



Department  
for Transport

# Road vehicles

## Improving air quality and safety

**Moving Britain Ahead**



February 2018

The Department for Transport has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the Department's website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact the Department.

Department for Transport  
Great Minster House  
33 Horseferry Road  
London SW1P 4DR  
Telephone 0300 330 3000  
Website [www.gov.uk/dft](http://www.gov.uk/dft)  
General enquiries: <https://forms.dft.gov.uk>



© Crown copyright 2018

Copyright in the typographical arrangement rests with the Crown.

You may re-use this information (not including logos or third-party material) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/> or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk)

Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

# Contents

Foreword	5
Executive summary	6
Introduction	6
New penalties for supplying a vehicle with a Defeat device	6
Changes to fuel economy information for consumers	6
Changes to vehicle approval	7
EU Exit	7
Next steps	7
How to respond	8
Freedom of Information	8
1. Background	9
Introduction	9
2. Proposed new offence of supplying new vehicles fitted with a <i>defeat device</i>	11
Questions	11
3. Proposals around provision of consumer information on fuel consumption	12
Current regulations	12
New WLTP cycle	12
Questions	14
4. Proposed changes to emissions standards for new vehicles using national schemes	15
Introduction	15
Heavy Duty emissions standards	15
Light Duty emissions standards	15
Innovative technologies	16
Questions	17
5. Proposed changes to safety standards for new vehicles using national schemes	18
Advanced Driver Assistance Systems	18
Rear vision of heavy goods vehicles	19
Compulsory fitment of rear under-run devices on tipper lorries	20
Safety of Ultra-Low Emissions Vehicles	20

Questions	20
6. Changes to end-of-series derogations	21
Proposed changes to <i>End of Series</i> derogation procedures for new emissions standards (WLTP and RDE)	21
Questions	22
7. Other administrative changes	23
Implementing the latest NSSTA limits	23
Updating to the latest version of 2007/46	24
Trailer entry into service	24
Very low volume vehicles	25
Replacement rather than duplicate certificate	25
Revision to DVSA IVA manuals	25
Questions	25
8. EU Exit	26
Introduction	26
Considerations	26
Questions	26
9. What will happen next	28
Annex A: Impact assessment	29
Annex B: Full list of Consultation Questions	31
Annex C: Indicative Draft Statutory Instrument	34
Annex D: Consultation principles	36
Annex E: List of those notified of the consultation	37

# Foreword

Modern road vehicles are increasingly safe and environmentally friendly, governed by stringent regulations which respond to by the demands of the travelling public and which capture the benefits of investment by manufacturers in improved technology.

Given the recent VW Dieselgate scandal and the strong imperative to improve air quality as set out in the UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations, we are investigating what more can be done. This consultation seeks your views on new penalties for vehicle manufacturers supplying vehicles fitted with defeat devices, and our proposals to implement various safety and environmental rules, including the latest EU Emissions standards for cars, vans and buses.

The VW scandal has shown the need for stringent penalties for manufacturers fitting devices to circumvent the regulatory tests, to provide a sufficient deterrent in the future.

Standards on vehicle engines (known as “Euro Standards”), which should have led to major reductions in emissions of nitrogen dioxide (NO<sub>2</sub>) from vehicles, have failed to deliver, particularly for diesel vehicles. The UK led the way in Europe in pushing for tough new type approval standards for cars and vans, including the ‘real world’ driving emissions tests that start to take effect from September this year, alongside tougher laboratory tests.

Our proposals cover the introduction of these new standards, as well as the similarly stringent Euro 6 standards for buses and new safety standards for HGVs, for vehicles built in low volumes.

The tougher laboratory test should improve the accuracy of the fuel economy figures quoted by manufactures for comparison purposes and we are proposing that all car manufacturers shift to using the new testing results in publicity and labels from 1 January 2019.

On 23 June 2016, the United Kingdom referendum on European Union (EU) membership took place and the people of the UK voted to leave the EU. Until exit negotiations are concluded, the UK remains a full member of the EU and all the rights and obligations of membership remain in force. During this period the Government will continue to negotiate, implement and apply EU legislation. The outcome of these negotiations will determine what arrangements apply in relation to EU legislation in future once the UK has left the EU.

# Executive summary

## Introduction

- 1 New road vehicles, in other words cars, buses, trucks and their trailers, are required to prove compliance with various government-specified safety and environmental standards before they can be sold for the first time. This is known as *type approval*.
- 2 The recent VW Dieselgate scandal has led to suggestions that stringent penalties should be in place for supplying a vehicle with a device designed to circumvent regulatory testing (a "*defeat device*").
- 3 Vehicle standards are constantly being developed, to benefit road safety, improve air quality and reduce carbon emissions relevant to climate change. In recent years, more stringent Euro VI (Heavy duty) and Euro 6 (light duty) emissions standards have entered into force. These are already applicable for newly designed vehicles produced in large volumes.

## New penalties for supplying a vehicle with a Defeat device

- 4 There are already stringent penalties for manufacturers committing misconduct during the type approval process.
- 5 We intend to create a new offence of **supplying** (to include registering or placing on the market) **a vehicle using a defeat device**, or other similar functionality, **to deliberately circumvent type approval regulations**, irrespective of which national authority is used to obtain type approval. Our intention is to make such an offence applicable to any, and all, elements of the supply chain - the manufacturer, importer or dealer/ distributor. The consumer would not be subject to penalty for purchasing such a vehicle or selling it as a second-hand vehicle.

## Changes to fuel economy information for consumers

- 6 A new more representative laboratory cycle for Light duty vehicles (known as **WLTP: World Light-duty Test Procedure**) has been introduced and is being rolled out over the next year. The WLTP laboratory cycle should reduce the gap between real world and laboratory fuel consumption figures, while recognising that fuel economy also depends on an individual's driving style and the driving conditions. Official fuel consumption figures are required to be displayed in new car dealerships and in promotional material, including car adverts and brochures.
- 7 We are proposing all manufacturers change over to the new *WLTP fuel consumption figures* in their promotional material and advertising for all vehicles on the same date, 1 January 2019.
- 8 We are proposing that the change-over to *WLTP specific CO<sub>2</sub> emissions* should take

place from 6 April 2020. This will align with the use of the new CO<sub>2</sub> figures for VED and company car taxation purposes.

## Changes to vehicle approval

- 9 The Road Vehicle Approval Regulations 2009 set the requirements for the approval of new road vehicles in the UK, in line with EU type approval framework Directive 2007/46/EC. Mass produced vehicles are required to meet detailed EU type approval rules, which include compulsory international regulations, whilst UK national approval schemes are operated by DfT Agencies, catering for specialised vehicles built or imported in small quantities or substantially modified from mass produced vehicles.
- 10 A small number of EU and international regulations have entered into force recently, and we are now proposing to introduce them in national approval schemes. These include important rules on Emissions, such as more stringent emissions standards for Heavy duty vehicles (**Euro VI**) and a new more representative laboratory cycle for Light duty vehicles (known as **WLTP: World Light-duty Test Procedure**). These also include new rules in Safety, such as the introduction of Advanced Driver Assistance Systems for lorries and long distance coaches, safety standards for Ultra Low Emission Vehicles (ULEVs) and improved mirrors on lorries.
- 11 Alongside this we propose to implement relaxations on the production volumes of vehicles over 4m in height, which will relieve administrative burdens on a number of heavy trailer, double decker bus and lorry manufacturers, and require large trailers subject to annual testing from May 2018 to be notified to DVSA prior to entry in service.

## EU Exit

- 12 We are requesting views on how the field of vehicle regulations should look after the UK exits the EU, and how to manage the transition.

## Next steps

- 13 We would like to hear comments on our proposals and have included a number of questions for consultees to answer in Chapter 9. Any relevant data from consultees on the costs of compliance with any of the proposals would be welcome.
- 14 We plan to introduce the draft Statutory Instrument shown at Annex A, with any necessary changes following consultation, during April 2018.
- 15 Regarding the proposal for a general duty to operate motor vehicles without harming the environment, the next steps may include the introduction of new or revised regulations or simply increased enforcement of existing regulation.

# How to respond

The consultation period begins on Friday 2 February 2018 and runs until Friday 2 March 2018. Please ensure that your response reaches us before the closing date. If you would like further copies of this consultation document, it can be found at <https://www.gov.uk/dft#consultations> or you can contact us using the details below if you need alternative formats (Braille, audio CD, etc.).

Please send consultation responses to:

Robert Lloyd-Smith

Zone 1/33, Great Minster House

33 Horseferry Road

LONDON SW1P 4DR

Email to: [ivs.consult@dft.gsi.gov.uk](mailto:ivs.consult@dft.gsi.gov.uk)

When responding, please state whether you are responding as an individual or representing the views of an organisation. If responding on behalf of a larger organisation, please make it clear who the organisation represents and, where applicable, how the views of members were assembled.

A list of the main representative bodies consulted is attached at Annex E. If you have any suggestions of others who may wish to be involved in this process please contact us.

## Freedom of Information

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the Freedom of Information Act 2000 (FOIA) or the Environmental Information Regulations 2004.

