

Dirty diesels heading East: Polish edition

New evidence shows 350,000 polluting 2nd-hand diesels were exported to Poland in 2017. There are measures to restrict the influx, says legal analysis.

October 2018

1. Western cities are banning dirty diesel cars

Since Volkswagen was caught cheating on emissions in the US, the Dieselgate scandal has spread globally embroiling most European car manufacturers. But despite the scandal, the number of dirty¹ diesel cars and vans on Europe's roads is growing and is now an estimated to be 43 million.² There has been minimal action to fix the malfunctioning emission control systems of these diesel vehicles, as the regular Commission updates show.³ With the polluting vehicles in circulation, citizens continue to suffer the consequences: the chronic pollution caused by toxic diesel fumes is causing thousands of premature deaths, and even greater damage to public health and wellbeing. Meanwhile most EU Member States are failing to meet the EU air quality standards with the latest round of infringement procedures announced in May 2018.⁴

The high air pollution caused by carmakers' manipulation of emission rules is resulting in increasing numbers of cities choosing to ban diesel cars. Many German and Italian cities joined Paris, Madrid, Oslo, Amsterdam and Athens in recent announcements⁵ restricting access of diesels on their streets. These impending bans are pushing drivers to abandon their diesel cars, and selling them on. Most of these dirty diesels will end up in Central & Eastern European countries, exporting pollution from the West to the East. There are few effective measures to restrict the circulation of polluting vehicles in cities across Central and Eastern Europe - the one measure planned in Prague for 2019 has been postponed - so the diesels can continue to pollute with impunity there.

The flow of cheap, unfixed, second hand diesels will simply shift air pollution problem east rather than solving it, deepening the existing East-West divide on air quality.⁶ In an attempt to analyse the magnitude of the **problem and following** T&E's analysis of second-hand diesel flows to Bulgaria,⁷ this briefing analyses second hand car flows in Poland and models how the average NOx emissions would evolve until 2040. Finally, it highlights near-term options available to Member States to restrict the influx of highly polluting second-hand diesel vehicles, based on a recently commissioned legal analysis.

¹ Dirty is defined as vehicles that emit at least 3 times the allowed EU NOx limit on the road.

² Transport & Environment, [Cars with engines: can they ever be clean?](#), September 2018

³ European Commission, [State of play of the recall actions related to NOx emissions](#), September 2018

⁴ Transport & Environment, [Why air quality is about to land EU countries in court](#), May 2018

⁵ [Urban Access Regulations in Europe](#)

⁶ Reuters, [Don't export old diesels to eastern Europe, EU warns German carmakers](#), October 2018

⁷ Transport & Environment, [Dirty diesels heading East](#), April 2018

2. Over 350,000 diesels exported to Poland in 2017

Poland has some of the worst air pollution in Europe causing over 43,000 premature deaths annually.⁸ The European Court of Justice ruled against Poland this year for failure to reach the 2008 emission limits for carcinogenic particles.⁹ The graph below summarises the numbers of diesels that are being imported into Poland and the toxic pollution they bring.



Figure 1 - Number of second-hand cars imported in Poland in 2017 per Euro class including the average NOx emissions

Notably, the data shows:

- Last year alone, Poland imported over 850,000 second hand cars with about 40% of these being polluting diesels;
- Nearly 75% of the diesels were produced before 2011, i.e. before the entry into force of Euro 5 standards for all cars that required fitting diesel particulate filters (DPF). This means that a vast majority of these imported cars are not fitted with a standard DPF, and are thus emitting dangerous cancer-causing fine particles that are already a serious problem in Poland;
- As for toxic nitrogen dioxide (NO₂), at the heart of the dieselgate scandal, the diesels imported to Poland **last year on average emit 12.5 times the current EU's Euro 6 NOx limit** – or about 1,000 mg/km instead of the 80mg/km (required for cars on sale today);
- An average diesel car imported into Poland last year would emit about 6kg of toxic NOx pollution in one year (based on the Polish annual mileage of about 6,000km);

⁸ European Environment Agency, [Air quality in Europe - 2017 report](#), October 2017

⁹ European Court of Justice, [Judgment of the Court of Justice in Case C-336/16](#), Commission v Poland, Press release, February 2018

- Most cars came from Germany (70%), with the rest coming from Belgium (14%), the Netherlands and Italy (5% each).

The detailed assumptions and data sources can be found in the Annex.

