

ICLEI-Eurocities Workshop 2022

Sustainable Urban Logistics

Low Emission Zone

for light commercial and heavy goods vehicles

Grenoble, France
Monday, 9th of May



AIR QUALITY IN GRENOBLE



GRENOBLE AIR QUALITY SITUATION

Is Grenoble a polluted city from a global point of view?

- With about $9,9 \mu\text{g}/\text{m}^3$, Grenoble has a PM_{2,5} concentration $>$ WHO 2021 guidelines ($<5 \mu\text{g}/\text{m}^3$) but $<$ EU guidelines ($25 \mu\text{g}/\text{m}^3$)
 - 3645th place in the IQAir ranking
- With an average population exposure rate to NO₂ about $23 \mu\text{g}/\text{m}^3$ and some inhabitants exposed to rate $>$ EU guidelines, Grenoble is concerned by litigation
- In France, much less polluted than Paris, Marseille, Lyon



Although Grenoble is one of the 11 territories exceeding air quality standards (NO₂)

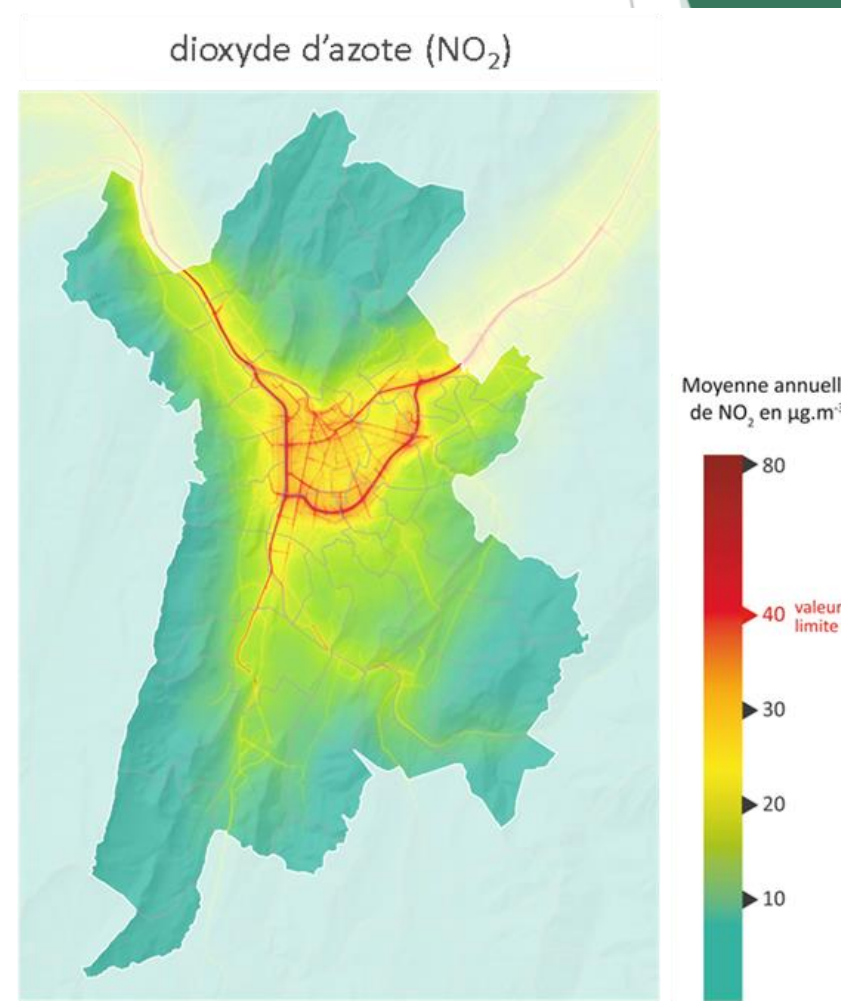
- Overall, air quality has improved over the past 10 years
- However, air pollution continues to have a significant impact on :

Health: in the Grenoble metropolitan area ,
135 deaths/year are attributable to NO₂ exposure
293 deaths/year are attributable to exposure to PM_{2.5}

