

## The AIR Index

Car emissions rated from A to E



The **complete solution** to improve urban NO<sub>x</sub> emissions for policy makers, car buyers, car makers and fleet managers.



Until zero emissions vehicles are being used at scale, we need to choose the cleanest technology available to reduce urban NO, emissions.

We owe it to our friends, families and fellow citizens to make informed decisions about vehicle choice based on scientific evidence and clean up the air around us.



'In 2017 we pooled our insight into real world vehicle emissions and experience of the automotive industry to create AIR (Allow Independent Road-testing) and drive a step-change in cutting urban vehicle emissions.

We're shining a light on the low levels of understanding and lack of reliable, independent information about vehicle emissions for car buyers and policy makers.

We believe that the trusted, fact-based ratings in the AIR Index will empower car buyers to make informed choices and policy makers to write fair laws for city access.

Massimo Fedeli & Nick Molden Co-Founders AIR

AIR (Allow Independent Road-testing) is a global alliance of scientists, air quality experts and organisations committed to reducing the harmful effects of vehicle emissions on air quality and climate change in an accessible, transparent and accountable way.

A not-for-profit organisation, AIR is guided by an international Scientific Advisory Committee of leading academics and experts in emissions and air quality.

### A complete solution to improve urban air quality

AIR have developed the AIR Index, an independent vehicle emissions rating for cars from A (the best) to E (the worst) that provides the on-road urban NO<sub>x</sub> emissions results, using the same independent test on every vehicle, to show the relative impact a specific vehicle has on air quality.

It is part of a complete solution to improve urban air quality by providing the tools for city policy makers, car buyers and fleet managers to make informed choices.

#### Fair polices for cities

The AIR Index helps policy makers by providing independent ratings using the European CEN Workshop Agreement CWA 17379, the basis for a legal framework suitable for policy development that is fair and founded on comparable test results.

#### AIR Index rating for Euro 6 cars

The size of the clouds represents the total NO. emissions during the average car lifetime of 14 years, driving the annual average mileage.

The darker cloud in each rating is an example of a car's actual emissions, the lighter cloud around it is the limit of the range.

#### Sources:

SMMT and RAC Foundation













#### The naked truth for car makers

The AIR Index provides car makers with the opportunity to regain consumer trust by ensuring car buyers can use independent comparative results that show how they compete to deliver cleaner cars.

# How we test cars rated for the AIR Index

Not all cars pollute in the same way. Whether they are diesel, petrol, hybrid or electric, the most accurate way to measure harmful emissions is to test cars on the road in actual driving conditions.

Every car with a published AIR Index rating is tested in accordance with the CWA 17379 methodology ensuring a series of strictly controlled, independently conducted tests using Portable Emissions Measurement Systems (PEMS) equipment.

At least two different vehicles of each type, sold and on the road, are sourced independently from the car makers and then tested, in the same on-road test, with the emissions results used for the AIR Index rating.

Only specialist, third party test centres capable of carrying out tests in accordance with CWA 17379, accredited to ensure appropriate standards and test equipment, are able to provide test results for an AIR Index

Only AIR is able to classify vehicles from A-to-E under the AIR Index rating, which is protected by a trade mark.

## The testing process that enables AIR to rate cars on the AIR Index











Using Portable Emissions Measurement Systems (PEMS)





Tread depth no less than 3mm (4mm winter tyres)



Developed for Pre-Euro 6d-temp type approval



Tyre pressures set to manufacturer recommendation







Carried out on paved streets with no standing water, snow or ice



Monday to Saturday 06h00 to 20h00



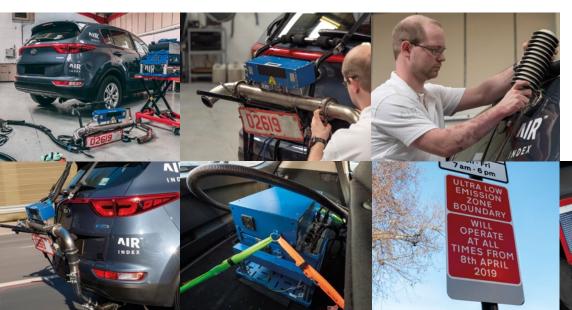


Must have been fuelled within the EU during last two fills



Windows, sunroof or convertible can be open







# The AIR Index solution for car makers

In the wake of the Dieselgate scandal, levels of public and political trust in emissions testing carried out by car makers is at an all-time low.

#### Rebuilding consumer confidence

The AIR Index was created to provide clarity through the publication of trusted, easily accessible and independent information, essential for car buyers and policy makers to use when making important vehicle choices that can rapidly improve urban air quality.

#### Accreditation

The AIR Index rates vehicles in one of five bands, providing a clear way to understand the level of emissions produced.

**Vehicles rated 'A'** produce low levels of  $NO_x$  emissions using the latest technology to improve air quality in towns and cities.

O-80 A

80-168 B

168-270 C

270-600 D

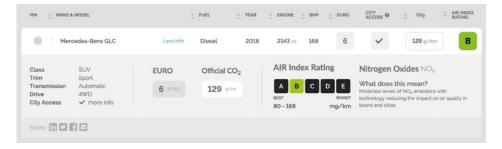
URBAN NO<sub>x</sub>
mg/km

WORST

**Vehicles rated 'E'** produce extreme levels of  $NO_x$  emissions with the worst impact on air quality in towns and cities.

See back cover for the A-to-E ratings.





## The complete picture at your fingertips

The AIR Index website (AIRIndex.com) includes full details of every vehicle tested. In addition to the AIR Index rating, cars can be searched by year, fuel type, Euro standard, city access permissions, CO<sub>2</sub>, engine size, and can be easily compared.





