

AIR ALLIANCE

Vehicle eco-labelling for new and old vehicles

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THE CONTEXT

The context

- Air quality is illegally high in many places
- Diesel engines are blamed
- The solution must be delivered fast, whatever the cost
- Confidence in official data is low
- Trust in manufacturers is low especially since #dieselgate
- Electrification, if it happens, cannot solve the problem quickly enough
- Cities are now taking unilateral action
- Consumer confusion is increasing



This is a **market** and **environmental** problem

EMISSIONS ANALYTICS' PROGRAMME

Emissions Analytics' credentials

- Founded in 2011
- Headquartered in UK, with operations in Oxford, Stuttgart, Los Angeles and Detroit
- Specialist in Portable Emissions Measurement System (PEMS) testing and data analysis
- 1500+ vehicles tested
- Largest commercially available database of real-world emissions data
- Using regulatory-compliant PEMS systems





Emissions Analytics' concept

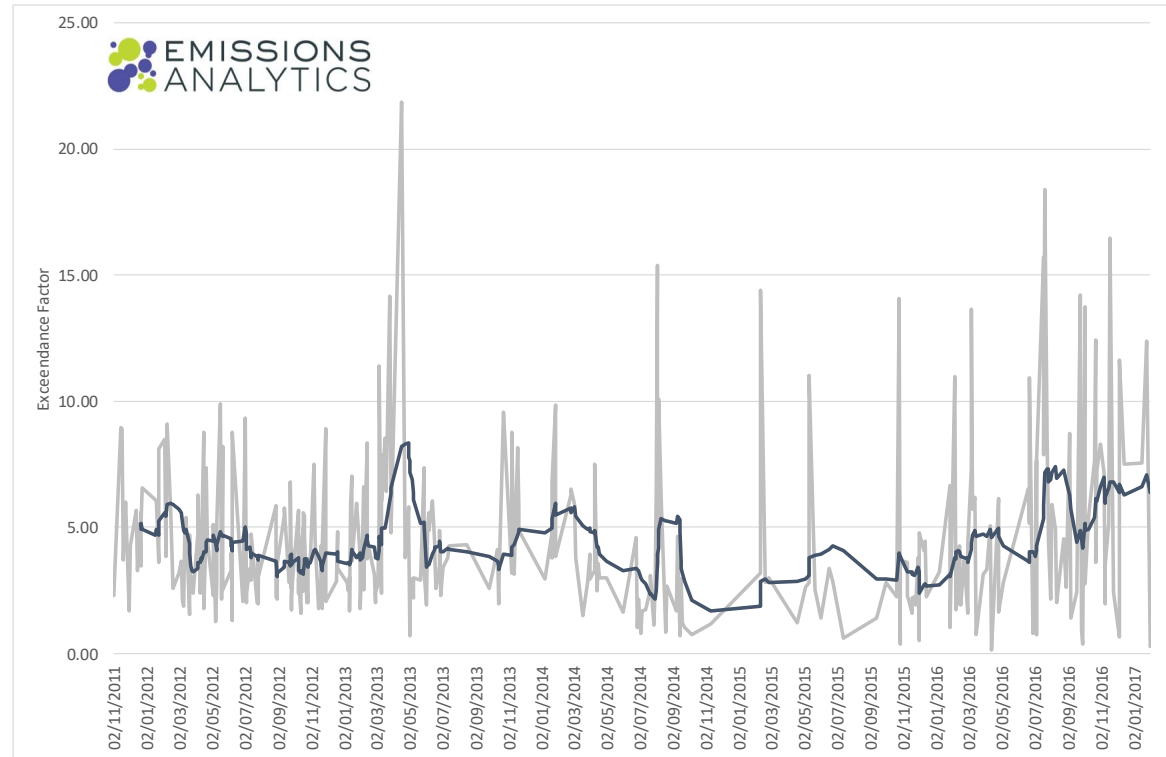
- Similar to RDE...
 - Real road
 - Realistic routes
 - Normal driving styles