If you want information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.

In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

The Department will process your personal data in accordance with the Data Protection Act (DPA) and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties.

# 1. Background

## Introduction

- 1.1 Road vehicles are subject to stringent safety, environment and security regulation when new. Throughout the life of a vehicle, users and repairers are obliged to keep a vehicle in a safe roadworthy condition, some aspects of which are checked at the annual "MOT" test.

## Type approval

- 1.2 New road vehicles, in other words cars, buses, goods vehicles and their trailers, are required to meet various government-specified safety and environmental standards before they can be sold for the first time, a process known as *type approval*. These are a mixture of EU standards and international standards from the United Nations Economic Commission for Europe (UN-ECE), which are applied by domestic regulations. These standards are constantly being developed, to ensure that society continues to benefit from technological advances, in particular through improvements in road safety, improvements in air quality and reductions in carbon emissions that are relevant to climate change.
- 1.3 In the UK, the Vehicle Certification Agency (VCA) is the government agency responsible for granting *type approval*, although approvals to EU rules from other national authorities are also valid. VCA will test pre-production examples of new vehicles against prescribed standards and where all the tests are passed and the manufacturer provides satisfactory evidence that production will be controlled to a high standard, they will grant type approval. Modifications made to the product by the manufacturer have to be notified to the type approval authority who will conduct further testing as appropriate to ensure continued compliance.
- 1.4 In respect of cars produced by the major car, truck and bus manufacturers, the domestic regulations simply apply the EU Whole Vehicle Type Approval (EU WVTa) scheme as it is set out in EU law, with no need for elaborating the detailed specifications in domestic law.
- 1.5 UK national approval schemes are operated by DfT Agencies, catering for specialised vehicles built or imported in small quantities or substantially modified from mass produced vehicles. National Small Series Type Approval (NSSTA) is operated by VCA whilst Individual Vehicle Approval (IVA) is operated largely by the Driver and Vehicle Standards Agency (DVSA), either through their network of test sites or in privately operated test facilities, with VCA also able to offer IVAs to their existing customer base. In Northern Ireland the Driver and Vehicle Agency (DVA) carry out all IVA testing.
- 1.6 Motor vehicles are subject to registration with Driver and Vehicle Licensing Agency (DVLA). A condition of registration is that the correct type approval is in place.

- 1.7 Large goods-carrying trailers subject to annual roadworthiness testing have a process similar to registration, known as Consent. The trailer manufacturer is required to supply evidence of type approval to DVSA prior to supply to the end-user.

### **Vehicle in use**

- 1.8 Various regulations govern vehicles once they have been registered and entered into service, such as the Road Vehicles (Construction and Use) Regulations 1986 (C&U), and the Road Vehicle Lighting Regulations 1989, both as amended. These prevent drivers making specific modifications to vehicles that would harm safety or the environment.
- 1.9 As well as specific requirements around various detailed aspects of vehicle construction ranging from keeping the lamps working to keeping windscreen wipers in good working order, there is a general duty to use a vehicle in a safe condition, with a properly secured load and passengers.
- 1.10 On the emissions side, there are specific requirements about minimising noise, a prohibition on leaving a parked vehicle idling (C&U 98), and making it an offence to use a vehicle which no longer complies with emissions standards (C&U 61A, 61B).

## 2. Proposed new offence of supplying new vehicles fitted with a *defeat device*

- 2.1 The recent VW Dieselgate scandal has led to suggestions that stringent penalties should be in place for supplying a vehicle with a special hardware or computer software (a cheat device or "*defeat device*") designed to circumvent the compulsory regulatory testing on emissions or another subject.
- 2.2 There are penalties for manufacturers committing misconduct during the type approval process. This includes fines for **making false statements** and **withholding relevant information**. Where manufacturers are required to declare that no defeat device is fitted, a scenario where a defeat device was later found to be present would lead to the application of a fine.
- 2.3 We intend to create a new civil and/or criminal offence of **supplying** (to include registering or placing on the market) a vehicle **fitted with a defeat device**, or other similar functionality, that has the aim of deliberately circumventing type approval regulations. This would be irrespective of which national authority is used to obtain type approval. Our intention is to make such an offence applicable to any, and all, elements of the supply chain - the manufacturer, importer or dealer/ distributor. The consumer would not be subject to penalty for purchasing such a vehicle or selling it as a second-hand vehicle.
- 2.4 We are requesting comments on this proposal, whether the offence should be civil or criminal, and the potential level of fine. In due course and subject to the responses received, we would intend to make regulations to create this offence and suitable penalties.

### Questions

- 1 Do you agree with our proposal to make supply of a vehicle fitted with a defeat device an offence?
- 2 Do you agree that the offence should be such that manufacturer, importer or dealer could be found guilty of this?

# 3. Proposals around provision of consumer information on fuel consumption

## Current regulations

- 3.1 At present, as part of the vehicle type approval system, manufacturers are required to test virtually all vehicles on a standardised laboratory test cycle in order to obtain figures for fuel consumption and the associated specific CO<sub>2</sub> emissions.
- 3.2 The current test cycle is known as the New European Drive Cycle (NEDC) and has been used since 1992. It is a standardised cycle designed to allow comparisons between different vehicles. It is not intended to be an accurate prediction of the fuel consumption that different users will experience, as this will depend on a range of factors including driving style, driving conditions (rural or urban), vehicle load (passengers/luggage), presence and behaviour of other traffic, topography (hills or flat areas) and weather conditions, as well as the state of repair of the vehicle.
- 3.3 The specific CO<sub>2</sub> emissions of a vehicle is derived from the same testing process and is relevant for First Year Vehicle Excise Duty (VED) and company car taxation.
- 3.4 Manufacturers are required to provide consumers with standardised information on fuel consumption and CO<sub>2</sub> emissions in a number of ways. The most prominent is the label in car dealers at the point of sale, similar to labels on consumer appliances like fridges showing certain aspects of their environmental impact. More information is available here: <http://www.dft.gov.uk/vca/fcb/fuel-consumption-labelling.asp>
- 3.5 Manufacturers are also required to have posters in dealerships showing the fuel economy of the range of vehicles sold there, and any promotional literature (such as brochures) is required to show fuel economy. Government publishes an annual fuel economy guide and maintains a website containing the fuel consumption figures for all vehicles on sale, which also contains figures for air quality related emissions (such as NO<sub>x</sub>) obtained on the regulatory cycle: <http://www.dft.gov.uk/vca/fcb/new-car-fuel-consump.asp>

## New WLTP cycle

- 3.6 A new World harmonised Light-duty Test Procedure (WLTP) has recently been agreed, as Global Technical Regulation (GTR) 15, and incorporated in EU law as EU Regulation 1151/2017. This will replace the current NEDC test procedure for establishing the official Fuel Consumption and CO<sub>2</sub> emissions of new cars.

- 3.7 The new testing regime aims to provide a closer representation of ‘real-world’ fuel consumption and CO<sub>2</sub> figures and provide more accurate vehicle-specific values, given that within a specific model range, a range of different results can be obtained depending on body style, engine size and power, and whether optional equipment is fitted. More details are given here:  
<http://www.dft.gov.uk/vca/fcb/wltp.asp>
- 3.8 Testing under the new WLTP cycle is now compulsory for newly designed car models, and will become compulsory from 1 September 2018 for virtually all new car registrations.
- 3.9 Most vehicles will continue to be allocated an NEDC fuel consumption figure which may be derived by computer simulation rather than tested, as well as a WLTP figure, until 2021, for the purposes of CO<sub>2</sub> fleet monitoring. This leads to the possibility of confusion for the public, in both fuel consumption and taxation.
- 3.10 There needs to be a transition from NEDC to WLTP derived figures for both fuel consumption and CO<sub>2</sub> emissions. This consultation seeks views on the best way to manage the transition from NEDC to WLTP.

### Fuel consumption changeover

- 3.11 We are proposing to require manufacturers to change all of their published information on **Fuel Consumption** from NEDC to WLTP on **1 January 2019**. This will not apply to vehicles without WLTP testing figures, for example manufacturers selling off limited quantities of old stock tested only to NEDC.
- 3.12 The WLTP fuel consumption figures will have to be used for fuel efficiency labels and posters in dealers, and advertising in print publications and on billboards. All consumer information, including government and third party publications should also use these official figures from this date. The point of sale label will provide official figures for the exact model on display. Posters and promotional literature will provide the range in fuel efficiency across the model range, as defined in government guidance. Manufacturers and dealerships are likely to have the capability to provide specific data on individual variants.
- 3.13 If NEDC fuel consumption figures are provided for comparison the provider should ensure that this is clearly marked as such.
- 3.14 We believe that this approach of figures for all manufacturers and vehicles changing on the same day will minimise (although not eliminate) confusion for consumers and will also be easier for vehicle manufacturers and dealers to handle. But we are seeking views from all interested parties to help determine the best policy.