Regulatory: double litigation European and State Council

Economic: the cost of air pollution is estimated at nearly 100 billion euros per year in France

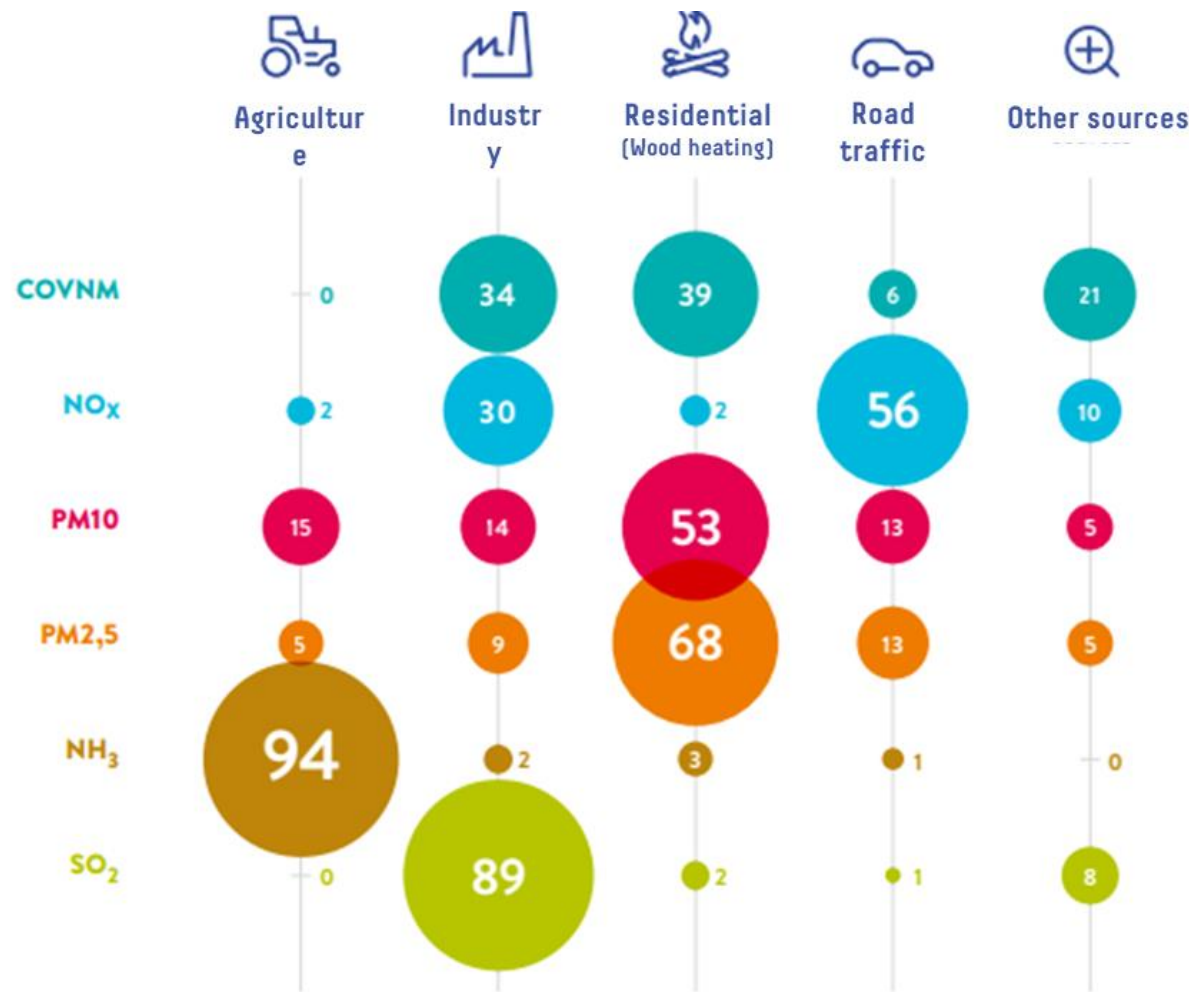
Attractiveness of the territory and social demand for air quality improvement