- But crucially different...
 - Vehicles sourced independently
 - Independent drivers
 - Standardised test
 - Since 2011, covering wide range of Euro 5 and Euro 6 vehicles

THE PROBLEM

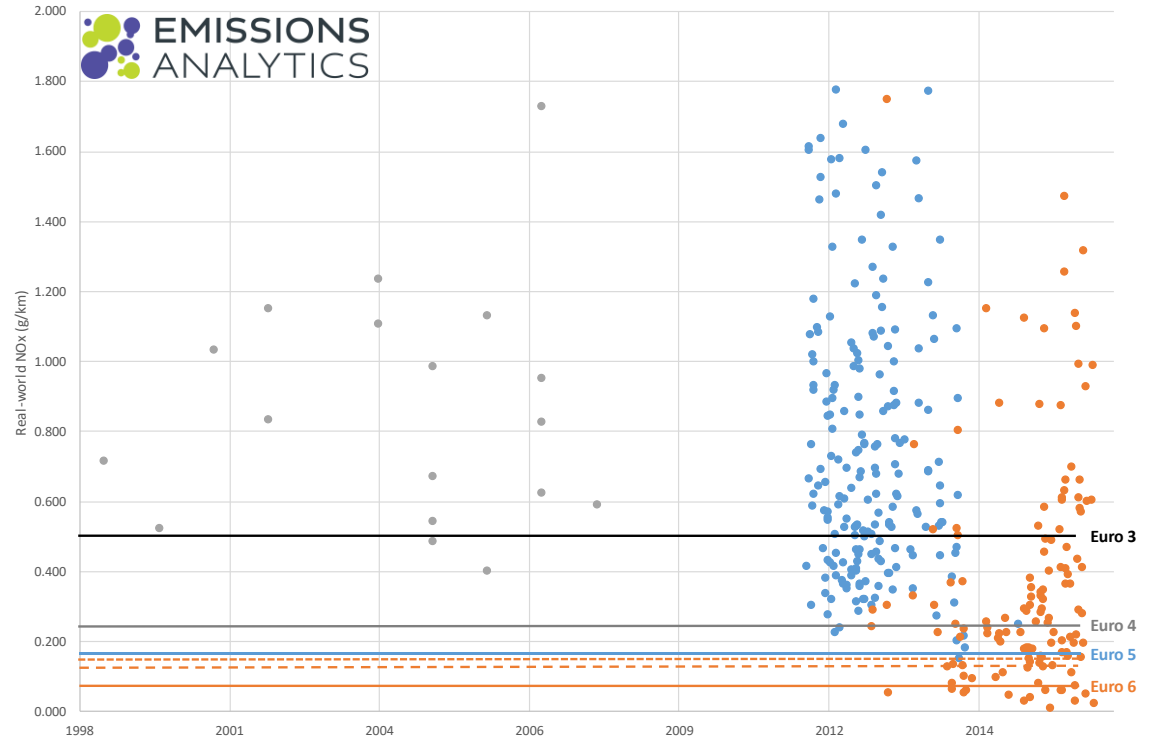
Legacy NO_x problem... bad news

- False dawn after introduction of Euro 6
- Average Exceedance Factor rose latterly to ~7
- Despite prospect of Real Driving Emissions
- Plus growing variability
- Use of thermal management and hot re-start strategies?
- Beating first phase of RDE in 2017?