### Specific CO<sub>2</sub> emissions changeover

- 3.15 We are proposing to require manufacturers to change all of their published information on the **Specific CO<sub>2</sub> emissions** from NEDC to WLTP on **6 April 2020**. This will not apply to vehicles without WLTP testing figures, although there will be very few of these by this date. All consumer information including government and third party publications should also use these official figures from this date.
- 3.16 The CO<sub>2</sub> figure is used to determine First Year Vehicle Excise Duty (VED) and company car (Benefit in Kind) taxation. The Treasury announced in the recent

2017 Budget that from 6 April 2020, the basis for calculating these taxes will change to the CO<sub>2</sub> figure derived from the WLTP cycle. That being the case, we would propose that the consumer-facing CO<sub>2</sub> figure provided alongside fuel consumption information on labels or posters should change to WLTP on the same day, although of course both sets of information will be available to those who need them on manufacturers' websites. If WLTP figures are provided for comparison before this proposed date, or NEDC after this date, the provider should ensure that they are clearly marked as such.

## Questions

- 3 Do you agree with our proposal that published *Official Fuel Consumption* information for virtually all manufacturers and vehicles should change to that obtained from the new WLTP testing, with effect from 1 January 2019?
- 4 Do you agree with our proposal that published *Specific CO<sub>2</sub> emissions* information for virtually all manufacturers and vehicles should change to that obtained from the new WLTP testing, with effect from 6 April 2020?

## 4. Proposed changes to emissions standards for new vehicles using national schemes

### Introduction

- 4.1 As noted above, cars produced by the major car, truck and bus manufacturers, are normally subject to the EU Whole Vehicle Type Approval (EU WVTA) scheme, which ensures compliance with the latest standards.
- 4.2 UK national approval schemes are operated by DfT Agencies, catering for specialised vehicles built or imported in small quantities or substantially modified from mass produced vehicles. These include the same standards as apply to mass produced vehicles, but sometimes with modifications or delay to introduction, in order to provide a proportionate route to compliance for the small and medium sized enterprises involved in the construction of these vehicles. In many cases these vehicles perform an essential function, for example Wheelchair Accessible Vehicles providing vital mobility for those persons who are confined to wheelchairs.

### Heavy Duty emissions standards

- 4.3 Currently we are aware that a small number of buses are still being registered under NSSTA or IVA with old-type Euro V engines. What was intended as a transitional measure to help smaller manufacturers avoid a cliff-edge demand scenario upon the introduction of Euro VI has continue to be used routinely. We are proposing to require all buses and trucks whose manufacture is completed after 1 July 2018 to be compliant with Euro VI.

### Light Duty emissions standards

- 4.4 As described at paragraph 4.6 above, a new World Harmonised Light duty test Procedure (WLTP) has recently been introduced. This laboratory test will be used to measure the regulated pollutants that contribute to air quality, such as Nitrogen Dioxide and Carbon Monoxide, in addition to measuring fuel consumption/CO<sub>2</sub>.
- 4.5 We are proposing to apply the new WLTP cycle for vehicles approved via NSSTA with effect for vehicles whose manufacture is completed on or after 1 **September** 2018.
- 4.6 We are proposing to apply the new WLTP cycle for vehicles approved via IVA with effect for vehicles whose manufacture is completed on or after 1 **July** 2018.

This earlier (than NSSTA) date for IVA is to encourage manufacturers to transition to the new cycle as soon as possible.

### Multi-stage build

- 4.7 Where a vehicle converter is in possession of an incomplete vehicle or chassis built prior to 1 September 2018 (or 1 July 2018 in the case of IVA) and issued by the manufacturer with an Emissions approval and an Incomplete or Complete Certificate of Conformity, the converter will be permitted to carry out a conversion or addition of bodywork after that date without having to upgrade the engine to WLTP, as this would be prohibitively expensive, as long as he maintains the existing emissions control system in good working order.
- 4.8 More generally, we are proposing that where a converter modifies a mass-produced vehicle which complies with WLTP, he will in principle be required to retain WLTP compliance by maintaining the emissions control system in good working order. Increases in unladen weight due to additional bodywork, for example, and modifications to the frontal area of a vehicle or changes to aerodynamics will be permitted.
- 4.9 We are also proposing that where a converter changes a vehicle category, for example a van converted to a minibus, the compliance required will be that applicable to the base vehicle on the date of its completion and prior to the conversion, because to require anything else would be disproportionately costly for the SMEs involved in such conversions.

### Kit cars

- 4.10 Kit cars and reconstructed classic cars undergoing IVA will not be required to meet WLTP, given that at present they are not required to meet NEDC or the latest EU standards. Instead they are tested to age-appropriate MOT standards, on the basis of the date of manufacture or first use of the engine.
- 4.11 We are proposing that for kit cars, compliance with the MOT emissions standards current at the date of registration will be required, despite the use of an older engine. In other words the current relaxation for emissions according to the age of the engine will no longer apply.
- 4.12 Reconstructed (restored) classic cars undergoing IVA will not be required to meet the latest MOT standards, as long as the appearance of the vehicle is broadly unchanged and the engine is of the same capacity as that supplied with the vehicle when it was new.
- 4.13 When new vehicles were first required to be fitted with catalytic converters around 1992 (Euro 1 emissions standard), kit car makers typically used older engines which were not fitted with catalytic converters, hence the justification for age-appropriate testing of emissions based on date of engine manufacture or first use. The majority of the fleet is now vehicles up to 25 years old whose engines are fitted with catalytic converters, providing plenty of choice to the kit car builder.

### Innovative technologies

- 4.14 Two innovative technologies have been brought to the Department's attention, these are *Hydrogen dual-fuel* and *Heavy duty vehicle Range Extenders*.

Currently these technologies are not permitted in European regulations, essentially because objective test methods have not yet been agreed. But they may have potential to de-carbonise and/or assist air quality and are currently entering the market as modifications to vehicles already registered.

- 4.15 The Department is requesting comments on our proposal to allow these to be approved under National approval schemes (IVA/ NSSTA) as follows:

### Hydrogen dual fuel

- 4.16 This is the use of hydrogen mixed with a small amount of diesel as fuel, or pure diesel when hydrogen is not available. This would be allowed on the proviso that regulated emissions testing (WLTP in case of light duty vehicles) is done with the extreme range of mixtures possible. The CO<sub>2</sub> rating of the vehicle in question may need to be allocated on a conservative basis, given that the actual proportion of hydrogen used in practice is unknown.

### Heavy duty range extenders

- 4.17 Currently only a heavy duty engine is accepted in a heavy duty vehicle (e.g. 7.5 tonne lorry), which is unnecessary, as in a hybrid configuration a light duty engine could supply sufficient power for this application - charging a battery which then powers the electric motor. Where an engine is used which has been fitted in an approved light duty vehicle, this engine will be assessed or tested in the HD vehicle on the basis of a suitable standard or modified standard. Comments are requested on whether Global Technical Regulation No. 4 (World Heavy Duty test Cycle, WHDC) or SAE J2711 (as used by CARB) provide an appropriate basis.

## Questions

- 5 Do you agree with the introduction of Euro 6 (Heavy duty) emissions standards for buses and trucks, in NSSTA/IVA?
- 6 Do you support the proposed introduction date of 3 months after the Regulations are signed (this is expected to result in a build date shortly after **1 July 2018**)?
- 7 Do you agree with the introduction of WLTP in NSSTA, for light vehicles built after 1 September 2018?
- 8 Do you agree with the introduction of WLTP in IVA, for light vehicles built after 1 July 2018?
- 9 Are you content with our proposals to cater for converters engaged in multi-stage build, in terms of permitting an increase in reference mass or frontal area, on condition that emissions control devices are not removed?
- 10 Are you content with our proposal to require kit cars to meet the latest MOT standards, removing the current rule where vehicles are tested to MOT standards according to the age of their engine?
- 11 Do you have any comments on our proposals to permit a) *dual fuel* hydrogen/diesel and b) heavy duty vehicles with *range extender* engines taken from light duty vehicles, and in particular do you have any suggestions for suitable test standards?

## 5. Proposed changes to safety standards for new vehicles using national schemes

### Advanced Driver Assistance Systems

- 5.1 Since 1 November 2014, new heavy trucks and coaches above 8 tonnes are required to be approved to international (EU or UNECE) standards on Lane Departure Warning Systems (LDWS) and Advanced Emergency Braking Systems (AEBS). Most vehicles submitted for domestic approval will have these systems fitted, but there is a risk that in a small number of cases, they may not be fitted or that bodybuilders or converters may, perhaps inadvertently, disable these systems.
- 5.2 The LDWS and AEBS systems currently required by regulation on heavy vehicles are designed to improve safety on high speed multi-lane dual carriageways, to warn drivers when their vehicle is drifting out of lane (LDWS) or to avert high speed incidents with slow or stationary queues of traffic (AEBS). There are already exemptions for vehicles where fitment is infeasible due to fitment of special equipment (Special Purpose Vehicles) or of no benefit due to the vehicle's duty cycle being predominantly urban: these systems are not required to function in low speed environments. Work is currently taking place on developing international test specifications for urban systems.

