

# Low Emission Zones

A ROLE TO PLAY FOR AUTOGAS

## AUTOGAS ACCESS TO CLEAN AIR

AIR POLLUTION IS RESPONSIBLE FOR MORE THAN 400,000 PREMATURE DEATHS IN EUROPE EACH YEAR.<sup>1</sup> THE ESTABLISHMENT OF URBAN ACCESS SCHEMES GREATLY IMPROVES THE QUALITY OF THE AIR IN CITIES.

In this context, cities and towns across Europe develop their own regulations for the access to urban centres to regulate traffic and improve the quality of our environment. These regulations can take different forms, from restricted access zones to road charging.

Low emission zones (LEZ) are effective and increasingly popular measures. The core concept of LEZs is to prevent vehicles with higher emission levels accessing specific areas, or to charge them to access such areas. There are almost 200 LEZs across Europe, with different levels of restriction, managed by local authorities.<sup>2</sup> Some LEZs explicitly allow the circulation of vehicles running on alternative fuels in addition to cars having a certain Euro emission standard.



### MILAN

- ✓ The LEZ is active every day of the week during day time
- ✓ Euro 0 petrol and Euro 0 to 3 diesel vehicles are prohibited
- ✓ Residents can access the "area C" for free 40 days/year. Starting from the 41st day they access it, they pay 2 euro/day
- ✓ Non-residents pay 5 euro/day
- ✓ LPG, CNG, hybrid and electric vehicles can enter for free
- ✓ Vehicles converted to autogas can benefit from this exemption upon request to the LEZ authority

### NAPLES

- ✓ The LEZ applies during certain time slots on week days, to the entire municipality of Naples, where almost 1 million people live
- ✓ Only diesel and gasoline cars, complying with Euro 4 and subsequent standards can enter the city during application hours
- ✓ Zero emission electric vehicles and those powered by LPG and CNG are fully allowed



### ATHENS

In the city centre, cars are only allowed access to the LEZ on alternating days, depending on the last digit of their license plate. The following vehicles are exempted from this restriction:

- ✓ Electric vehicles
- ✓ Vehicles complying with Euro 5 standard or subsequent, at the condition that they emit less than 140g CO<sub>2</sub>/km regardless of the fuel used (gasoline, diesel, LPG or CNG)
- ✓ At least Euro 4 gas - powered vehicles (LPG or CNG) emitting less than 140g CO<sub>2</sub>/km



EUROPEAN LPG  
ASSOCIATION

RUE BELLIARD 15-17  
B - 1040 BRUSSELS  
BELGIUM

AEGPL@AEGPL.BE  
WWW.AEGPL.EU

<sup>1</sup> European Environmental Agency

<sup>2</sup> <http://urbanaccessregulations.eu/low-emission-zones-main>

# EFFECTIVENESS OF LEZs

A NUMBER OF STUDIES COMPARING THE SITUATION BEFORE AND AFTER INTRODUCING URBAN ACCESS REGULATIONS SHOW THAT LEZs HAVE HAD A POSITIVE IMPACT ON AIR QUALITY, IMPROVING THE HEALTH OF CITIZENS IN CITIES.

For example, in the Milan C area, emissions of PM10 have been reduced by 19%, NOx by 10% and CO2 by 22%, compared to external areas. In addition, concentrations of Black Carbon (BC), a potent GHG and a harmful substance to health, is 28% to 43% lower inside the LEZ.<sup>3</sup>

Similar results were achieved in several cities having established LEZs in Germany, the Netherlands, UK, Sweden and Denmark.

## LPG INDUSTRY POSITION

VEHICLES RUNNING ON AUTOMOTIVE LPG (LIQUIFIED PETROLEUM GAS), OR AUTOGAS HAVE A KEY ROLE TO PLAY IN REDUCING TRANSPORT EMISSIONS. IT IS THE MOST COMMONLY USED ALTERNATIVE FUEL WITH MORE THAN 45,000 FILLING STATIONS AND ALMOST 13,8 MILLION VEHICLES IN EUROPE.<sup>4</sup>

Projections<sup>5</sup> concluded that if Autogas represented 10% of the European vehicle fleet by 2020, it would result in 337 million tonnes of avoided NOx emissions and 11,000 tonnes of avoided Particulate Matter emissions. The emissions that would be avoided considering GHG and other pollutants would represent savings of over €20.3 billion in externalised costs, benefiting not only individual citizens but European society in general.

We support full access and/or an exemption from LEZ charges for all cars powered by LPG, including retrofitted vehicles, in light of the numerous benefits it brings for health and the environment.

LPG is a well-established fuel, which has the potential to act as a bridge between high polluting diesel vehicles and emerging technologies such as electric vehicles. It can be introduced in the short term, both for private usage and public transport.

80%

OF URBAN POPULATION IS EXPOSED TO PM LEVELS EXCEEDING WORLD HEALTH ORGANISATION GUIDELINES<sup>6</sup>

## WHAT IT MEANS FOR AUTOGAS

AUTOGAS PRODUCES FAR FEWER OF THE HARMFUL EMISSIONS THAT CONTRIBUTE TO ENVIRONMENTAL AND HEALTH PROBLEMS THAN TRADITIONAL ROAD FUELS.

Tests in laboratories have proven that Autogas vehicles<sup>7</sup>, on average, emit 96% less NOx than diesel vehicles. Contrary to diesel, whose fumes have been classified as carcinogenic by the World Health Organisation since 2013, LPG cars generate almost no particulate matters or black carbon (soot). More recently, research on real driving emissions measured through a portable system showed that Autogas cars emit 17% to 19% less CO2, 60% to 97% less CO, and 96% less small particles than their gasoline equivalents<sup>8</sup>. It therefore makes sense that LPG cars are provided with favourable access to LEZs.

LPG vehicles are recognised as cleaner in the European Mobility Week 2016 Handbook setting out recommended actions for sustainable urban mobility.

Cars running on LPG are generally allowed to enter LEZs in Europe. In some LEZs, they even benefit from preferential treatment compared to other fuels. Nonetheless, it is important to clarify the situation of retrofitted LPG vehicles. In some LEZs, these cars may not be allowed. Such policies are short-sighted as they fail to recognise the significant air quality benefits of Autogas. In other LEZs, retrofitted vehicles have full access provided that users present a conversion certificate to the LEZ authorities. This is a good practice which should be replicated in all LEZs.

OVER 10x

AIR POLLUTION KILLS OVER 10 TIMES MORE PEOPLE THAN ROAD ACCIDENTS<sup>9</sup>



<sup>3</sup> <http://urbanaccessregulations.eu/low-emission-zones-main/impact-of-low-emission-zones>

<sup>4</sup> EU + 6

<sup>5</sup> TM Leuven research, based on the TREMOVE model, funded by AEGPL

<sup>6</sup> European Environmental Agency report on air pollution in Europe, 2013

<sup>7</sup> EETP: "European Emission Test Programme" Final report, N.JEULAND - X. MONTAGNE, 2004

<sup>8</sup> V-Motech for CFBP and AEGPL, Test RDE sur des véhicules GPL, Etude des émissions de gaz et particules, 2015

<sup>9</sup> Communication from the European Commission, 2013: A Clean Air Programme for Europe



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