Recent changes in the ownership and usage of oldtimers in the Netherlands: a summary

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Trends in oldtimer usage

For many years, vehicles older than 25 years have been excluded from road tax in the Netherlands by means of the so-called "oldtimer exemption". In September 2012, the new government announced it would cancel the oldtimer exemption as of 1 January 2014. Prior to this decision, the vehicles around the age of 25 years were imported in large numbers. As a result of this, large cities, like Amsterdam and Utrecht, noticed an increase in the contribution to the total emissions from the group of vehicles older than 25 years. Originally representing less than 1% of the total fleet on the road, the group of older vehicles rapidly grew to over 2% of the total vehicle fleet (Figure 1). With tenfold to hundredfold the emission per kilometer compared to a modern vehicle, the contribution of this relatively small group of vehicles to the total emissions was significant.

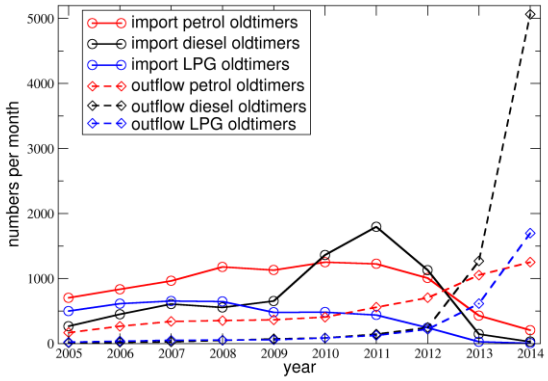

Figure 1 The import and outflow (export and scrapping) of oldtimers, vehicles older than 25 years. Only since 2013 the outflow is not compensated by the import.

Central to the discussion around oldtimers was the total mileage of these vehicles. Originally meant for vintage vehicles driving less than 2,000 kilometres a year, a new group of owners arose who used the old vehicle on a daily basis. With the odometer settings, available from the annual check-ups of vehicles, in the Dutch Nationale Auto Pas or NAP database, the relative contributions of the different usages could be determined and the nature and the magnitude of the problem for emissions was established. A significant group of users, with annual mileages ranging from 10,000 to 20,000 kilometres, were responsible for the major contribution of the percentages in the total use. A larger group used the vehicles much less. There was no means available to distinguish these two groups, except by age. Vehicles of 35 years old and older where used less.

This group of vehicle probably sprang from the fact that nowadays a large supply of cheap cars older than 25 years exists. Moreover, cars manufactured around 1985 – 1990 have turned out to be very reliable and still require limited maintenance. The initial vehicle age of 25 years was based on the fact that at the time this legislation was put into place, cars of such an age required a lot of attention and they lacked the reliability to function in a daily use.

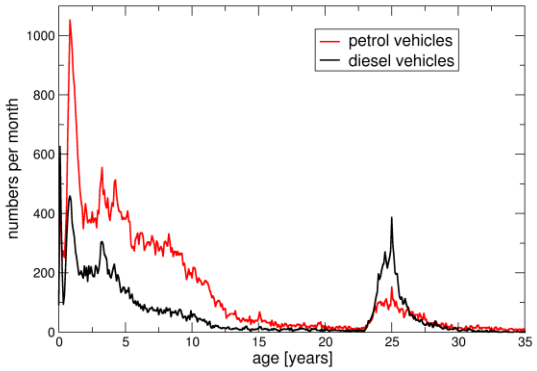

Figure 2 The age distribution of the passenger cars imported in 2011 show clearly the effect of the road-tax exemption from 25 years. In particular, imported diesel vehicles have a large fraction around 25 years.

After having established this, the government announced a change in the oldtimer exemption. Prior to this large change, the fuel surcharge for diesel and LPG oldtimers was introduced January 2012. Societies of oldtimer owners (FEHAC, KNAC) argued this surcharge already stopped the large import of vehicles of 25 years old. However, the figures did not substantiate these claims. A decrease in import was noted, yet the Netherlands was still a net importer of oldtimers. Only with the announcement to stop the road tax exemption, a sudden and dramatic change in import and export was observed. Also, since 2014, the drop in oldtimers is notable on the urban streets.

