



LeasePlan

**New emission test procedure**  
What does it mean  
for fleet managers?

What's next?

Tailpipe CO<sub>2</sub> emissions have been a hot topic ever since global warming became a major concern, and the automotive industry has been working towards increasingly ambitious targets to reduce harmful emissions since the 1990s. At LeasePlan, we are strongly committed to sustainability and we applaud initiatives like these that encourage everyone in the industry – from car makers to businesses and fleet managers – to shoulder their responsibility for preserving our planet.

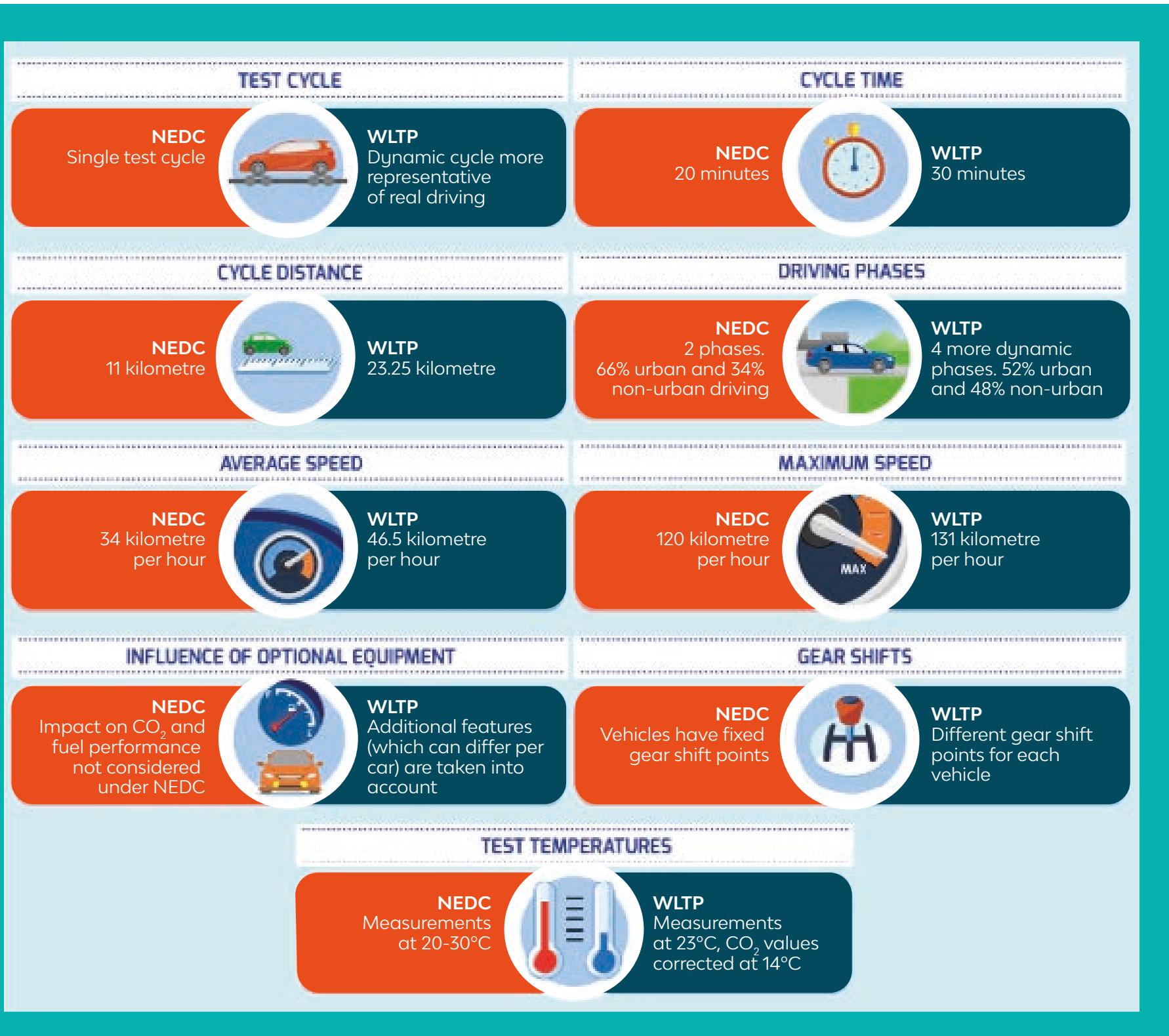
In view of ongoing technological advancements and changing driving conditions, the testing procedure for measuring CO<sub>2</sub> emissions needed to be redesigned. The need for a more realistic test became even more evident during the 'dieseltgate' affair when independent findings revealed that some cars are significantly more polluting in practice than the results of testing would suggest. As per September 2017, new laws have been introduced to ensure vehicles are subject to a more realistic testing procedure, called the WLTP. So **what's next** in emission testing, and how will this new legislation have an impact on fleet managers? We've prepared this white paper to help you find out.