GRENOBLE AIR QUALITY SITUATION

Identify the sources of emissions of each pollutant

Contribution of various human activities to air pollutant emissions (%) for the year 2018



A range of levers to be activated

Improving air quality requires action on various emitting sectors (wood heating, road transport and urban planning)

Nitrogen oxide emissions are mainly linked to road traffic

The emissions of fine particles are very strongly caused by the residential sector (in particular by the individual heating with non-efficient wood)

AN AMBITIOUS AND CO-DESIGNED LOW EMISSION ZONE

GRENOBLE

winner 2022



EUROPEAN
GREEN CAPITAL

An initiative of the
European Commission



An european and national dynamic

In France : toward a generalisation of LEZ in the main urban areas through a reinforced regulatory obligation

A regulatory frame with a national reference “Air quality Certificates” (CQA) based on Euro-standards

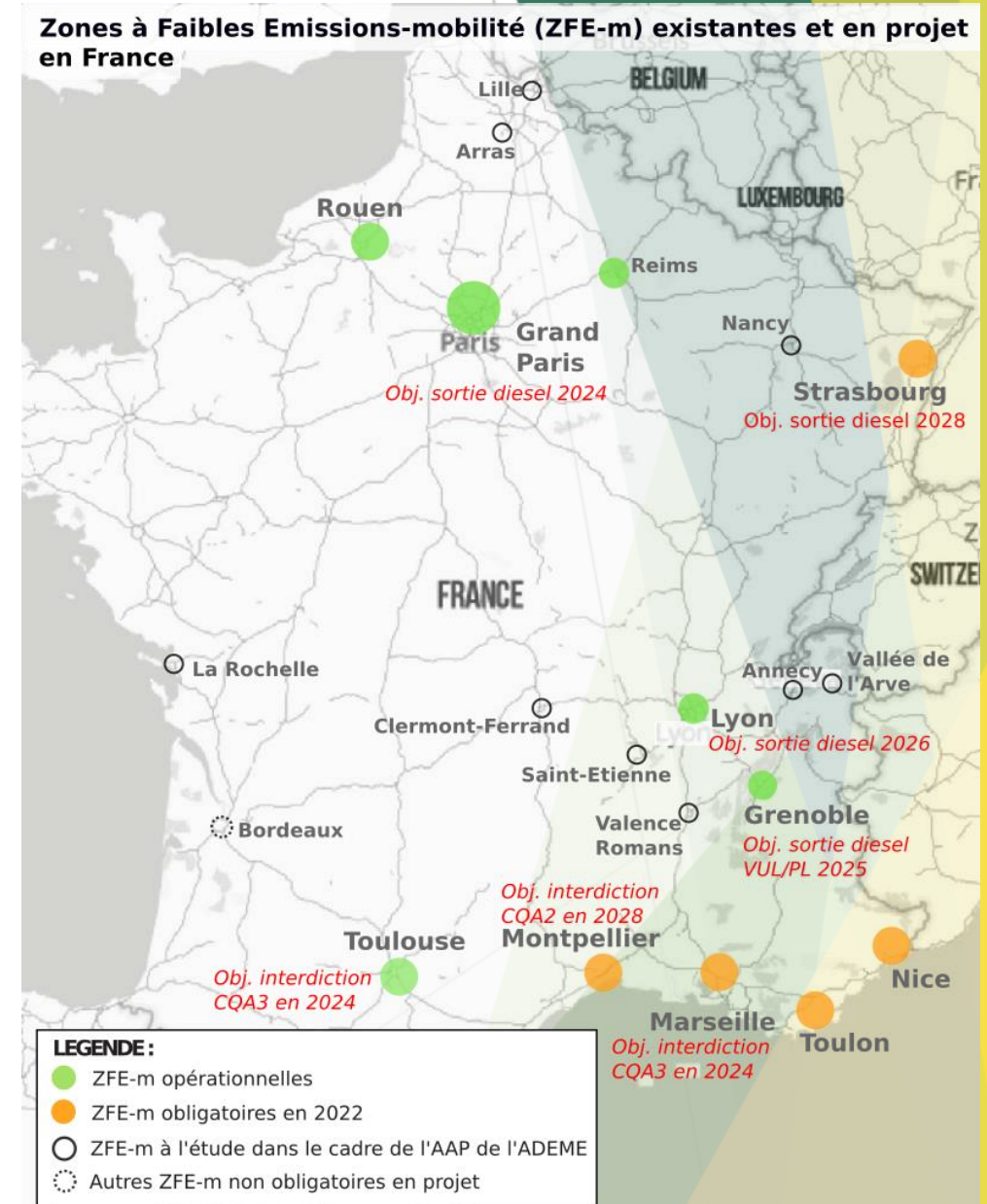


45 urban areas have to create a LEZ:

- In 2022 at last for 11 urban areas exceeding air quality standards (including Grenoble): compulsory integration of passengers cars before 2023

- In 2025 at last for the other 34 urban areas of more than 150.000 inhabitants

Urban authorities have to design their own system adapted to the local context



What we have done in Grenoble-Alpes

Grenoble-Alpes Métropole has implemented in 2019 un LEZ for professionals to reduce:

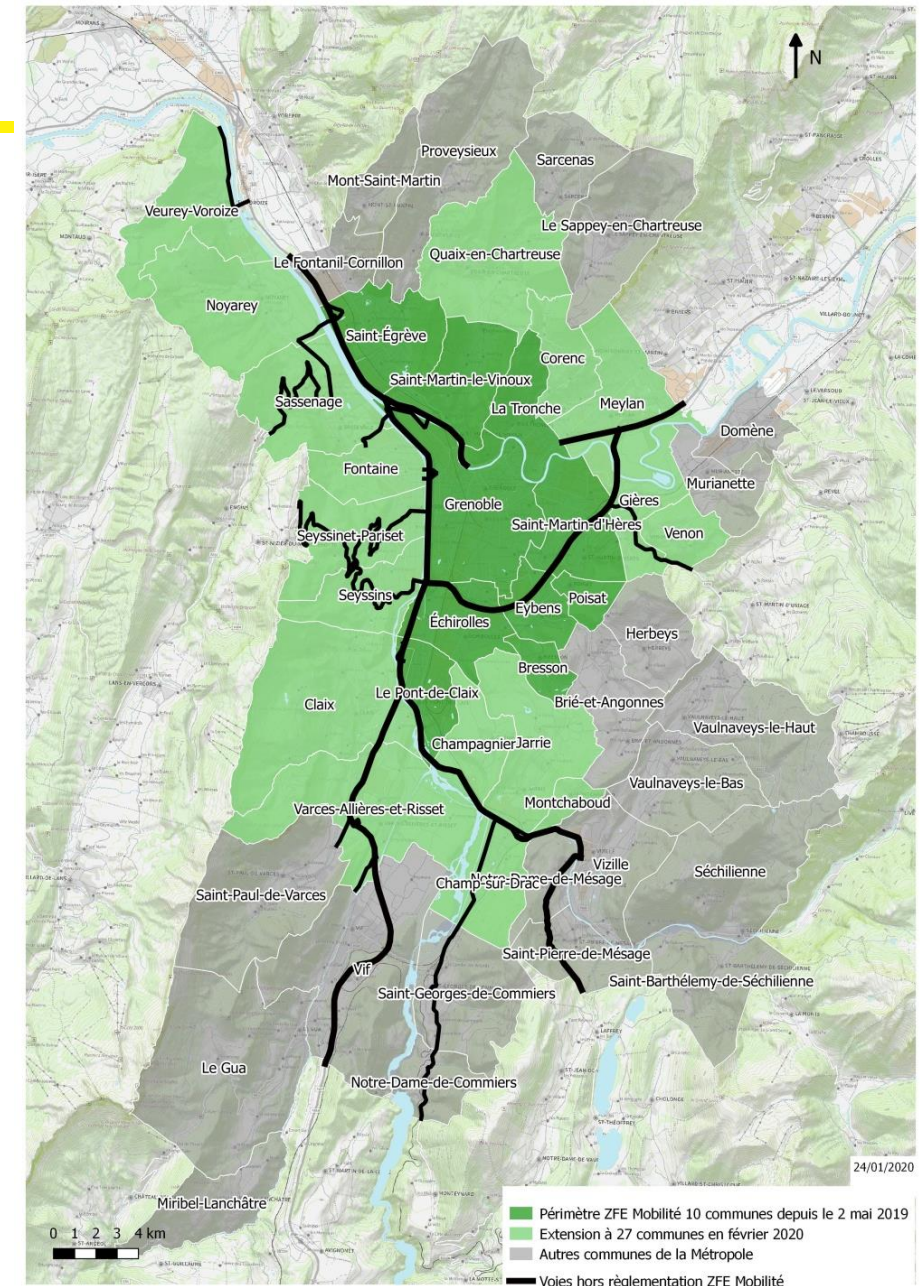
- Half of nitrogen oxides in transport
- One third of Particular Matters of transport
- 37% of GHG of transport