The number of diesel cars imported to Poland has remained almost the same between 2015 and 2017, or around 350,000 cars (with a peak of 389,000 in 2016). The majority of imported second hand diesels are Euro 4 (i.e. cars produced between 2006 and 2010), representing 42-45% of diesel imports. But there is a shift occurring from Euro 3 to more recent Euro 5 - as more cities in the West extend the bans to also cover newer Euro 5 vehicles - with the proportion of Euro 5 diesel cars increasing from 16% to 22% in the three years. However, as the average NOx emissions between Euro 3 and Euro 5 have seen no improvement in real-world conditions, standing at around 1,060mg/km, the shift to imports of more recent diesel cars will not bring improvement in urban air quality. While the proportion of latest Euro 6 diesel cars is increasing (from 0.3% to 4%), it remains too low to make any impact on overall emissions. Finally, pre-Euro 3 diesel cars remained marginal in 2017 with less than 4% of the diesel imports.

The above summarises the imports between 2015 and 2017. Transport & Environment has also modelled how the average NOx emissions would evolve until 2040 by taking into account the current vehicle age in Poland and the fleet introduction of cars approved under the new Euro 6d-temp and Euro 6d regulations, expected to emit lower NOx emissions in real life. The trend shown in the graph below underlines that the average NOx emissions of imported second hand diesel cars in Poland will continue to emit dangerously high levels of NOx for another 10-15 years, and would not achieve the regulatory on-road limit of 120mg/km until mid-2030s.

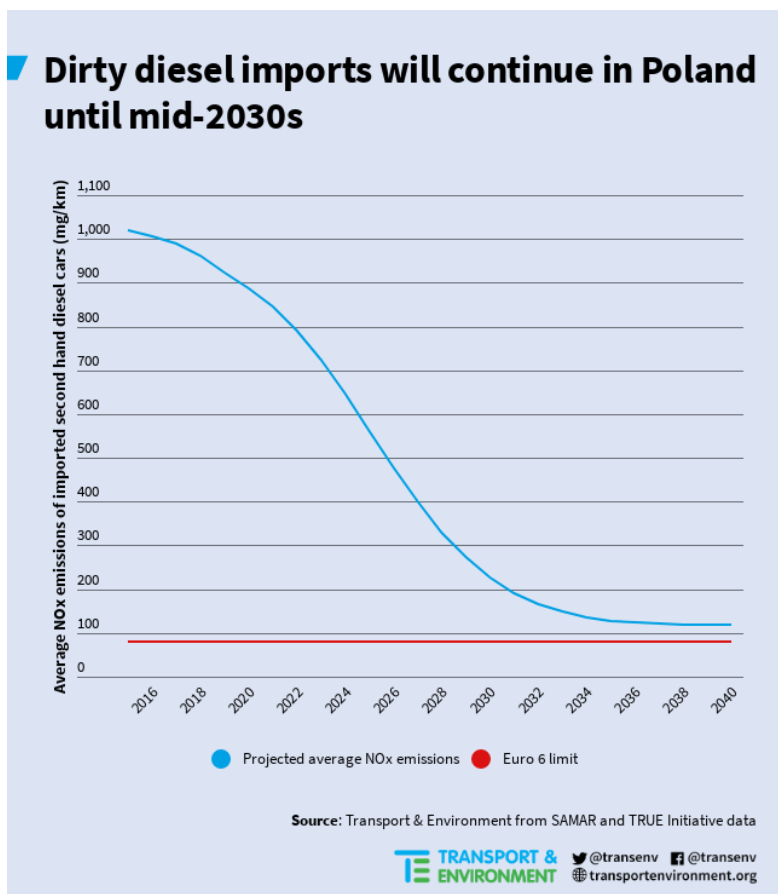


Figure 2 - Projection of the average NOx emissions of imported second hand diesel cars in Poland from 2018 to 2040

3. Member States may take measures to restrict the influx of diesel cars, new legal analysis shows

There is a clear need for measures to avoid polluting second hand diesels being dumped in Eastern and Central European countries, shifting the toxic pollution problem to less wealthy regions. This is against the core values of the European project - all EU citizens have equal right to clean air. The EU should therefore take measures to limit the flow of old polluting diesels in a way that protects the environment and public health, and is aligned with the Single Market rules. But in the absence of European solutions, Member States should take measures to protect their citizens.

