

Dirty diesels heading East: Romanian edition

New evidence shows 370,000 old and highly polluting 2nd-hand diesels were exported to Romania in 2017

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 still growing and is now 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 high number of grossly polluting vehicles in circulation, air pollution levels continue to be exceptionally high and citizens are continuing to suffer the consequences: chronic nitrogen dioxide (NO₂) pollution much caused by toxic diesel fumes causing 76,000 premature deaths annually in the EU,⁴ and even greater damage to public health and wellbeing. Meanwhile most Member States are failing to meet the EU air quality standards, with the latest round of infringement procedures announced in May 2018.⁵

The high air pollution caused by carmakers' manipulation of after-treatment systems 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 announcements restricting access of diesels on their streets.⁶ These impending bans are pushing drivers to abandon their diesel cars, and selling them on. Many 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.⁷ In an attempt to analyse the magnitude of the problem and **following T&E's analysis of second-hand diesel flows to Bulgaria⁸ and Poland,⁹** this briefing analyses second hand car flows in Romania and models how the average NOx emissions would evolve until

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 European Environment Agency, [Air quality in Europe - 2018 report](#), October 2018

⁵ Transport & Environment, [Why air quality is about to land EU countries in court](#), May 2018

⁶ [Urban Access Regulations in Europe](#)

⁷ Reuters, [Don't export old diesels to eastern Europe, EU warns German carmakers](#), October 2018

⁸ Transport & Environment, [Dirty diesels heading East](#), April 2018

⁹ Transport & Environment, [Dirty diesels heading East: Polish edition](#), October 2018

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.

2. Nearly 370,000 diesels exported to Romania in 2017

Romania has some of the worst air pollution in Europe causing almost 27,000 premature deaths annually, of which nearly 1,300 are directly attributable to NO₂ emissions.¹⁰ The European Commission is suing Romania for its failure to reach the 2010 emission limits for carcinogenic particles in the agglomeration of Bucharest.¹¹ Exporting very polluting vehicles to Romania is unacceptable given that the level of air pollution is already very high. Figure 1 below summarises the numbers of diesels that are being imported into Romania and the toxic pollution they bring.