The LEZ for professionals relates to light commercial & heavy goods vehicles 7j/7, 24h/24 and concerns all economic sectors including public fleets

... on a large perimeter of 270 km² (90% of inhab. and 95% of jobs of the Metropole)



Périmètre de la Zone à Faibles Emissions Mobilité VUL et PL sur 27 communes



Two main objectives for improving air quality and accelerating energy transition

A gradual implementation of the regulation:



End of Diesel in 2025 implies an energy transition of vehicles with mixed offer of motorisation: electric, hydrogen and gas

=> **A challenge in a country where professional vehicles mostly rely on diesel**

*Interdiction of “Air Quality Certificate 2”
is equivalent to a Diesel Ban*

- “Air Quality certificate 1” gathers gasoline, gas, hybrid vehicles
- “Air Quality Green Certificate” gathers electric & hydrogen vehicles

Commitment of the economic actors is a key-point for success

Several phases and ways of consultation with the economic actors:

- Information of stakeholders through:
 - ✓ Urban Logistics Consultation Committees since 2015
 - ✓ **Local economical events since 2018**
- **Since 2017:** **consultation workshops** with actors from different sectors of activity (craftsmen, shopkeepers, transporters, industries, construction companies, etc.)
 - exchange on the calendar
 - Need of alternative vehicle offer
 - Questions on:
 - financial capacity of companies
 - who will pay the over-costs: companies or clients ?



Urban Logistics Consultation Committees - July 2016



Local event in an Industrialune ZA

Accompanying measures

Free advices on energy transition (vehicles fleet, costs, uses and charging network ...)



services.demarches.lametro.fr/mobilite/demande-usager-zfe/

Online request in 1 clic



Financial incentives for companies < 250 employees, coupled with a national purchase incentives scheme for electric, NGV and hydrogen-powered vehicles, retrofit or cargo-bikes