#### **Buying with confidence**

Car buyers can be reassured with a certificate from AIR, recording the actual emissions rating of the specific model as confirmed through the independent testing process and published in the AIR Index.



This legal framework addresses the limitations of existing city policy as it provides an independent comparative rating, fairer than using existing Euro emissions standards which are unable to provide comparative results of on-road vehicle  $NO_x$  emissions.

Until the Real Driving Emissions (RDE) legislation, for new models from September 2017 and all cars from September 2019, actual on-road emissions could not be implied from the Euro level. Consequently, some city access policy is unfair to road users and has been unable, meaningfully to improve urban air quality.



The AIR Index provides a fair, standardised way of ensuring that low emitting cars are provided with access to cities and high emitting cars are either retrofitted or restricted.

The AIR Index also provides independent proof of Euro 5 emission levels and retrofitting effectiveness. It is further independent proof that confirms the very low on-road emissions of RDE cars.

#### **Database integration**

AIR Index data is publicly available and free of charge.

Policy makers are offered access to the AIR Index database via API to enable effective systems integration.

#### A sticker for all cities

The AIR Index can be adopted easily by cities across Europe to replace the wide spectrum of different passes, badges and access programmes in place.

With just one, secure, anti-counterfeit AIR Index sticker, city authorities can provide access by uniquely identifying a vehicle and its AIR Index rating.











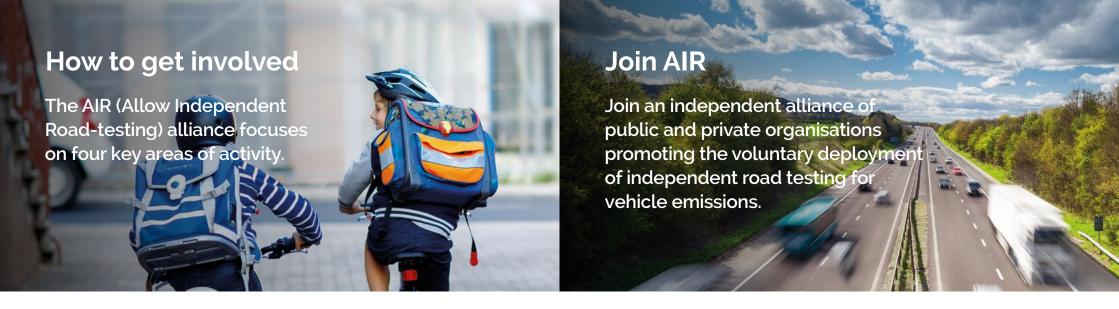


#### Fair policy for all

The cleanest technology to minimise urban emissions is typically found on the newest cars. However, not everyone can afford to buy the latest cars and so policy makers will need to strike a fair balance when setting access limits to avoid mobility being limited only to those who can afford it.

The AIR Index offers a flexible solution for policy makers to embrace a combined approach to city access based on actual emissions. This could include, for example, a limit on miles driven in the urban area.





#### Insight:

Deepening research and understanding about vehicle emissions, testing and applications to reducing harmful impacts of air pollution.

#### Coalition:

Encouraging collaboration among industry players, public authorities and relevant stakeholders on key activities to improve air quality.

#### Campaigning:

Supporting the development and improvement of mobility infrastructure to have a positive impact on air quality.

#### **Empowerment:**

Promoting the link between vehicle choices and air quality with actionable information.

We're keen to engage with like-minded people and organisations who can help us accelerate our goal of reducing harmful vehicle emissions.

#### Join us as a Supporter

There are no costs or fees and we'll keep you updated with the latest news about AIR and the AIR Index. Sign up with your name, email and country and that's it. We'd love you to share information about AIR with your friends and colleagues to spread the word and help us raise awareness about solutions to this vital issue: the air we breathe.

#### Join us as a Member

There are several levels of membership and members are typically organisations, rather than individuals. Members provide funding which enables us to retain independence in our programmes including testing and research. If you're part of a company, academic institution, NGO, public sector authority' or other organisation please sign up with your name, email, organisation, title and country and we'll get in touch and find the best way to work with you.

#### How our Members help us

- Identify and engage with relevant independent researchers and experts to guide our scientific programmes.
- Inform our research agenda and participate in research-related activities.
- Participate in and contribute to AIR's meetings and workshops.
- Contribute to AIR's position papers and documents.
- Associate with our overall and issue-specific activities.
- Help extend the reach and awareness of AIR and our activities.

#### **Contacting AIR**

Visit allowAIR.org and click on 'Join us' to sign up as a supporter or request information about becoming a Member.

#### Follow Us

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AIR Index rating	Urban NO <sub>x</sub> range	What does the rating mean?
Α	<b>0-80</b> mg/km	<b>Low levels of NO</b> <sub>x</sub> <b>emissions</b> using the latest technology to improve air quality in towns and cities.
В	<b>80-168</b> mg/km	Moderate levels of NO <sub>x</sub> emissions with technology reducing the impact on air quality in towns and cities.
С	<b>168-270</b> mg/km	<b>High levels of NO</b> <sub>x</sub> <b>emissions</b> impacting air quality in towns and cities.
D	<b>270-600</b> mg/km	Very high levels of NO <sub>x</sub> emissions contributing to poor air quality in towns and cities.
Е	<b>600+</b> mg/km	Extreme levels of NO <sub>x</sub> emissions with the worst impact on air quality in towns and cities.

Allow Independent Road-testing





saving trust

**^IR**™ INDEX

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