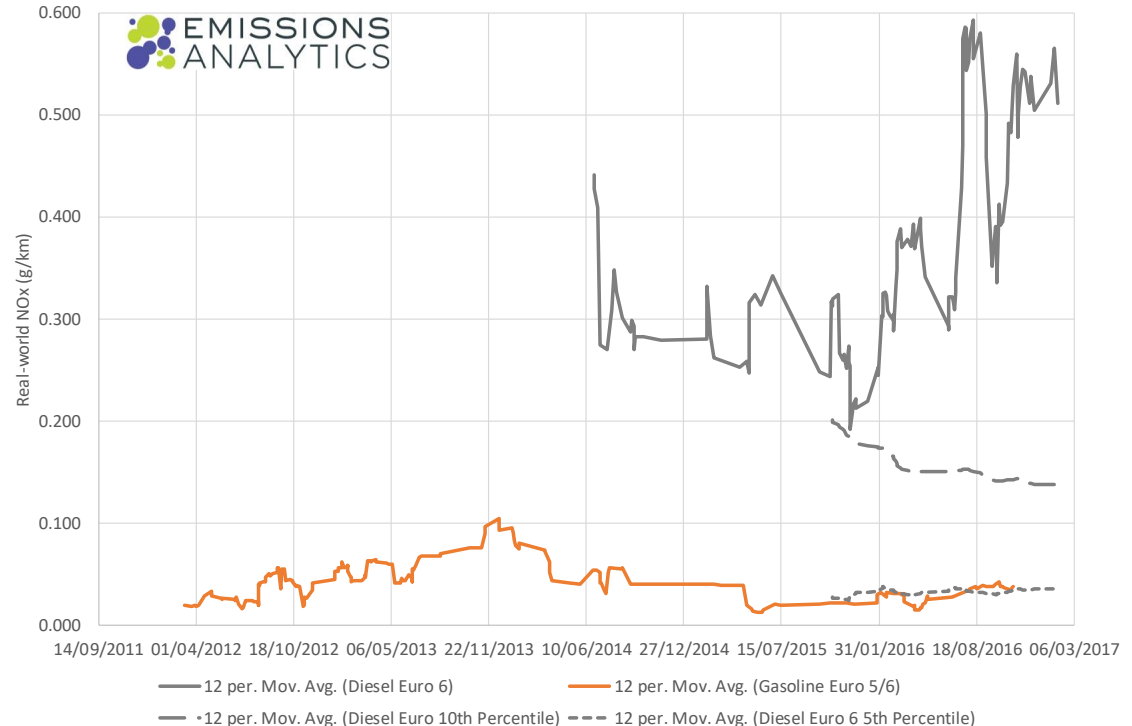
...worse news...

- Dirtiest Euro 6 diesels are 6-7 times worse than cleanest Euro 5
- And are ~3 times worse than cleanest Euro 3/4
- And are about twice as dirty as the average Euro 3/4



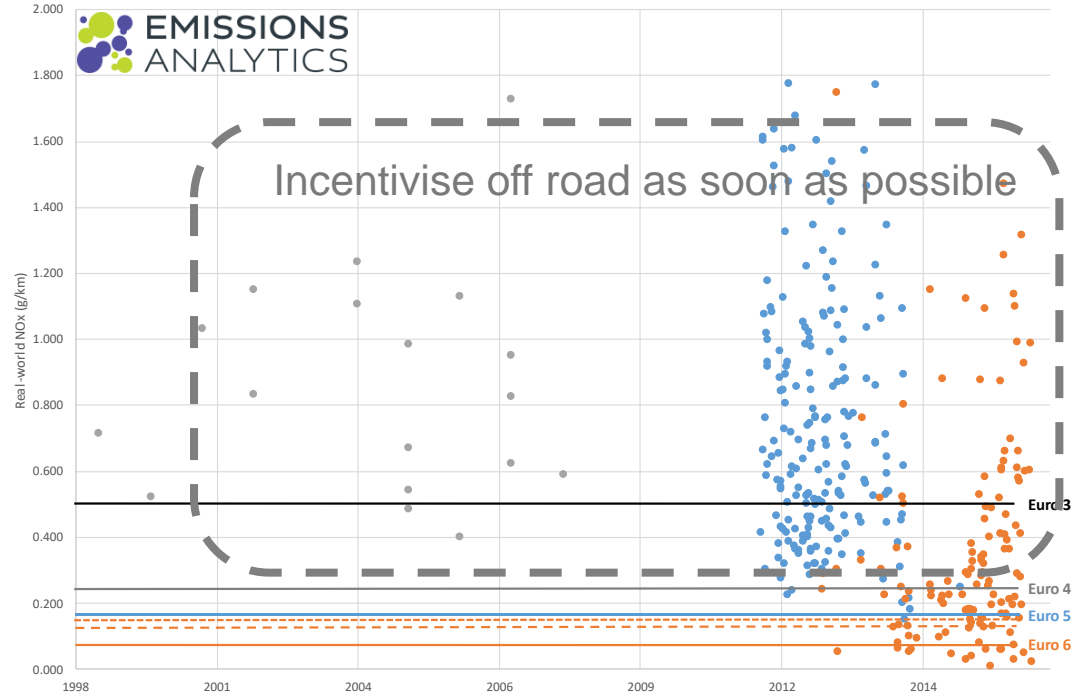
But good news... diesels can be “clean”