### Our proposal

- 5.3 We are proposing to require fitment of LDWS and AEBS systems that meet the technical requirements of international regulations to in-scope vehicles, but with a suitable delay to enable smaller companies to make plans to ensure that systems fitted by the chassis manufacturer still function.

### Phases 1 and 2 of AEBS

- 5.4 Under EU Regulation 347/2012, AEBS is subject to a two phase introduction. The first phase was applicable to certain EU approved vehicles from 1 November 2015, see table below. The second phase brings more categories and classes of vehicle into scope based on laden (gross) weight, rear suspension type and braking type. For EU approved vehicles this applies from 1 November 2018. In addition the requirements for vehicles in scope of phase 1, become more stringent under phase 2.
- 5.5 In the domestic regulations we are proposing to apply Phase 1 from **1 November 2018** and phase 2 from **1 November 2020**. We will of course accept vehicles meeting the requirements of either of the phases "early".

## AEBS and LDWS applicability and exemptions

- 5.6 The table below shows applicability of AEBS during phase 1 and 2 to various types of vehicle, applicability of LDWS which is the same as AEBS Phase 2, as well as listing types of vehicle which are exempt from both AEBS (phases 1 and 2) and LDWS.
- 5.7 We are requesting comments on whether these exemptions are appropriate, and sufficient, to maximise safety benefits while avoiding disproportionate burden on SMEs. Many of them are taken from the relevant EU regulations.

**Table 1: AEBS and LDWS exemptions**

vehicle category	in scope for AEBS phase 1	in scope for AEBS phase 2 and LDWS	completely exempt, AEBS and LDWS
goods vehicles (N2/N3 category)	2 and 3 axle <b>rigid trucks</b> over 8 tonnes laden (gross) weight, with air brakes <u>and</u> rear air suspension  2 and 3 axle <b>tractor units</b> over 8 tonnes laden (gross) weight, with air brakes <u>and</u> rear air suspension	2 and 3 axle <b>rigid trucks</b> over 3.5 tonnes laden (gross) weight, regardless of braking and suspension type.  2 and 3 axle <b>tractor units</b> over 8 tonnes laden (gross) weight, regardless of braking and suspension type.	4 or more axle <b>rigid trucks</b> and <b>tractor units</b>  2 and 3 axle <b>tractor units</b> not exceeding 8 tonnes  special purpose vehicles off-road vehicles  vehicle produced by a manufacturer of less than 1000 chassis per year
buses (M2/M3 category)	buses over 8 tonnes laden (gross) weight with no standing spaces (Classes B and III, i.e. coaches) with air brakes <u>and</u> rear air suspension	buses and minibuses over 3.5 tonnes laden (gross) weight with no standing spaces, regardless of braking and suspension type	buses designated to carry one or more standing passengers (Classes A, I and II)  special purpose vehicles off-road vehicles  minibus built in 2 or more stages based on car (M1) or van (N1) chassis  vehicle produced by a manufacturer of less than 1000 chassis per year

Note to table: use of the term "**air brakes**" in the table includes vehicles with *air-over-hydraulic* braking systems

## Rear vision of heavy goods vehicles

- 5.8 International regulations (UNECE R46) on Mirrors were recently updated, at UK initiative, to widen the field of view on the passenger side of heavy goods vehicles and further reduce blind spots affecting vulnerable road users such as cyclists and pedestrians. This has been implemented in the EU with effect from 1 July 2016 for all new registrations following our urging. Although we would

anticipate that heavy goods vehicles submitted for approval under domestic schemes would have the new mirrors fitted, it is currently not obligatory.

- 5.9 We are requesting comments on our proposal to require fitment of the new mirrors to heavy goods vehicles to which the UNECE regulation applies that were built after 1 July 2018.

## Compulsory fitment of rear under-run devices on tipper lorries

- 5.10 UNECE Regulation 58 on rear under-run protection devices (RUPD) provides exemption for vehicles where fitment of under-run is incompatible with the vehicle's use on roads. Given experience with type approval where these devices are in principle compulsory on tippers and are routinely fitted, IVA is being updated to clarify that these items are compulsory on such vehicles, unless it is technically impossible to fit even a folding device due to equipment mounted at the rear of a vehicle.

## Safety of Ultra-Low Emissions Vehicles

- 5.11 Electric vehicle sales are increasing rapidly so it seems appropriate to ensure that those built in low volumes are as safe as those built and approved by the major manufacturers. UNECE Regulation 100 covers a range of electric safety issues, for example ensuring that the unwary are unlikely to electrocute themselves while poking around under a car bonnet. This Regulation is compulsory for EU type approved vehicles so we are proposing to introduce this for NSSTA and IVA, at the ECE R100.01 level.
- 5.12 Hydrogen vehicles are now capable of obtaining EU type approval and at least two major manufacturers have achieved this. In view of this, the need to obtain a special permit (*Vehicle Special Order*) was recently removed for hydrogen vehicles that are approved to the relevant EU or UNECE Regulation. These regulations cover the safety of the high pressure tank and fuelling systems. It therefore seems timely to ensure that these regulations on safety of hydrogen fuelling systems are incorporated into the NSSTA and IVA schemes, as presently they are enforced via the VSO permit scheme.

## Questions

- 12 Do you agree with our proposal to require AEBS and LDWS on certain HGV and minibuses/coaches?
- 13 Do you agree with the proposed exemptions for AEBS/LDWS?
- 14 Do you agree with our proposals for more stringent rules on HGV Mirrors and rear under-run?
- 15 Do you agree with our proposals for introducing EU and UNECE Regulations on safety of Electric vehicles and Hydrogen fuelled vehicles?

# 6. Changes to end-of-series derogations

## Proposed changes to *End of Series* derogation procedures for new emissions standards (WLTP and RDE)

### Background

- 6.1 For various reasons, vehicle manufacturers may have unsold stock of vehicles when a new regulation takes effect. This may be due to an unexpected slump in sales due to wider economic issues, or incorrectly predicting the mix of demand, for example vehicles in an unpopular colour or trim level may be unexpectedly slow to sell.
- 6.2 The sale and registration of unsold stock of vehicles made to previous standards is normally managed via an established scheme set out in EU regulations, known as End of Series derogations. There are two possible schemes for member states to choose from and currently the UK operates the "*three month rule*" for cars, goods vehicles, buses and their trailers. The Vehicle Certification Agency (VCA) process the applications from manufacturers and importers. In the past, all European countries have routinely allowed vehicle manufacturers to apply for End of Series derogations.

### Current eligibility criteria in the UK

- 6.3 For cars, buses and goods vehicles, manufacturers can apply for derogations for vehicles built more than three months prior to the regulations changeover date. (For example, built before 1 June 2018 in this case where the new regulation applies on 1 September 2018). Vehicles built less than three months prior to a new regulation taking effect are NOT eligible for derogations. This is to encourage manufacturers to change their production lines at least 3 months prior to a new regulation taking effect.

### Proposals for World Light vehicle Test Procedure (WLTP) and Real Driving Emissions (RDE) *Particle Number (PN)* derogations in September 2018

- 6.4 The details of two new emissions tests (the WLTP and real world tests for particulate emissions, known as RDE PN) were only published by the EU in July 2017, leaving some manufacturers with insufficient time to adjust production plans. In recognition of this, manufacturers will be able to apply to place a strictly limited number of already produced vehicles on the market after the requirement for these tests has come into force.
- 6.5 We want to ensure that as many new vehicles as possible are fully compliant with new emissions requirements from the deadline, and to discourage manufacturers from using End of Series derogations going forward. We are proposing that additional restrictions apply to manufacturers, on top of the three month rule.
- 6.6 Manufacturers will be required to submit an application setting out justifiable technical or economic reasons for not being able to comply with the

implementation deadlines of the new requirements. If there is a clear justification, the manufacturer will be granted permission to sell a limited quantity of end-of-series vehicles built prior to 1 June 2018, which must be registered within 12 months.

- 6.7 We are proposing that when manufacturers apply to VCA for derogations for vehicles built more than 3 months prior to the WLTP and RDE PN rules taking effect in September 2018, in other words vehicles built prior to 1 June 2018, the **maximum** number of vehicles for which derogations can be granted will be the greater of: a) 10% of that manufacturers sales in 2017, b) 2000 vehicles.

### Publication of derogation requests

- 6.8 We are proposing that the VCA publish a list of manufacturers applying for derogations and the quantity that they have applied for (on these topics). This is to ensure that the process is transparent and discourage the use of derogations as part of normal business practice.

### Proposals for RDE NOx derogations in September 2019

- 6.9 Under the new RDE regulations, vehicle manufacturers will be required to ensure that real world emissions of NOx for new vehicles are increasingly aligned with laboratory testing limits, improving consumer confidence and delivering real improvements for air quality. It should not be assumed that derogations for the introduction of RDE NOx requirements will be allowed. Government expects manufacturers to bring forward production plans to comply with RDE NOx requirements as early as possible and to meet these new requirements without further derogations going forward.

### Other subjects

- 6.10 No changes are being proposed to the normal End of Series derogation rules for other subjects, for example safety related subjects.