Transport & Environment has commissioned a legal analysis (see separate document) to review near-term options available to Member States to restrict the influx of highly polluting second-hand diesel vehicles under Directive 2007/46/EC (on type-approval of new vehicles) and Directive 2008/50/EC (on air quality). This analysis highlights several options, among which:

- **“Under Directive 2007/46/EC on type-approval of new vehicles Member States could consider notifying the Commission of their intention to adopt an immediate prohibition on the registration, sale, entry into service or circulation of new and second-hand diesel vehicles that are non-compliant with type-approval for, among other things, their impact on public health and the environment, following the process as set out in Article 114 TFEU. [...] Article 29 of Directive 2007/46/EC allows a Member State to refuse to register or permit the sale or entry into service in its territory of new vehicles, for a maximum of six months, where such vehicles would ‘seriously harm the environment or public health.’”**
- **“for second-hand diesel vehicles not yet subject to a recall for being non-compliant with their type-approval, where such vehicles are suspected of being non-compliant, authorities could set out to determine whether a ‘serious risk to public health or environmental protection’ is present and, if so, inform the Member State that granted type-approval to ensure a set of measures to neutralise the risk is undertaken by the manufacturer.”**

Member States can use the provisions of Directive 2008/50/EC on Ambient Air Quality to propose emissions limits on imported vehicles that are “more stringent”, but do not constitute “arbitrary discrimination or a disguised restriction on trade”, and are “proportional” and duly notify the European Commission:

- **“Member States should set out to determine the implications of the influx of second-hand diesel vehicles on preserving the best ambient air quality within their territory as well as the potential impact on exceedances of limit values in specific cities or regions, articulating the desired level of protection so as to facilitate measures addressing second-hand diesel vehicles.”**
- **“Member States should then review various measures available to achieve this desired level of protection, including those specific to second-hand diesel vehicles as well as more general measures against any diesel vehicle that emits above certain emission limits [...]”**

There are therefore measures available to Member States to restrict the circulation of dirty diesels, including a temporary outright circulation ban and a longer-term measure provided new evidence on safety or public health detriment is shown.

Conclusions

The biggest Dieselgate legacy is the current fleet of at least 43 million dirty diesels, that now risks being shifted to less wealthy countries as desperate cities are rightly trying to get rid of them. Instead of the current piecemeal approach to car retrofits, such as the cynical recent deal in Germany designed to prop up sales more than fix cars, European Commission and the governments should agree a comprehensive EU-wide programme to fix the millions of faulty vehicles. Alongside cleaning up the existing fleet, the new EU CO₂ standards for cars and vans currently being negotiated will be part of a longer-term solution by increasing uptake of new and affordable zero emission cars. Amid cheating and cartel allegations, it is time to stop defending the discredited diesel industry and **protect instead public health, consumers and Europe's credibility**. EU citizens everywhere deserve access to clean air; there should be no second-class.

Further information

Julia Poliscanova
Clean Vehicles & Air Quality Manager
Transport & Environment
julia.poliscanova@transportenvironment.org
Tel: +32(0)2 851 02 18

Jens Müller
Diesel & Air Quality Coordinator
Transport & Environment
jens.mueller@transportenvironment.org
Tel. +32 (0)488 367 353

Florent Grelier
Clean Vehicles Engineer
Transport & Environment
florent.grelier@transportenvironment.org
Tel: +32(0)2 851 02 14

Annex

The numbers of polluting diesel cars imported in Poland and their respective average NOx emissions (Figure 1) presented in this briefing paper are based upon the following data sources:

- NOx emission results are from the remote sensing database analysed by the TRUE Initiative,¹⁰ which includes the FIA Foundation, the ICCT, C40 Cities, Global NCAP and Transport & Environment. The remote sensing database is a compilation from the CONOX project of over 700,000 instantaneous real-world measurements on the emissions of passenger cars between 2011 and 2017. The remote sensing technology was used in a range of European countries, including: France, Spain, Sweden, Switzerland and the UK. The NOx data used for this briefing focuses on Euro 3 to Euro 6 diesel cars, grouped by engine families, all approved under in-lab NEDC regulations. For Euro 1 and Euro 2 cars, the average NOx emissions of these diesel cars was used instead as too few data was available to have a consistent split per engine family.
- The list of imported second hand cars registered for the first time in Poland from 2015 to 2017 was acquired by Transport & Environment from SAMAR, a Polish automotive market research institute.¹¹ The data is compiled based on the Central Vehicle Register run by the Polish Ministry of Interior.
- The **Polish annual mileage information is taken from Transport & Environment's in-house European Transportation Roadmap Model (EUTRM)**, developed by Cambridge Econometrics.
- The origin of second hand vehicles exported to Poland is also taken from Transport & Environment's EUTRM, which includes bilateral trade flows between EU-28 countries taken from the vehicle import/export data compiled by European Commission's DG Climate Action,¹² Öko-Institut¹³ and Eurostat Comext data.