Road transport contributes about one-fifth of the EU's total emissions of carbon dioxide (CO<sub>2</sub>), the main greenhouse gas<sup>1</sup>. As a consequence, the automotive industry has been striving to achieve ambitious CO<sub>2</sub> reduction targets ever since the signing of the Kyoto Protocol back in the 1990s. At European level, car manufacturers were set the target of an average of 130 g/km for passenger cars by 2015 and an average of 175 g/km for vans. These targets were met well before the deadline. The next targets have since been formulated: by 2021, average CO<sub>2</sub> emissions of passenger cars should not exceed 95 g/km and by 2020, the emission of vans should not exceed 147 g/km<sup>2</sup>. But how are these emissions measured?

The emission level of a new car is indicated on the certificate of conformity (COC), a document all new cars must have before they can be put on the market. Up until September 2017, much of the information on the COC, such as CO<sub>2</sub> and pollutant emissions but also fuel/electricity consumption and electrical operating range, was obtained in a laboratory test called the New European Driving Cycle (NEDC), which was designed in the 1980s. However, the NEDC test no longer reflects today's driving conditions or vehicle technologies. Independent calculations showed that NEDC test results largely misrepresent the actual emission levels, generally showing significantly lower averages than are produced in practice. Needless to say, this has dented consumer confidence and put the automotive industry's reputation at risk. Therefore, a UN working group looked into a more realistic test procedure. The result: the Worldwide harmonized Light-vehicles Test Procedure (WLTP).

Note:

WLTP entered into force in 2017. However the NEDC based target applies until 2020. A NEDC/WLTP correlation procedure applies during the transition<sup>3</sup>.



### What's new?

There are several differences between the WLTP and the NEDC<sup>4</sup>. To make the test **more realistic**, the WLTP has more testing cycles (four instead of two) that last longer (30 minutes instead of 20) and cover a greater distance (23 kilometres instead of 11). Furthermore the average test speed is higher (46 km/h instead of 34) as is the maximum speed (131 instead of 121 km/h). In line with today's more dynamic driving style, the WLTP test includes more drastic and more frequent acceleration and deceleration moments, plus it takes into account rolling resistance of tyres and the wide choice of vehicle options – in other words, **each trim level and set of options is associated with a different CO<sub>2</sub> value**.

Besides the laboratory tests, the EU has introduced an additional **Real Driving Emission** (RDE) test to measure pollutants emitted by cars while actually being driven on the road<sup>5</sup>. RDE will ensure that cars deliver low emissions over on-road conditions. The RDE will confirm the results of the laboratory tests to ensure that cars deliver low pollutant emissions in the real world as well as in the lab. Europe is the first region in the world to introduce on-the-road testing of this kind, representing a major leap in the testing of car emissions.

### So what does the WLTP mean in practice?

WLTP test is more rigorous than the NEDC, generally speaking it will record **higher average CO<sub>2</sub> emission levels and shorter electric ranges**<sup>6</sup>, although this of course depends on the individual vehicle in question.

The WLTP test results **better resemble reality** and give consumers and fleet owners a more accurate insight into fuel/electricity consumption and CO<sub>2</sub> emissions.



## When does the WLTP come into effect?

### 2017:

- Since 1 September 2017, WLTP officially applies to **new types of cars**, i.e. vehicle models that are introduced on the market for the first time.

### 2018:

- As per 1 September 2018, **all new cars** must be certified according to the WLTP test procedure instead of NEDC.
- An exception will be made for end-of-series vehicles to allow for a limited number of unsold vehicles in stock that were approved under the old NEDC test to be sold for one more year (residual stock regulation).

### 2019:

- As per 1 September 2019, the WLTP will be compulsory for all models (residual stock regulation expires).
- **All cars in dealerships** should display WLTP-tested CO<sub>2</sub> values only to avoid confusing consumers.

## Where does the WLTP apply?

The WLTP has been developed for use as a global test cycle across different world regions in order to make it possible to compare pollutant and CO<sub>2</sub> emissions, and also fuel consumption values, worldwide. However, while the WLTP will have a common global 'core', the EU and other regions will apply the test in different ways depending on their road traffic laws and needs.

In 2017, the WLTP has come into effect in the EU and ten other countries, namely Australia, China, India, Japan, Norway, Republic of Korea, Moldavia, Russia, South Africa and Turkey.