## Questions

- 16 Do you agree with our proposed limited end-of-series derogations procedure for vehicles not complying with the World Light Duty Test Procedure (WLTP) and/or Real Driving Emissions Particle Number (RDE PN), for registrations after 1 September 2018?
- 17 *(If you answered no to Q15)* How do you think we can most effectively ensure that as many new vehicles as possible are compliant with the new emissions requirements from the deadline?
- 18 Are you content for VCA to publish a list of manufacturers and the number of derogations that they have applied for?
- 19 *(if you answered no to Q17)* What are your concerns? Can you propose alternative ways of ensuring the process is transparent?

## 7. Other administrative changes

### Implementing the latest NSSTA limits

#### Background

- 7.1 National Small Series Type Approval is a type approval scheme with limits placed upon the numbers of vehicles per *type of vehicle*, per year. The maximum limits are specified in Annex XII to Directive 2007/46/EC. Member states are free to set lower limits in legislation if they wish.
- 7.2 An amendment to Directive 2007/46 has raised the maximum NSSTA limits for types of vehicle with a height exceeding 4m, to cater for the fact that such vehicles are currently not permitted to obtain ECWVA but are common in several member states, including the UK.
- 7.3 The maximum limit for M1 vehicles (cars) was raised from 75 to 100 by another amendment to 2007/46/EC.
- 7.4 Both of the above mean that we can regulate to increase the UK limits accordingly, if we wish to.

#### Proposal

- 7.5 We are proposing to utilise to the full, the increased limits for M1 vehicles and for vehicle types which consist entirely of vehicles which exceed 4m in height. The current and proposed limits are shown in the table below:

Category	Calendar year 2017	Calendar year 2018 – <i>as things stand</i>	Calendar year 2018 - <i>if regulations amended in line with proposal</i> [figure for vehicles over 4m high]
<b>M1</b>	75	75	<b>100</b>
<b>M2 M3</b>	250	250	250 <b>[1000]</b>
<b>N1</b>	<b>250*</b>	<b>250*</b>	250
<b>N2 N3</b>	250	250	250 <b>[1200]</b>
<b>O1 O2</b>	500	500	500
<b>O3 O4</b>	250	250	250 <b>[2000]</b>

\* Although the regulations state 500, this is over-ridden by EU Regulation 1229/2012 which has limited this to 250 since late 2016.

## Updating to the latest version of 2007/46

### Background

- 7.6 A number of changes have been made to the Annexes of 2007/46 since it was introduced in 2007. We are proposing to refer to the latest version in the new regulations, which will have the effect of updating various administrative provisions, principally those set out below. We are not proposing to update technical requirements other than those set out elsewhere in this document. It is also the case that due to EU requirements now being almost exclusively specified in EU Regulations, the IVA and NSSTA schemes automatically accept a vehicle which has approval to any level of UNECE or EU Regulation which is newer than the level specified in the Road Vehicle Approval Regulations.

### Definition of *type* for NSSTA

- 7.7 The EU definition of *type* was amended in 2011. We propose to align NSSTA with this, but with an additional provision confirming that second stage manufacturers may, subject to the agreement of VCA, include in a given type vehicles that are based on the chassis of at least two different types.

### Categorisation as car or van under IVA

- 7.8 There are understood to be concerns that vehicles most people would class as cars, given that they have 5 seats, windows and an area for passenger luggage, are in a few cases being wrongly categorised as goods vehicles for IVA purposes. There are detailed EU rules on this topic (comparing payload to passenger capacity and setting out minimum area of tailgate). For the purposes of IVA we are aiming to eliminate such anomalies and take a common-sense approach: the detailed rules should only be used in those few cases where the prime function of a vehicle is genuinely hard to determine from its appearance.

## Trailer entry into service

### Changes to exemptions from plating and testing

- 7.9 Currently manufacturers of large goods carrying trailers subject to annual roadworthiness testing are required to notify DVSA before their entry into service, in order for their compliance with type approval to be checked and for the technical data essential for DVSA in conducting an annual test to be collected.
- 7.10 The scope of roadworthiness testing was recently expanded to include a small quantity of trailers previously exempt, such as trailers which are *plant* or *engineering plant*. Once testing commences (May 2018) these trailers may experience delays at the time of annual test as DVSA might not have been sent the necessary technical data.
- 7.11 Therefore we are requesting comments on whether these trailers should also be brought into the scope of Consent, and we required to supply evidence of approval and technical data to DVSA prior to entry into service.

### Trailer exceeding normal width, length or weight limits

- 7.12 Trailers exceeding 12m (or 13.6m in the case of a semi-trailer, kingpin to rear of trailer) are permitted on the road when they are used to carry indivisible loads of normal weight such as yacht masts and porta-cabins. These "C&U" trailers are subject to plating and annual testing if they exceed 3500kg laden (gross) weight.

- 7.13 Trailers which are wider than normal width limits (2.55m) or are permitted to exceed normal weight limits, can be used for transporting abnormal indivisible loads under the Road Vehicles (Authorisation of Special Types)(General) Order 2003, SI No. 1998. These trailers are not listed in Schedule 2 to the 1988 Plating and Testing Regulations and therefore it is our understanding that according to the regulations they are within scope of Consent, even though they are not subject to annual testing (unless they are of standard width and thus *dual-plated* for both normal and heavy loads).
- 7.14 We believe that modular trailers, used in various combinations to carry very long, wide or heavy loads, are included within the scope of Consent, as well as the scope of approval, and DVSA have developed special procedures to ease the IVA process, to avoid unnecessary road travel of these very specialised devices.
- 7.15 By contrast, *self-propelled* modular transporters are outside the scope of approval and Consent if their maximum speed is below 25km/h.

## Very low volume vehicles

- 7.16 We are proposing to amend the definition of *very low volume* vehicles in response to a request from industry. This change will assist manufacturers of such vehicles to expand production by a limited amount.

## Replacement rather than duplicate certificate

- 7.17 Currently the regulations refer to "duplicate" IVA certificates. Due to the introduction of new IT systems in DVSA, it may not be possible to produce an exact duplicate of the original certificate and therefore the proposal is to change the wording in the regulations to "replacement".

## Revision to DVSA IVA manuals

- 7.18 The current IVA Inspection Manuals and assorted guidance, application forms etc. are available online here:  
<https://www.gov.uk/government/collections/individual-vehicle-approval-iva-forms-and-guidance>
- 7.19 DVSA are planning to consult their existing customers on new manual pages taking account of the changes proposed in this consultation. Please sign up at <https://public.govdelivery.com/accounts/UKDVSA/subscriber/new> or contact [ivs.consult@dft.gsi.gov.uk](mailto:ivs.consult@dft.gsi.gov.uk) to be added to DVSA's list of consultees.

## Questions

- 20 Are you content with our proposals on numerical limits for NSSTA?
- 21 Are you content with our proposal on referring to the latest version of Framework Directive 2007/46, as regards administrative provisions governing NSSTA?
- 22 Are you content with our proposal on heavy trailer Consent?
- 23 Do you have any comments on anything else that is in the consultation, or changes that you would like to see made that are not included in the consultation?

# 8. EU Exit

## Introduction

- 8.1 On 23 June 2016, the United Kingdom referendum on European Union (EU) membership took place and the people of the UK voted to leave the EU. Until exit negotiations are concluded, the UK remains a full member of the EU and all the rights and obligations of membership remain in force. During this period the Government will continue to negotiate, implement and apply EU legislation. The outcome of these negotiations will determine what arrangements apply in relation to EU legislation in future once the UK has left the EU.

## Considerations

- 8.2 The European Union (Withdrawal) Bill, when enacted, bring EU law onto the UK statute book. This will include the relevant rules on vehicle standards and the type-approval process. Under powers proposed in the Bill, “deficiencies” (elements of EU law that would not work when brought into UK law) may be corrected by means of statutory instruments. Work is underway to consider how the whole vehicle type-approval process for new road vehicles could work in UK law, and the range of options would be dependent on negotiations. One option would be a parallel UK system under which the UK retail market could continue operating in a seamless way through the transition from EU-based to UK-based regulatory requirements, and for the future beyond EU Exit.
- 8.3 Nevertheless, to provide certainty to vehicle manufacturers, the wider retail motor industry and consumers we may wish to introduce a new provision to allow the Secretary of State to issue type approval certificates on the basis of suitable evidence presented by the manufacturer, where this was deemed appropriate. This new measure would take effect to coincide with the timetable for EU-exit related provisions.
- 8.4 The UK will be continuing as a member of the UN-ECE after EU Exit, which means that approvals to UN-ECE Regulations will continue to be accepted in the UK and in Europe.

## Questions

- 24 **What would you like to see in this area of regulation following Brexit?** Do you have any views on whether the UK should continue to follow this approval scheme after Brexit?
- 25 Would you like to see special measures to minimise disruption and smooth the changeover to the post-Exit situation? Feel free to make suggestions for how the DfT can assist.



## 9. What will happen next

A summary of responses, including the next steps, will be published within three months of the consultation closing on <https://www.gov.uk/dft#consultations>. Paper copies will be available on request.