- Average Euro 6 diesel 13 times average gasoline car
- But cleanest diesels (5% percentile) are as clean as the average gasoline
- Has been the case for almost 2 years
- Not being able to discriminate within Euro 6 is significant market failure



Policy opportunity

- Main issue is speed
- Policy opportunity:
 1. Remove all pre-Euro 5 diesels
 2. Discriminate with Euro 5 and Euro 6
 3. Incentivise going beyond regulatory minimum
 4. Accelerate fleet turnover
 5. Retrofit existing fleet



THE SOLUTION

Objectives

- Target only high polluting vehicles in real-world operation
- Technology neutral
- Minimise capital losses to private owners
- Minimise taxpayer subsidies
- Create incentives to go beyond minimum regulatory requirement

Solution

- Simple and actionable ratings
- Based on fair, real-world performance for typical drivers and roads
- Consistency and comparability between vehicles and over time
- Wide coverage quickly
- Independence from large vested interests
- Relevance to consumer



Harness power of competition between manufacturers
Align public and private incentives

Benefit

- Avoids highly inefficient solutions
 - Banning all Euro 5s, 6s and earlier would be draconian
 - Banning only Euro 5s and earlier would be ineffective
- Restricting the higher polluting 54% of Euro 6s would generate 87% reduction in NO_x
- Avoids backing specific technologies on limited knowledge
- Rewards well performing car and technologies
- Avoids potential legal challenge from owners of cleaner older diesels

Implementation

- Publish ratings on official government and city websites to guide consumer decisions
- Syndicate to media for wider consumption
- Set government fleet procurement requirements – minimum real-world standards
- Use as example to private sector fleets
- Tie incentives or charges to the ratings



London's Cleaner Vehicle Checker and Fleet Health Check programme
Defra (UK environment department) tender programme

INDEPENDENT ECO-LABEL

EQUA Index

- Vehicle rating scheme based on their real-world emissions and fuel economy
- Complement to new Real Driving Emissions regulations
- Discriminates between high and low emitters, even within Euro class – not just pass/fail
- Authoritative academic advisory scrutiny
- Similar to New Car Assessment Programme
- Ratings are published and into the public domain for free at www.equaindex.com



Robust, independent standard needed to measure and incentivise actions to bring about air quality improvements