Emissions of older vehicles

As of 1988, the three-way catalyst were introduced. After the first less effective ones, in 1991 the improved versions with the Euro-1 regulation followed. Subsequently, the contribution of petrol cars to the NO_x emission dropped significantly. NO_x emissions of petrol

cars are mainly produced at the cold start and this is properly covered in the Euro-class test procedure. The three-way catalyst is a complex, yet robust, technology to reduce emissions. The successive Euro-class legislation, with tighter emission limits, ensured also in real-world a further reduction of emissions from 1991 onwards. The initial drop in 1988-1991, however, was the largest: the NO_x emissions of petrol cars dropped with a factor five for urban conditions.

Nevertheless, every petrol oldtimer imported, instead of a new vehicle bought, is a setback in making the vehicle fleet cleaner by a factor ten or higher. The newer the vehicle, the larger the effect. This has put a strain on reaching the urban air quality, in terms of the NO_2 concentration limits. Simply said, an extra oldtimer on a road, would mean reducing the total 'average' vehicle intensity by about ten to twenty cars, to retain the same emission levels.

For diesel oldtimers, also imported in large numbers, the situation is slightly different. For modern diesel passenger cars road tax is high. Therefore, the diesel vehicles disappear rapidly from the Netherlands once they are no longer viable for business use. Furthermore, in the 1980's, diesel vehicles were hardly sold in the Netherlands. Therefore, the fraction of diesel oldtimers which originated in the Netherlands was very small. In a few years, especially from 2009 to 2011, old diesel vehicles from 1985 till 1987 turned up in large numbers. Diesel vehicles all have high NO_x emissions, and, what is more, this hardly changed over time. However, to improve the image of the diesel vehicle, around 1988-1989, technological measures were introduced to reduce the particulate emissions of diesel passenger cars, bringing it down from 0.6 g/km to 0.4 g/km. The imported vehicles were from just before this change.

Hence, the renewal of the vehicle fleet was even more dramatic with the import of a diesel oldtimer instead of the sale of a new diesel vehicle. The latter requires a particulates filter (DPF), which results in emissions around 1 mg/km. Hence, one diesel oldtimer produces the same exhaust particulate emissions as several hundreds of new diesel passenger cars.

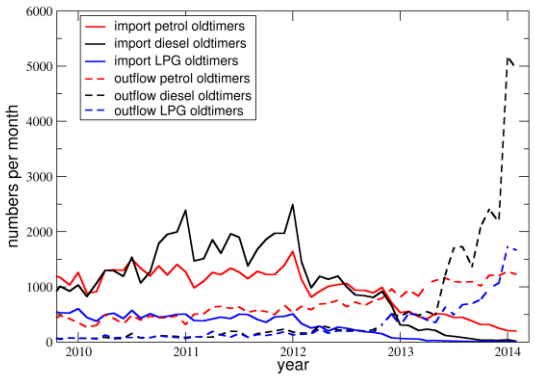

Figure 3 Detailed picture in the changes in import and outflow per month. The fuel surcharge introduction on 1 January 2012 showed some decline in import, back to the level of 2009. However, the large changes occurred after the new government plans of September 2012, which came into effect on 1 January 2014.

Changing picture

As pointed out already, the announcement of the change in the road-tax exemption by the government in the autumn of 2012 generated a large change in the trade in oldtimer vehicles. In the timespan of a few months the Netherlands changed from a net importer to a net exporter of oldtimer vehicles. In the eventual plans, petrol oldtimers were partly compensated with a lower road tax. For diesel and LPG cars between the age of 25 and 40 years, however, the same road tax was required as for younger vehicles. The rapid change in sales and ownership showed the lively trade in vehicles, also older ones. Looking at the figures in detail, the growth in import is tempered somewhat by the fuel surcharge. Although the initial announcement was met with fierce opposition, import stopped. The final plans generated the export. The prospects of paying road tax, combined with the higher fuel consumption of an older car tipped the balance for a group of owners.

Conclusion

Oldtimers, only a small part of the Dutch passenger car fleet, are responsible for a substantial part of the total emissions. The percentage of road-tax exempted oldtimers on the road was high and increasing until 2012, due to the fact that in the years before 2012 these vehicles were imported in high numbers. The recent changes in the road tax system have changed this picture completely. Slowly but surely the fraction of old vehicles on the road, and the corresponding high emissions, is changing towards the natural outflow of these vehicles with higher age. The vintage vehicles are now considered vehicles of 40 years and older, which are typically not used on a daily basis.

Acknowledgement

This work was sponsored by the Dutch Ministry of Infrastructure and the Environment.

Literature

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