If you have questions about this consultation please contact the person named on page 8, or email the email account listed on that page.

Further background information can be found at <https://www.gov.uk/vehicle-approval>

## Annex A: Impact assessment

- A.1 When responding to the consultation, please comment on the analysis of costs and benefits, giving supporting evidence wherever possible.
- A.2 Please also suggest any alternative methods for reaching the objective and highlight any possible unintended consequences of the policy, and practical enforcement or implementation issues.
- A.3 In particular, please comment on our estimates for the costs of fitting Euro VI engines rather than Euro V, our assumption that Diesel Emissions Fluid (DEF or "AdBlue") consumption stays broadly the same at Euro VI compared to Euro V, and likewise our assumption that fuel consumption is similar at Euro VI.

<b>Title:</b> Road Vehicle Approval Regulations <b>IA No:</b> DfT 2017/24 <b>RPC Reference No:</b> <a href="#">Click here to enter text.</a> <b>Lead department or agency:</b> DfT <b>Other departments or agencies:</b> DVSA,VCA	<b>Impact Assessment (IA)</b>			
	<b>Date:</b> 01/12/2017			
	<b>Stage:</b> Consultation			
	<b>Source of intervention:</b> EU			
	<b>Type of measure:</b> Secondary legislation			
	<b>Contact for enquiries:</b> Mike Lowe			
<b>Summary: Intervention and Options</b>				<b>RPC Opinion:</b> Not Applicable

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2014 prices)	Business Impact Target Status	
£36.93m	£4.42m	£-0.3m	Non qualifying provision	

**What is the problem under consideration? Why is government intervention necessary?**

This is a package of regulation harmonisation. Domestic approval schemes that apply to low volume specialist vehicles do not reflect the latest regulatory requirements related to safety and emissions under EU legislation. Harmonising these rules would help address negative externalities of emissions and safety.

A number of new regulations on road vehicle emissions and safety have been introduced in recent years but at present do not apply to low volume specialist vehicles which are approved under national approval schemes as opposed to under the EU type approval scheme. Domestic approval schemes are designed for modifications unaffected by these regulations and hence such specialist vehicles may be entering the market without compliance with the latest regulations.

**What are the policy objectives and the intended effects?**

Harmonising regulations will mean that vehicles going through domestic approval schemes will meet the same standards as other vehicles on the market, allowing for consumers to be confident in their purchases. This package will harmonise regulation for domestic approval schemes with respect to;

- Heavy Duty Vehicle Emissions – intends to reduce transport emissions through engine standards
- Light Duty Vehicle Emissions – intends to reduce transport emissions through engine standards
- Vehicles exceeding EU height limits – is a deregulatory measure allowing vehicles to exceed height limits
- Vehicles fuelled by alternative fuels – intends to improve safety by enforcing safety standards
- Advanced driver assistance systems – intends to improve safety by enforcing safety standards
- Mirror regulations – intends to improve safety by enforcing safety standards
- Fuel economy labelling – intends to improve consumer information by displaying vehicle efficiency
- Application for consent for certain large trailers – intends to reduce administrative delays by requiring submission of data to the DVSA
- Create a new offence of supplying a vehicle fitted with a defeat device or other similar functionality.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

a) Do nothing – an estimated 523 new vehicles will enter the fleet with engines that do not meet current standards.  
 b) Non legislative option – industry has been encouraged but that has been unsuccessful.  
 c) Legislative option – preferred as it mirrors the policy in the wider market, and is most effective option.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: N/A

<b>Does implementation go beyond minimum EU requirements?</b>		No		
<b>Are any of these organisations in scope?</b>	Micro Yes	Small Yes	Medium Yes	Large Yes
<b>What is the CO<sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO<sub>2</sub> equivalent)</b>		<b>Traded:</b> 0		<b>Non-traded:</b> 0

*I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.*

**Signed by the responsible Minister:** ..... **Date :** ..... Enter a date

# Summary: Analysis & Evidence

# Policy Option 1

Description: Harmonising legislation for domestic approval schemes.

## FULL ECONOMIC ASSESSMENT

Price Base Year: 2017	PV Base Year: 2018	Time Period Years: 20	Net Benefit (Present Value (PV)) (£m)		
			Low: 15.09	High: 60.51	Best Estimate: 36.93

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.0	0.0	0.4
High	0.0	0.1	2.5
Best Estimate	0.0	0.0	0.7

### Description and scale of key monetised costs by 'main affected groups'

- Business: The costs to business are the marginal cost of a Euro VI engine compared to a Euro V engine, for all affected vehicles.
- Government and agencies: No significant costs as no change to the process of checking vehicle standards.

### Other key non-monetised costs by 'main affected groups'

Implementation costs to government and its agencies.

The costs associated with the non-monetised regulation changes, all deemed to be disproportionate to estimate.

Familiarisation costs have not been included as these measures are mostly harmonising – therefore most vehicle manufacturers are familiar with them from their other operations.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0.0	1.1	17.5
High	0.0	3.8	61.0
Best Estimate	0.0	2.4	37.7

### Description and scale of key monetised benefits by 'main affected groups'

- Business: There are some reduced administrative costs from removing height restrictions.
- Government and agencies: Reduced air pollution as a result of cleaner engines.

### Other key non-monetised benefits by 'main affected groups'

Some potential for reduced toll charges (London and Germany) for businesses. Reduction in complexity for vehicle manufacturers due to eliminating one engine specification from production. Perhaps other air quality benefits (e.g. hydrocarbons) that could come from using more modern engines.

The benefits associated with the other regulation changes, are all deemed to be disproportionate to estimate.

<b>Key assumptions/sensitivities/risks</b>	<b>Discount rate (%)</b>	3.5
--	--------------------------	-----

There is an uncertainty around the numbers of Euro V vehicles that are registered on a yearly basis. Also, around the projections of sales of Euro V vehicles. Uncertainty around the additional cost of a Euro VI. The change in NOx and PM10 emissions from upgrading to higher Euro standard. To limit the impact of these risk sensitivity analysis has been estimated on the additional costs of Euro VI. These uncertainties move in the same direction – if our assumption of vehicles numbers is too high, both costs and benefits would drop proportionally. Similarly if our estimates were too low, costs and benefits would both rise. The ratio of costs to benefits would not change significantly.

## BUSINESS ASSESSMENT (Option 1)

<b>Direct impact on business (Equivalent Annual) £m:</b>	<b>Score for Business Impact Target (qualifying provisions only) £m: Insert</b>	
Costs: 0.0	Benefits: 0.3	Net: 0.3

# 1 Problem under consideration

New road vehicles, in other words cars, buses, goods vehicles and their trailers, are required to meet various government-specified safety and environmental standards before they can be sold for the first time, a process known as *type approval*. These are a mixture of EU standards and international standards from the United Nations Economic Commission for Europe (UN-ECE), which are applied by domestic regulations. These standards are constantly being developed, to ensure that society continues to benefit from technological advances, in particular through improvements in road safety, improvements in air quality and reductions in carbon emissions that are relevant to climate change.

In respect of cars produced by the major car, truck and bus manufacturers, the domestic regulations simply apply the EU Whole Vehicle Type Approval (EU WVTA) scheme as it is set out in EU law, with no need for elaborating the detailed specifications in domestic law.

UK national approval schemes are operated by DfT Agencies, catering for specialised vehicles built or imported in small quantities or substantially modified from mass produced vehicles. National Small Series Type Approval (NSSTA) is operated by VCA whilst Individual Vehicle Approval (IVA) is operated largely by the Driver and Vehicle Standards Agency (DVSA), either through their network of test sites or in privately operated test facilities, with VCA also able to offer IVAs to their existing customer base. In Northern Ireland the Driver and Vehicle Agency (DVA) carry out all IVA testing.

There are a number of areas where the UK national approval schemes IVA and NSSTA have fallen behind the latest European and international rules.

On 23 June 2016, the United Kingdom referendum on European Union (EU) membership took place and the people of the UK voted to leave the EU. Until exit negotiations are concluded, the UK remains a full member of the EU and all the rights and obligations of membership remain in force. During this period the Government will continue to negotiate, implement and apply EU legislation. The outcome of these negotiations will determine what arrangements apply in relation to EU legislation in future once the UK has left the EU.

## 1.1 Heavy Duty Vehicle (HDV) emissions

There is increasing evidence that air quality has an important effect on public health, the economy, and the environment<sup>1</sup>. “Euro VI” EU emissions standards for lorries and buses (Heavy Duty Vehicles) were introduced in 2013, these already include a “real world driving” test, an element which is now being phased in for cars alongside the existing laboratory test, and limit particulate matter (PM) and nitrogen oxides (NOx), which are important contributors to poor air quality. Due to EU rules on air quality we are required to reduce PM and NOx emissions.