## How will the WLTP impact fleet management?

### Car policies

To reduce the carbon footprint and ultimately save on fuel costs, many company car policies include a **CO<sub>2</sub> threshold** for new car orders; lease drivers are not allowed to order vehicles with an emission level that exceeds the threshold. Today's thresholds in car policies have so far been based on manufacturer-stated CO<sub>2</sub> levels, measured according to the NEDC.

Since the new WLTP test is more rigorous and the recorded CO<sub>2</sub> levels will often be higher, this could mean that various models will no longer fall within the existing threshold. In illustration: under the NEDC test a particular vehicle model could be shown to produce CO<sub>2</sub> emissions of 118 g/km, but under the WLTP test that value could be 126 g/km. Based on a policy threshold of 120 g/km, drivers may then no longer order that vehicle as their company car.

The key question for fleet managers is, of course, where to set a new threshold that is both ambitious yet realistic. So far there are still only a few WLTP values available, so it is too early to have a good understanding of what realistic new thresholds would be.

In fact it will take until September 2018 before all new cars have a WLTP value, and most likely governments will not touch car taxation before 2019. Therefore, we recommend fleet managers to wait with updating CO<sub>2</sub> thresholds until there is full clarity on the impact of WLTP.

### Reporting of CO<sub>2</sub> footprint

As part of their corporate social responsibility (CSR) and/or sustainability policies, a growing number of companies publish details of their carbon footprint, e.g. in their annual report. One way to calculate the carbon footprint is based on the actual fuel consumption of the vehicle. In this case the WLTP will have no impact, since the actual vehicle performance and consumption remains unchanged.



However, another way to calculate the footprint of a fleet is to multiply the reported CO<sub>2</sub> emissions (grams per kilometre) by the mileage of each vehicle. In this case, if the WLTP CO<sub>2</sub> values are higher than the NEDC values used so far, this will increase the theoretical size of the carbon footprint – despite the fact that there has been no change in vehicle characteristics. Hence the new test procedure could distort a company’s CO<sub>2</sub> emission statistics and could ultimately result in failure to achieve environmental targets if these remain unchanged.

To maintain high levels of transparency for as long as both NEDC and WLTP values exist, it will be worthwhile converting WLTP values into NEDC (e.g. by using the EU’s CO<sub>2</sub>mpas tool). Once footprints are being reported on the basis of WLTP values, we recommended setting a new baseline and corresponding CO<sub>2</sub> reduction targets.

### **Vehicle taxation**

In many countries, vehicle-related tax (whether registration tax, road tax or fringe benefit tax) is in some way linked to CO<sub>2</sub> emission levels. Therefore, if the WLTP results in a higher CO<sub>2</sub> emission level for a vehicle, the tax rate for that vehicle would become more expensive despite the vehicle performance remaining unchanged.

The European Automobile Manufacturers Association is of the opinion that the new WLTP test should not negatively impact on consumers and is calling on national governments to ensure that the transition to WLTP will not increase vehicle taxation<sup>7</sup>. Governments will most likely use the transition period to understand the impact and will not take measures before 2019.



## Conclusion

Clearly, the WLTP not only affects car manufacturers, but also companies, lease drivers and perhaps ultimately consumers. Based on the information outlined above, fleet managers can prepare for the short-term and longer-term changes brought about by this new method of emissions testing, including by re-evaluating their vehicle policies and informing drivers and other stakeholders about the potential implications. For more information, contact LeasePlan.

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### References

- <sup>1</sup> [https://ec.europa.eu/clima/policies/transport/vehicles\\_en](https://ec.europa.eu/clima/policies/transport/vehicles_en)
- <sup>2</sup> [https://ec.europa.eu/clima/news/co2-emissions-new-cars-and-vans-continue-fall\\_en](https://ec.europa.eu/clima/news/co2-emissions-new-cars-and-vans-continue-fall_en)
- <sup>3</sup> [https://jrcstu.github.io/co2mpas/Presentations/20161124\\_Correlation\\_process.pdf](https://jrcstu.github.io/co2mpas/Presentations/20161124_Correlation_process.pdf)
- <sup>4</sup> <http://wltpfacts.eu/>
- <sup>5</sup> <http://www.caremissionstestingfacts.eu/rde-real-driving-emissions-test>
- <sup>6</sup> <https://ec.europa.eu/jrc/en/publication/impact-wltp-official-fuel-consumption-and-electric-range-plug-hybrid-electric-vehicles-europe>
- <sup>7</sup> <http://www.acea.be/press-releases/article/governments-should-address-negative-tax-impact-of-new-car-emissions-test>

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