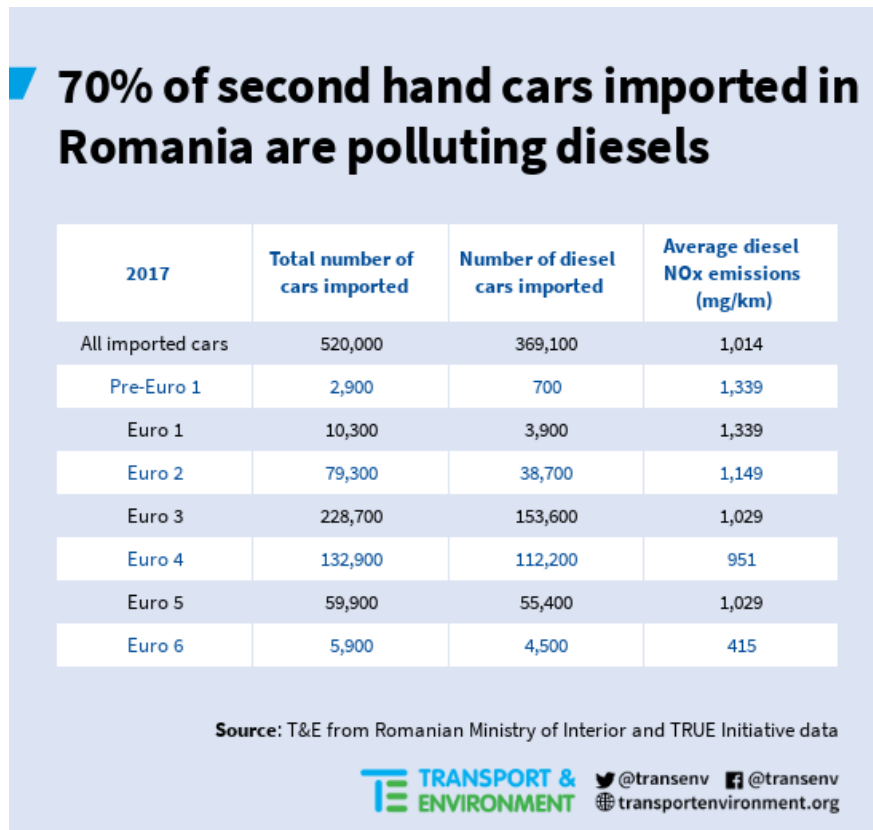


Figure 1 - Number of second-hand cars imported in Romania in 2017 per Euro class including the average NOx emissions

Notably, the data shows:

- Last year alone, Romania imported nearly 520,000 second hand cars with over 70% of these being polluting diesels. This is a particularly high share compared to the other countries (one third in Bulgaria, and 40% in Poland);
- Over 80% 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 Romania;

¹⁰ European Environment Agency, [Air quality in Europe - 2018 report](#), October 2018

¹¹ European Commission, [Air quality: Commission takes action to protect citizens from air pollution](#), Press release, May 2018

- As for toxic nitrogen dioxide (NO₂), at the heart of the Dieselgate scandal, the diesels imported to Romania last year on average emit over 12.5 **times the current EU's Euro 6 NOx limit** – or 1,014 mg/km instead of the 80mg/km (required for cars on sale today), a similar level to diesels imported in Bulgaria or Poland;
- An average diesel car imported into Romania last year would emit about 7.4kg of toxic NOx pollution in one year (based on the Romanian annual mileage of about 7,300km);
- Most cars came from Germany (78%), with the rest coming from Italy (10%), Austria (4%), the Netherlands and Belgium (3% each).

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

Following the parliamentary elections of 2016, the national tax on cars (“environmental stamp”) was abolished on 1 February 2017. The decision came after years of legal dispute with the European Commission over the design of the tax and its comparability with EU law. Since then, no dedicated tax has been applied when cars are registered or imported, and this situation is likely to have contributed significantly to the increase in imports of second-hand vehicles from Western Europe. Indeed, the number of diesel cars imported to Romania almost tripled between 2015 and 2017, from 137,000 to 370,000. The share of diesel cars increased from 55% of imported second hand cars in 2015 to 71% in 2017. The majority of imported second hand diesels are Euro 3 (i.e. cars produced between 2000 and 2005), representing about 40% of diesel imports these last three years.

2017 saw a trend towards older diesel cars being imported compared to 2015 and 2016: the average age of imported diesel cars in 2017 was 11.5 years, while it had been about 9 years for 2015 and 2016. Imports of Euro 3 diesel cars rose (from 36% in 2015 to 42% in 2017), while imports of Euro 5 diesel cars decreased (from 23% in 2015 to 15% in 2017, after a peak at 28% in 2016). Imports of Euro 4 diesel cars remained constant (28-30%).

Even imports of older Euro 2 diesel cars are also increasing (10% in 2017 after being at 7% in 2016).