The UK domestic approval schemes (IVA and NSSTA) do not require Heavy Duty Vehicles to comply with the EU Euro VI engine emissions requirements. Although the vast majority of trucks coming through the schemes comply with Euro VI around 174 (0.5%) of a total of 33,444 (up to the Q3 2016) are EURO V, and around 306 (11.5%) of buses are EURO V of a total of 2,664 (up to the Q3 in 2016). Some local authorities require new buses to be Euro VI whilst others do not.

## 1.2 Light Duty Vehicle (LDV) emissions

New emissions standards are being introduced for Light duty vehicles, in the form of a new laboratory test (WLTP, World Light-duty Test Procedure), which is compulsory from 1 September 2018. However this is not yet incorporated in the UK domestic approval schemes. This risks circumvention of the new cycle by mass-production manufacturers using the IVA scheme.

---

<sup>1</sup>Air pollution is a major environmental risk to health. By reducing air pollution levels, countries can reduce the burden of disease from stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma. <http://www.who.int/mediacentre/factsheets/fs313/en/>

### **1.3 Vehicles exceeding EU height limits**

Trailers, trucks and double-decker buses which exceed 4m in height are currently unable to obtain EU type approval and must obtain national approval, which allows limited quantities of vehicles of the same type. The UK has not yet implemented EU Regulation 1230/2012 which allows increased quantities of vehicles to be approved under NSSTA. This has led to increased administrative burden for manufacturers, in getting their vehicles to market.

### **1.4 Vehicles fuelled by alternative fuels**

UK domestic approval schemes do not include Regulations on the safety of electric vehicles and hydrogen vehicles. Therefore the standard of safety is untested and new risks might arise from these types of vehicles compared to conventional petrol and diesel vehicles. As the numbers of vehicles of these types being registered increases, it becomes increasingly important to require compliance and ensure consumer confidence in such vehicles produced by smaller manufacturers.

### **1.5 Advanced driver assistance systems**

New heavy trucks and coaches are required to be approved to international standards on Lane Departure Warning Systems (LDWS) and Advanced Emergency Braking Systems (AEBS). Most vehicles submitted for domestic approval will have these systems fitted, but there is a risk that in a small number of cases, they may not be fitted or that bodybuilders or converters may, perhaps inadvertently, disable these systems. There are already exemptions to exempt vehicles where fitment is infeasible due to fitment of special equipment or of no benefit due to the vehicle's duty cycle being predominantly urban. (The AEBS system required by regulation is a motorway system, to avert high speed incidents with slow or stationary traffic, rather than a system for use at low speeds in cities. Work is currently taking place on international test specifications for urban systems.)

### **1.6 Mirror regulations**

International regulations on Mirrors were recently updated, at UK initiative, to widen the field of view on the passenger side of heavy trucks and further reduce blind spots affecting vulnerable road users such as cyclists and pedestrians. Although we would anticipate that heavy trucks submitted for approval under domestic schemes would have the new mirrors fitted, it is not obligatory.

### **1.7 Fuel economy labelling**

EU regulations require manufacturers to supply consumers with information on car fuel consumption in a standardised format, including labels similar to the energy consumption labels on appliances like fridges, enabling comparisons to be made based on standardised laboratory testing of cars. Increasingly the real world fuel consumption has diverged from that obtained in the laboratory<sup>2</sup>. A new laboratory test, WLTP, has been introduced, but currently there is no obligation on publishing the fuel consumption information obtained from this test. A clear decision is needed on when and how manufacturers tell consumers about the fuel economy resulting from the new testing scheme, and how the transition is handled, including the phase-out of the old scheme, in order to maintain transparency and clarity for consumers.

### **1.8 Application for consent for certain large trailers**

Currently manufacturers of large trailers that are exempt from annual roadworthiness testing (including tarmac trailers and trailers that consist of fixed machinery rather than carrying a load) are not required to notify DVSA of technical and approval data before such a trailer's first entry into service, the trailer can enter service without any statutory process. The scope of roadworthiness testing was recently expanded to include these trailers. Once testing commences (May 2018) these trailers may experience delays at the time of annual test as DVSA might not possess technical data necessary to conduct an annual test. Therefore we

---

<sup>2</sup> "Our latest report demonstrated that almost 90% of diesel vehicles didn't meet emission limits when they drive on the road. We are talking millions of vehicles." <http://www.bbc.co.uk/news/business-34324772>

propose to amend regulations to require the manufacturers of these trailers to submit technical and approval data to DVSA prior to selling the trailer, a process known as Consent, which is the equivalent for trailers of motor vehicle registration.

## 1.9 Defeat device penalties

There are already stringent penalties (potentially an unlimited fine) for committing misconduct during the type approval process, for manufacturers who use the British Vehicle Certification Agency, VCA. This includes fitting a defeat device to a vehicle which is presented for type approval.

We intend to create a new offence of **supplying** (to include registering or placing on the market) a vehicle fitted with a defeat device or other similar functionality, which has been used deliberately circumvent type approval regulations, irrespective of which national authority is used to obtain type approval.

## 2 Rationale for Intervention

There are three main rationales for intervention here. The first is a market failure, and the second is a regulatory failure (which leads to a market failure). The third is a legal obligation.

**Market failure** – Regulation is necessary in the motor industry due to the negative externalities associated with motoring. The costs of driving a heavily polluting or unsafe vehicle do not fall on the driver, and so are not internalised. This means consumers do not face as strong incentives to demand environmentally friendly or safer cars. Therefore regulations ensure that minimum standards are met, and therefore negative externalities are reduced. This proposal does not introduce novel legislation, it merely applies the same standards to domestic vehicle approval schemes as are applied to the wider fleet.

It must also be noted that domestic approval schemes exist to allow for modification of specialist vehicles. A typical example of this might be modifying a vehicle to make it wheelchair accessible – it would then be individually approved as road worthy. However it is not the spirit of domestic approval schemes to allow circumvention of pollution or safety standards, but this disconnect in regulation allows for this possibility.

**Regulation failure** - Another market failure that regulation seeks to address is imperfect information. Vehicles are complicated things, that are purchased relatively infrequently by individuals. This means consumers do not necessarily understand all the variables in their purchase well. Regulations provide consumers with the confidence that their vehicles will meet minimum standards.

The regulation failure is that this minimum standard assurance does not hold true for domestic approval schemes – even though consumers may believe it does<sup>3</sup>. Therefore harmonising these regulations will simplify the information failure (and potentially asymmetry) between consumer and supplier.

**Legal obligation** – There is a statutory obligation to improve air quality, and reduce air pollution, in line with international commitments. The government has published the NO<sub>2</sub> Clean Air Plan setting out a strategy to reduce levels of nitrogen dioxide (NO<sub>2</sub>) around roads. The regulations described in this impact assessment would make a significant contribution towards improving air quality.

For air quality reasons it is vital to ensure new vehicles meet the latest emissions standards. For trucks, this has happened naturally, but for buses, there is still both demand for, and supply of, the older Euro V (five) engines, despite encouragement from central government and trade associations to local authorities to order only vehicles complying with the latest standards.

(SMMT Press release: [https://www.smmt.co.uk/2017/03/smmt-calls-for-faster-take-up-of-latest-low-emission-buses-to-help-cut-londons-nox/?sf\\_s=euro+VI&sort\\_order=date+desc&sft\\_category=bus-coach](https://www.smmt.co.uk/2017/03/smmt-calls-for-faster-take-up-of-latest-low-emission-buses-to-help-cut-londons-nox/?sf_s=euro+VI&sort_order=date+desc&sft_category=bus-coach) )

It is well established that motor vehicles are comprehensively regulated, given their importance to the economy, and that they are a route to implementing improvements to safety and environmental standards that affect large numbers of people. Both industry and user bodies generally prefer clear regulation rather than self-regulation on safety and environmental matters, to ensure a level playing field and prevent new entrants to the market working to lower standards than established players. Given that the current standards

---

<sup>3</sup> The improvement in this case would not be in confidence (as the consumer already believed the vehicle to be compliant) but will mean the consumer is buying a vehicle that actually meets the standards they believe it to.

are set in regulation, there is no alternative when raising (or lowering) these standards other than to regulate.

### 3 Policy objective

The broad policy objective is to ensure a high level of safety and environmental protection for road users and the population in general. This is normally achieved in principle by vehicle regulation at an EU or wider international (UN-ECE - United Nations Economic Commission for Europe) level, rather than forcing manufacturers to tailor vehicles for unique requirements in particular countries. When implementing national approval schemes, a level of proportionality is applied, permitting some exemptions from EU or international rules, where this results in lower costs but broadly similar level of safety and environmental protection.

In the areas under consideration in this package of measures, it is considered that safety and the environment can be improved, at modest cost, by increasing the current level of requirements in domestic approval schemes, to approach more closely the level of the EU requirements. The areas under consideration where this applies include:

- 1) improvements to tailpipe emissions (to an estimated 523 vehicles), which should improve air quality,
- 2) improvements to vision for truck drivers which should improve safety for vulnerable road users,
- 3) wider fitment of advanced driver assistance systems to trucks, coaches and heavier minibuses, which should improve safety, and
- 4) implementation of international standards on the safety of alternatively fuelled vehicles, which should ensure that such vehicles provide a similar level of safety to conventional vehicles.