- **Video FAV**



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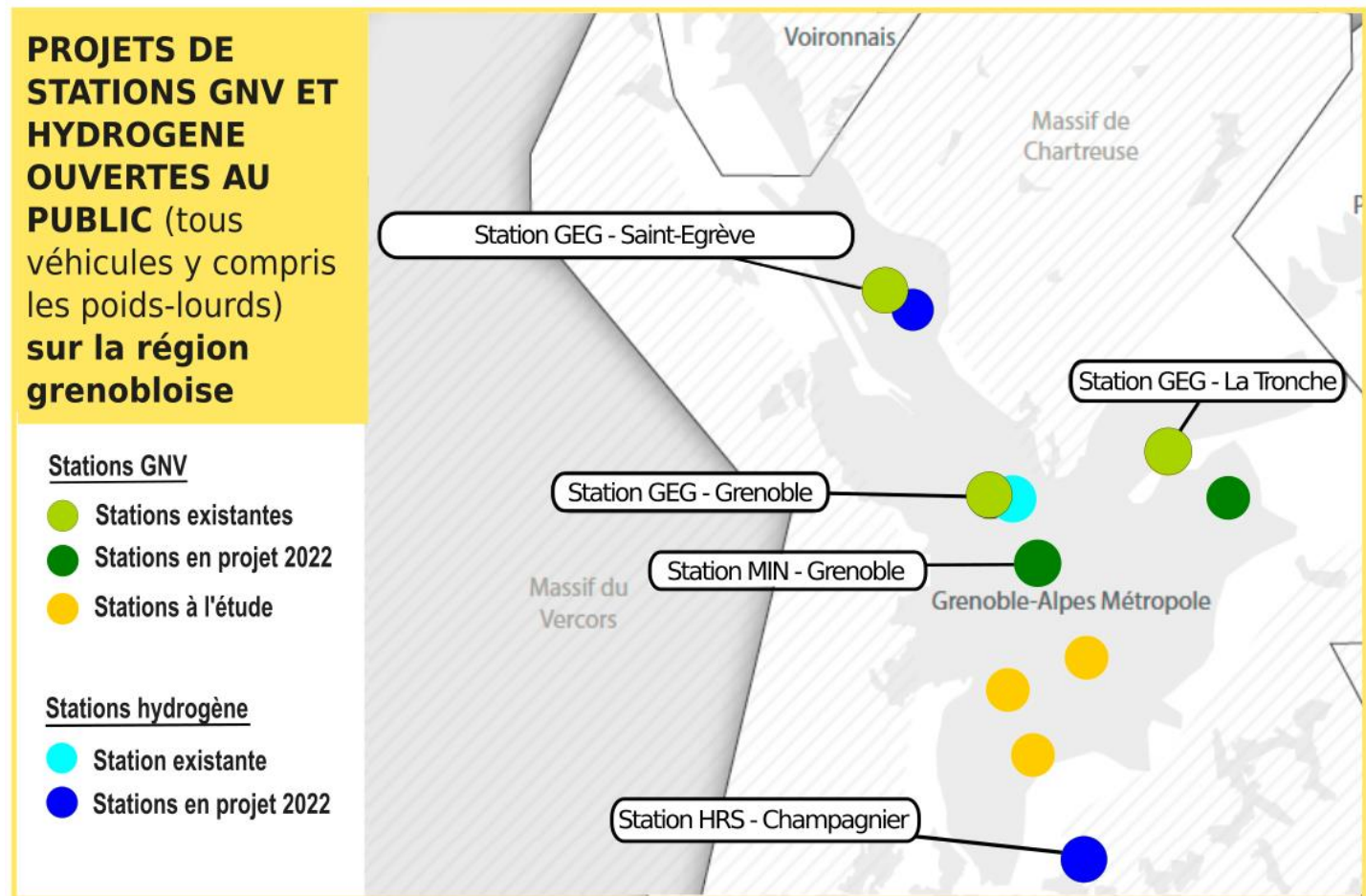
We believe in NGV-bio NGV

- We promote low-emission engines based on an energy mix, a range of solutions for sustainable mobility in which BioNGV has its rightful place alongside electric and hydrogen; example given with waste collection trucks and urban buses fleets
- **CNG means 95% less fine particles and 50% less NOx than the Euro VI standard,** for improved air quality.
 - Bio-GNV, produced locally from organic waste, also offers the possibility of reducing CO2 emissions by 80% compared to a diesel vehicle of the same generation.
 - zero odor, zero smoke and twice as quiet as a diesel engine
- **Development of bio-GNV**
 - 2021 : share of bio-NGV = 20 %
 - Local capacities to produce renewable energy:
 - sewage sludge (since 2018)
 - Food waste methanisation (starting in 2023)



Encouraging the development of the charging infrastructures network

- NGV Stations: from 5 in 2022 to 13 en 2030
- Public electric charging points master plan: from 200 in 2022 to 2 300 en 2030
- 2 new hydrogen stations in 2022