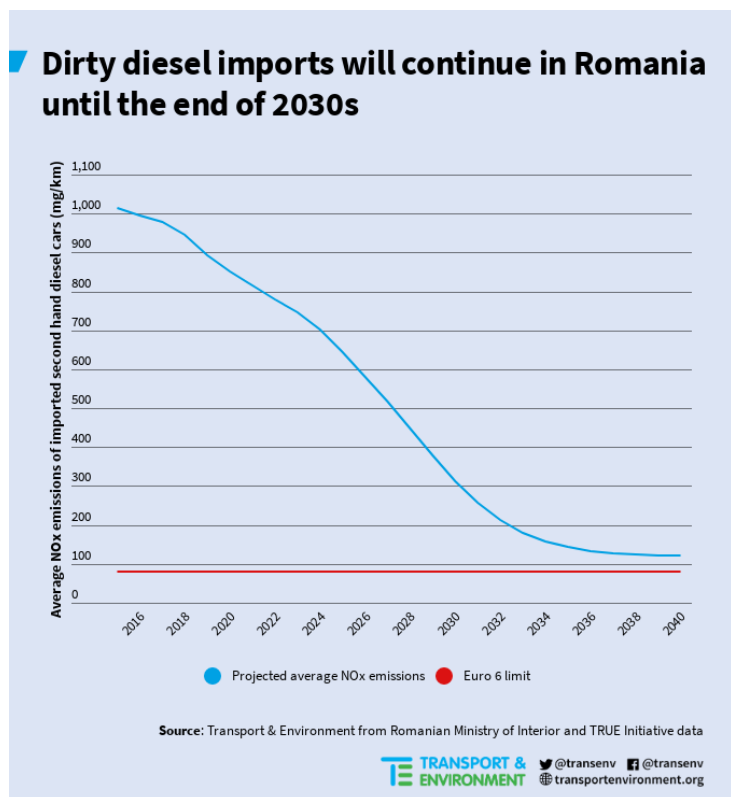


Figure 2 - Projection of the average NOx emissions of imported second hand diesel cars in Romania from 2018 to 2040

These trends are disturbing: Romania imports a high share of dirty diesels that on average are even more polluting and older than the vehicles brought to Poland and Bulgaria. At the same time, it is important to stress that importing newer diesel vehicles is not a solution as such, as real-world NOx emissions of Euro 3 to Euro 5 diesel cars remained more or less the same (at about 1,000mg/km).

Transport & Environment has also modelled how the average NOx emissions are expected to evolve until 2040 taking into account the current vehicle age in Romania and the fleet introduction of cars approved under the new Euro 6d-temp and Euro 6d regulations that are expected to emit lower NOx emissions in real life. The trend shown in Figure 2 underlines that the average NOx emissions of imported second hand diesel cars in Romania will continue to emit dangerously high

levels of NOx for another 15 years, and would not achieve the regulatory on-road limit of 120mg/km until the end of 2030s.

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 commissioned a legal analysis¹² 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.

¹² Transport & Environment, [Dirty diesels heading East: Polish edition](#), October 2018

Conclusions

The biggest legacy of Dieselgate is the current fleet of at least 43 million dirty diesels on the road, that now risk being shifted to less wealthy countries as cities in Western Europe progressively restrict access to older and more polluting models. 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, the European Commission and 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

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Annex

The numbers of polluting diesel cars imported in Romania 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,¹³ 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 Romania from 2015 to 2017 is from the Romanian Ministry of Interior, which vehicle registration services (**Direcția Regim Permise de Conducere și Înmatriculare a Vehiculelor** or DRPCIV) publish online statistics with detailed technical information.
- The Romanian **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 Romania 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**,¹⁴ Öko-Institut¹⁵ and Eurostat Comext data.

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

- In the data provided by DRPCIV, 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 less than 1,000 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 1 annual import, also a very negligible amount.
- The Euro class for each imported car is not included in the DRPCIV data. A simplified approach has been used in order to determine the Euro standard for each vehicle, by coupling the first year of registration with the implementation years (for all types) of each Euro standard. For instance, a car registered for the first time in 2015 or later is considered as being Euro 6, while a car registered 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 (0.1% 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 Romania (Figure 2) was made by following the steps below:

¹³ TRUE Initiative, [Determination of real-world emissions from passenger vehicles using remote sensing data](#), June 2018

¹⁴ 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

¹⁵ 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 **Romania's DRPCIV** data from 2015 to 2017 and assumed to remain constant. The age distribution curve covers 0 year old to 25 year old imports, as older diesel cars represent less than 0.5% 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.¹⁶ 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.¹⁷ 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.¹⁸
- Finally, the average NOx emissions for each year is then the sum of the NOx value for each vehicle age group (0 to 25 year old) multiplied by the average age distribution.

¹⁶ Official Journal of the European Union, Regulations n°[2017/1151](#) & n°[2017/1154](#)

¹⁷ Ibid.

¹⁸ ACEA, [Access to Euro 6 RDE data](#) & JAMA, [Access to Euro 6 monitoring data](#)