In addition to the data, the following assumptions were used:

- In the data provided by SAMAR, cars fuelled by LPG and CNG were excluded from the analysis as the **TRUE Initiative's remote sensing database do not include data for these engine technologies**. However, these cars represented about 100 annual imports for the three years analysed, i.e. a negligible amount. In addition, cars without any fuel type information were also excluded from the analysis, i.e. about 80-100 annual imports, also a negligible amount.
- The Euro class for each imported car is not included in the SAMAR data. A simplified approach has been used in order to determine the Euro standard for each vehicle, by coupling the year of production with the implementation years (for all types) of each Euro standard. For instance, a car produced in 2015 or later is considered as being Euro 6, while a car produced between 2011 and 2014 is considered as being Euro 5, etc.
- It was assumed that pre-Euro 1 diesel cars have the same NOx emissions as Euro 1 cars, as the **TRUE Initiative's remote sensing database does not include data from such vehicles**. This can be seen as a conservative assumption. However, as the number of imported pre-Euro 1 diesel cars is marginal (0.2% of all imported diesels), this assumption does not have a significant effect on the average NOx emissions.

The projection of the average NOx emissions of imported second hand diesel cars in Poland (Figure 2) was made by following the steps below:

¹⁰ TRUE Initiative, [Determination of real-world emissions from passenger vehicles using remote sensing data](#), June 2018

¹¹ SAMAR, [Registrations of new and used passenger cars and commercial vehicles up to 6t GVW](#)

¹² European Commission, DG CLIMA, [Data gathering and analysis to improve the understanding of 2nd hand car and LDV markets and implications for the cost effectiveness and social equity of LDV CO₂ regulations](#), May 2016

¹³ Öko-Institut, [European second-hand car market analysis](#), February 2011

- The average age distribution of the imported second hand diesel cars was determined based on **SAMAR's Polish data from 2015 to 2017 and assumed to remain constant. The age distribution curve covers 0 year old to 20 year old imports, as older diesel cars represent less than 1% of the diesel imports.**
- For each year between 2018 and 2040, the Euro standard is determined for each vehicle age group by following the same simplified approach described above. For example, in 2020 a 10 year old imported car would be Euro 4, whereas in 2025 a 10 year old car would be Euro 6.
- Based on the projected imports by Euro class, NOx emissions are associated in the following way:
 - For Euro 1 and Euro 2 diesel cars, the values of NOx emissions are the same as those shown in the Figure 1, i.e. the average NOx emissions measured through remote sensing by the TRUE Initiative. For pre-Euro 1 diesel cars, it was assumed that the NOx emissions were the same as Euro 1 diesel cars;
 - For Euro 3 to Euro 6 diesel cars, the average NOx values of the imports between 2015 and 2017 were used. The values are comparable to those presented in Figure 1;
 - The introduction of Euro 6d-temp and Euro 6d compliant diesel cars was also taken into account. Euro 6d-temp diesel cars were assumed to be sold between 2018 and 2020 with an average NOx emissions level of 168 mg/km, which is the limit allowed in the regulation.¹⁴ Euro 6d diesel cars were assumed to be sold from 2021 with an average NOx emission level of 120 mg/km, which is the limit allowed in the regulation.¹⁵ The latest RDE 4th package introduces a smaller PEMS margin for NOx emissions bringing down the Euro 6d NOx diesel limit to 114 mg/km but was not chosen for the purpose of this briefing as this regulation has not been published yet in the Official Journal. Besides, the maximum NOx limit also reflects the choice of most car manufacturers to use a RDE max value, as allowed by the regulation, that corresponds actually to the maximum limit.¹⁶
- Finally, the average NOx emissions for each year is then the sum of the NOx value for each vehicle age group (0 to 20 year old) multiplied by the average age distribution.

¹⁴ Official Journal of the European Union, Regulations n°[2017/1151](#) & n°[2017/1154](#)

¹⁵ Ibid.

¹⁶ ACEA, [Access to Euro 6 RDE data](#) & JAMA, [Access to Euro 6 monitoring data](#)