EQUA Aq – Air Quality index

EQUA INDEX

POWERED BY
EMISSIONS ANALYTICS

Aq

AIR QUALITY

Volkswagen / Golf / Diesel
2.0L / 2010 / 2WD / Auto / Euro 5

A

B

C

D

E

F

G

H

EQUA INDEX Aq **The EQUA Air Quality Index**

Euro 5 diesel

Euro 5 petrol/hybrid

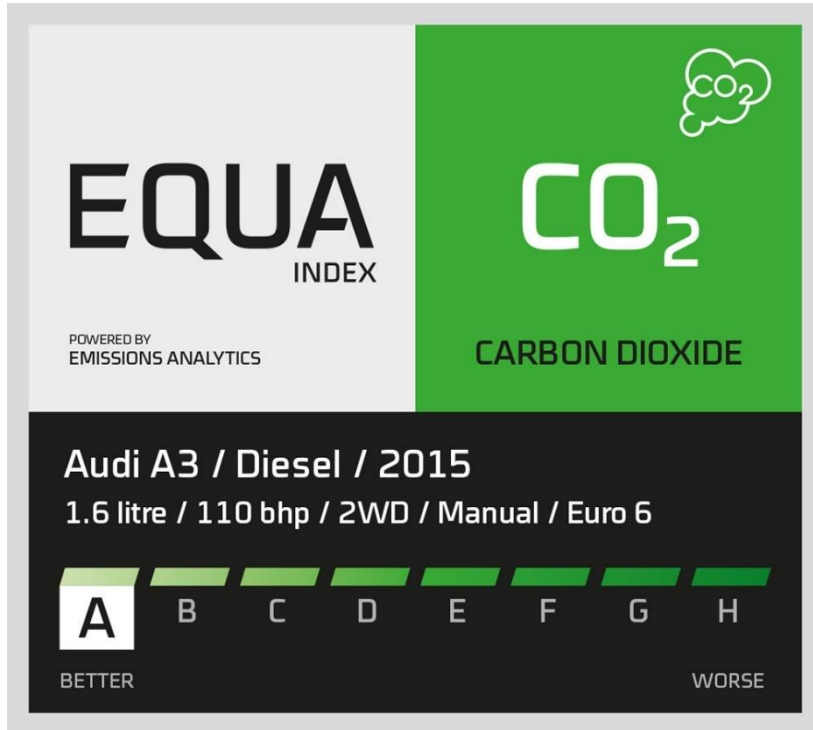
Euro 6 diesel

Euro 6 petrol/hybrid

Better Worse



EQUA CO₂ – Carbon Dioxide index



- CO₂ values for almost all vehicles on sale in the last six years
- Over 70,000 model variants
- Remainder extrapolated using new proprietary model of real-world fuel efficiency, based on technical characteristics of vehicles
- Complemented by EQUA 100 and EQUA Mpg for fuel efficiency
- Near-comprehensive alternative to official labelling system

AIR ALLIANCE

AIR Alliance – mission



- Allow Independent Road-testing has been launched today to promote the **voluntary** adoption of this **independent on-road** vehicle emissions test and **rating system**
- AIR is **open** to organisations and individuals seeking to ensure direct and **immediate action to reduce** the harmful effects of **vehicle emissions** on air quality and climate change, in an accessible, transparent and accountable way
- AIR is the only global initiative that provide a prompt and **cost effective** approach to the current diesel NO_x **emissions crisis**
- AIR has convened an authoritative **Scientific Advisory Committee** of academics across Europe to ensure the **robustness** of the ratings system

AIR Alliance – calls on...



- Car makers to adopt voluntarily the same approach to car emissions as they use for car safety
- City policy makers to adopt voluntarily independent testing and rating as the basis for informed policy
- Governments, cities, academics, NGOs, and other organisations committed to improving air quality and reducing greenhouse gas emissions to join the Alliance and help drive the voluntary adoption of the existing framework by automakers and city policy makers globally

AIR Alliance – action

- AIR's role will be to guarantee that the data and testing remain completely independent from car makers and regulators to ensure trusted disclosure and public scrutiny
- AIR will make past and future results from independent testing of vehicle freely available to everyone so they can make informed choices
- AIR will provide access to the test methodology developed by Emissions Analytics to other parties to conduct similar tests to same standards around the world, initially through a process of European standardisation

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Launch video



AIR Allow
Independent
Road-testing

THANK YOU