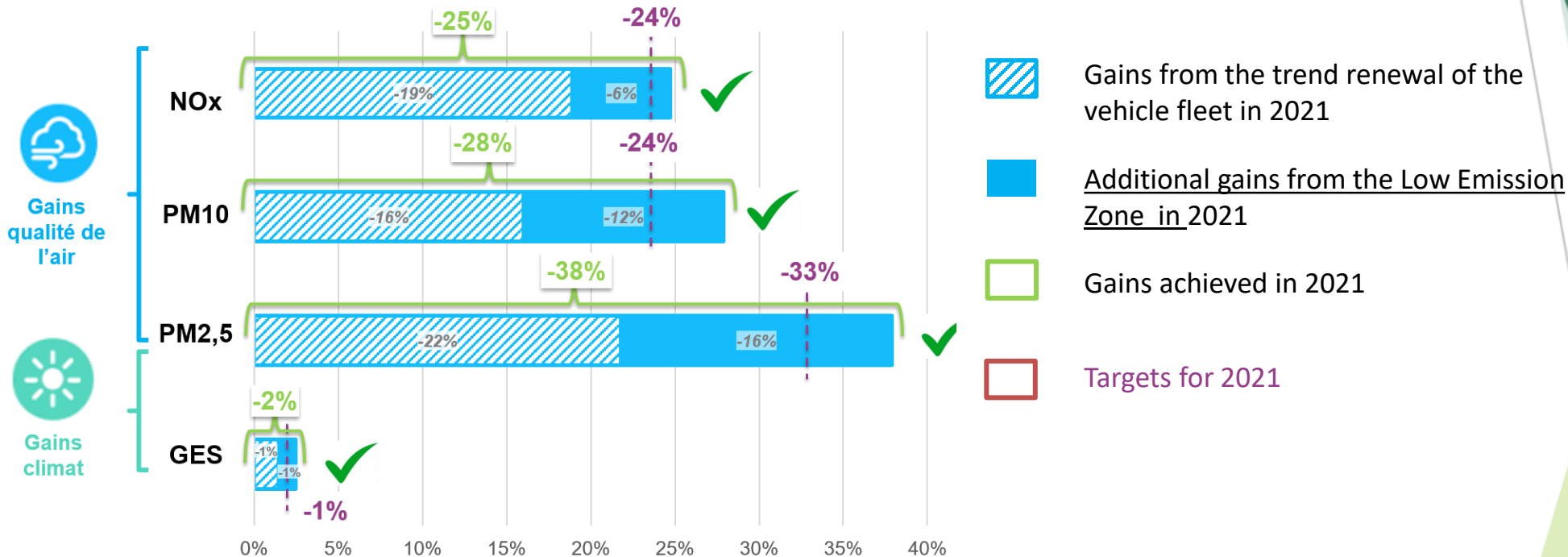


FIRST LESSONS LEARNED AND CHALLENGES



Results in terms of pollutants & GHG emissions

Decrease of light commercial & heavy goods vehicles emissions (Comparison between 2021 and 2017 (data reference year) :



The LEZ-pro is reducing emissions by:

- Accelerated renewal of the most polluting vehicles
- Anticipated exit of the very old (Non classified), vehicles and CQA5 / CQ4 vehicles
- Moderate and consistent fraud rates

=> No significant effects on GHG at this stage (ban of CQA NC, 5 et 4).

Challenges for the future for the debate

❖ Need of a an adaptated vehicle offer :

- Electric Offer is not enough mature on medium / large size Vans segment
- Lack of offer drives us to investigate on authorising “diesel euro 6d+” commercial vehicle up to 2030
- Stronger pressure with economical consequences of crisis (eg. time for ordering vehicles is 1 to 2 years due to semi-conductors shortage)

❖ Need of an European regulation who:

- Takes into account bio-NGV based on a full life-cycle approach address jointly climate and air quality issues
- Consider bio-NGV as a transition fuel to create trust foreconomic actors
- Generates a diversified supply including NGV Vans

❖ Need to support the changes in uses, in particular with the electric vehicle which requires to be recharged more often

❖ Important issue for industrial companies / logistic chain: what capacity for a heavy-truck long distance journey (from one to another side of Europe) with NGV = issue of competitiveness within the EU? (load break costs)

