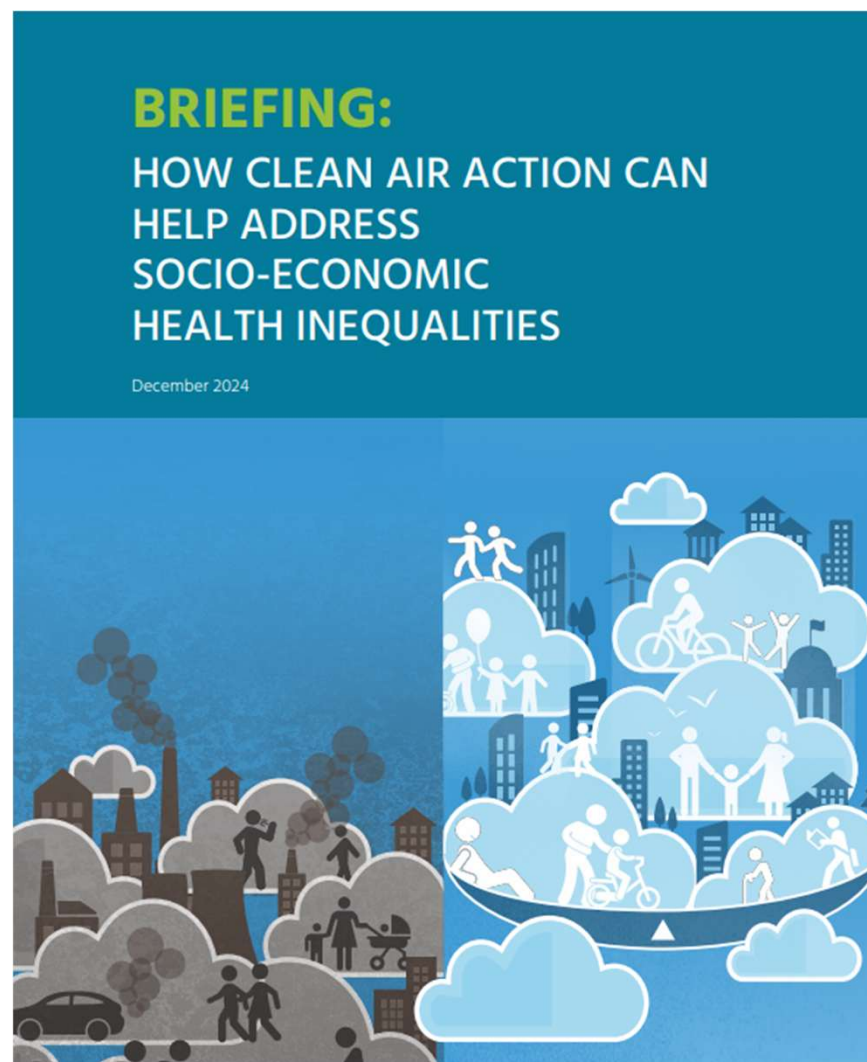


Air pollution and socio-economic inequality

Health impacts are not evenly distributed across a city, and **socially disadvantaged population subgroups are most affected by environmental hazards.**

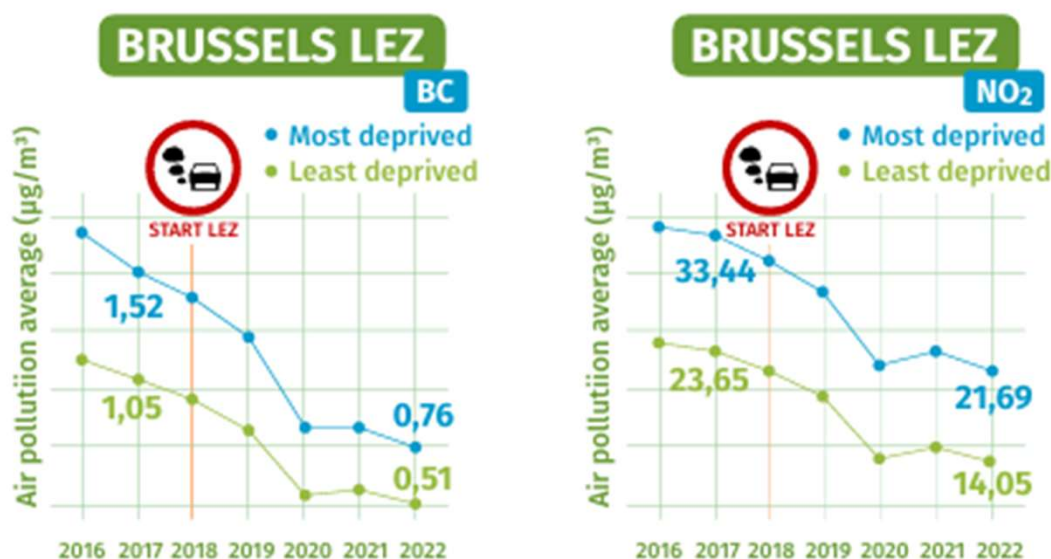
Studies from several European cities show that people living in socioeconomically deprived areas are more exposed to air pollution and therefore experience greater health harm compared to people living in affluent areas.

HEAL briefing [here](#).



Clear reduction of pollution levels

Average annual residential exposure to BC and NO₂ for individuals living within the Brussels low emission zone: evolution 2016-2022



The most deprived neighborhoods in Brussels (which were the most polluted areas) saw a faster improvement in air quality for black carbon and NO₂ pollution



Policy brief based on the study

POLICY BRIEF

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Policy brief available in [FR](#), [EN](#), [DU](#)

Includes policy recommendations for Belgian and EU policymakers



Policy recommendations

For Belgian and local policymakers:

- Do not delay or slow down the implementation of an LEZ
- Swiftly implement the revised EU clean air standards (for 2030)
- Find inspiration in the wealth of good practices on LEZs and healthy urban transport from other cities in the EU
- Consult, involve and inform residents and civil society organisations in the setting up of an LEZ
- Take an integrative approach to urban planning
- Use the Just Transition Mechanism and the Social Climate Fund as a lever to ensure a fair transition for the more deprived citizens, leaving no-one behind
- Promote active mobility modes and develop the necessary infrastructures



Policy recommendations

For European policymakers:

- Provide EU financial support to cities for the transition to healthier and more sustainable transport models
- Swiftly review and strictly control air quality action plans from Member States to ensure that they include LEZs
- Support the sharing of good practices on LEZs and healthy, sustainable transport systems, between cities
- Make sure that sufficient budget is available in the coming years to finance a just and social transition



Impacts from the study



This study was particularly impactful in the latest Decision by the Belgian Constitutional Court on the postponement of the next phase of the LEZ in Brussels

- The Court referred to *“reports and scientific studies showing that measure is currently the most efficient to [...] significantly reduce emissions and pollutants concentration”*
- The argument saying that disadvantaged groups could be negatively impacted by the LEZ was also proved wrong thanks to these studies
- The health argument was also kept by the Court, considering that delaying the LEZ would have unreversible effects.

Scientific studies have an actual impact on policies and public decisions!





Thank you for your attention!

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HEAL gratefully acknowledges the financial support of the European Union (EU) for the production of this publication. The responsibility for the content lies with the authors and the views expressed in this publication do not necessarily reflect the views of the EU institutions and funders. The European Climate, Infrastructure and Environment Executive Agency (CINEA) and the funders are not responsible for any use that may be made of the information contained in this publication.
HEAL EU transparency register number: 00723343929-96