In addition, one change will result in a reduction in administrative burden for truck, bus and trailer manufacturers producing vehicles exceeding 4m in height, one change will result in publication of more representative fuel consumption figures, and one change will facilitate the annual testing of certain trailers.

### 4 Options considered

#### 4.1 Option 0 – No Action Taken

This assumes that regulations are not changed and Euro V vehicles which are currently sold through the IVA and NSSTA schemes continue to do so. This option would therefore not affect the emissions of harmful substances (nitrogen dioxide and particulate matter), nor the costs to businesses and vehicle owners.

#### 4.2 Option 1 – Implement the regulations

The changes that will be made are largely to introduce new requirements or relaxations for Individual Vehicle Approvals (IVA's) and National Small Series Type Approval (NSSTA):

1. Heavy Duty Vehicle (HDV) emissions
2. Light Duty Vehicle (LDV) emissions
3. Vehicles exceeding EU height limits
4. Vehicles fuelled by alternative fuels
5. Advanced driver assistance systems
6. Mirror regulations
7. Fuel economy labelling
8. Application for consent for certain large trailers
9. Defeat device penalties

The voluntary approach, of encouraging operators to purchase Euro VI and not Euro V vehicles, has not worked in the case of buses, and a moderate volume of Euro V sales continues. There are no other realistic options, other than regulating. Euro VI engines have been regulated in the wider vehicle market since 2014. The voluntary approach has been applied to this sector since then. Despite that, 867 vehicles did not voluntarily use Euro VI engines in 2016.

## 5 Monetised and non-monetised costs and benefits of each option (including administrative burden);

The monetisation is carried out only for the new heavy duty (Euro VI) emissions standards. For the other changes to regulations, both the costs and benefits are considered to be negligible. The rationale behind this assumption is given in sections 5.2.2 onwards.

### 5.1 Option 0 – Baseline

The 'do nothing' option is considered as the baseline, therefore there are no costs or benefits associated with it.

### 5.2 Option 1 – Implement the regulations

The primary monetary cost is the additional cost of an engine that meets the regulatory standards compared to one that does not. The 'high' estimate uses the lowest marginal engine cost estimate, whereas the 'low' estimate uses the highest cost estimate. The 'central' estimate uses the central cost estimate.

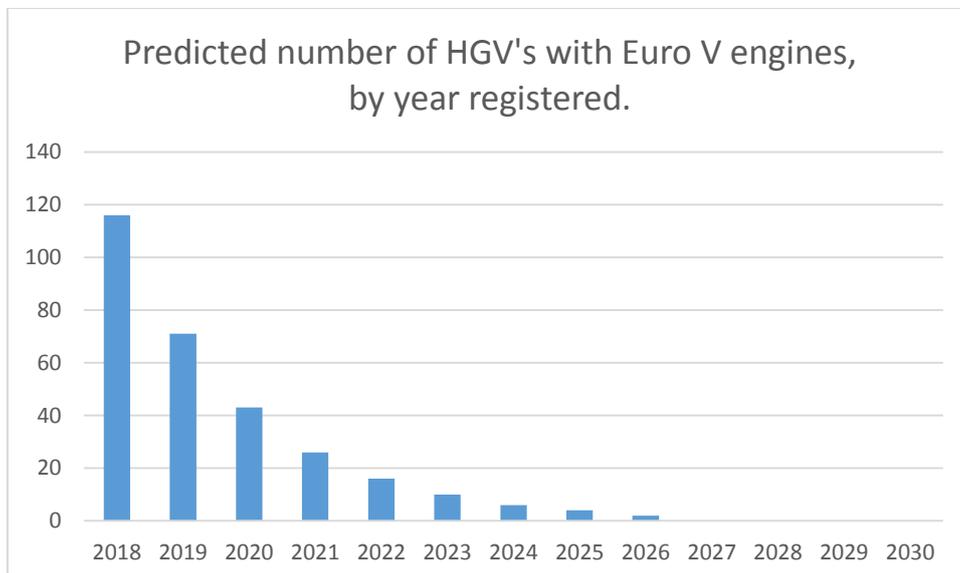
The main monetary benefit is air pollution damage avoided. Therefore the 'high' estimate assumes the highest mileage estimate (as this will lead to the most potential for improvement) and uses the highest damage costs. Conversely the 'low' estimate uses the lowest mileage estimate and lowest damage costs. The central estimate uses central values throughout.

#### 5.2.1 Heavy Duty Vehicle (HDV) emissions

This regulation will cause all HDV's that would have otherwise had Euro V engines to have Euro VI engines.

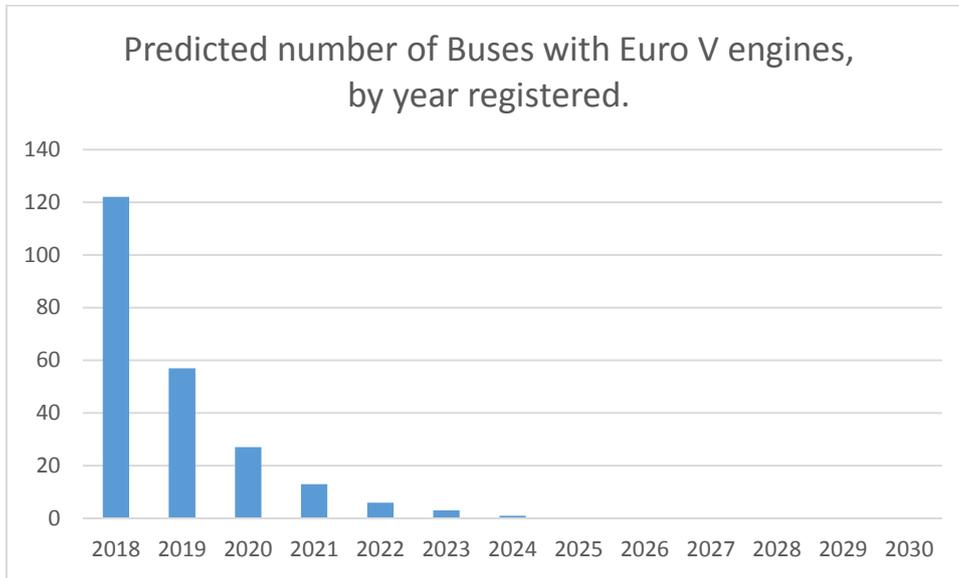
Therefore our analysis estimates the number of these vehicles that would occur per year<sup>4</sup>;

*Fig 1: Predicted number of HGV's with Euro V engines, by year registered.*



*Fig 2: Predicted number of Buses with Euro V engines, by year registered.*

<sup>4</sup> There is only a central estimate for these numbers.



This data is based on analysis of the past three years (2014-2016) of IVA and NSSTA vehicle registrations. It takes the average drop in number of vehicles and extrapolates the average decline.

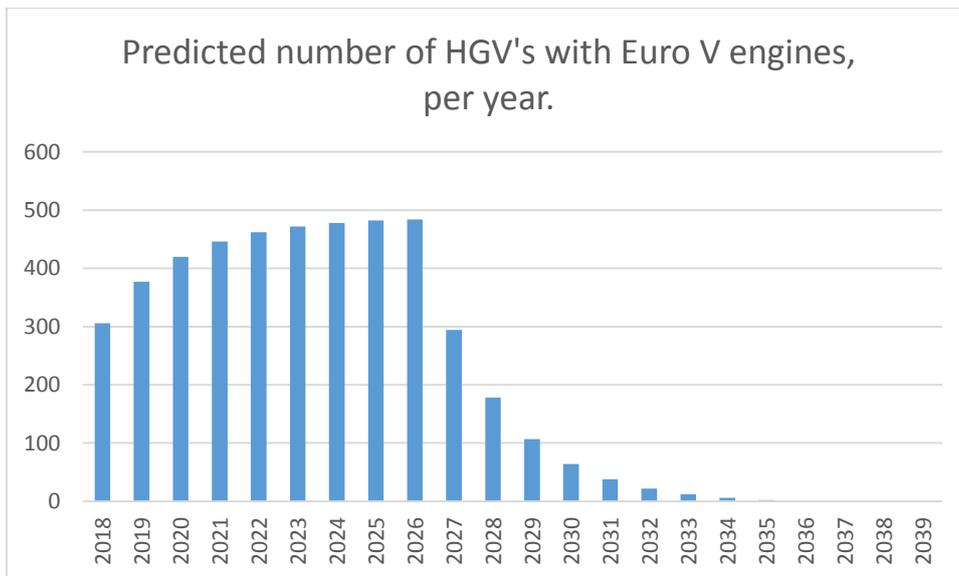
We assume<sup>5</sup>;

- A 10 year lifespan for HGV's.
- A 15 year lifespan for buses.

This is why we have used a 20 year timespan, as the benefits are over the lifetimes of the vehicles. Therefore we will affect new vehicles for the next 5 or so years, which then have an operating life over the next 20 years.

This gives us estimated figures for the vehicle numbers, in each year, with Euro V engines, which looks like this<sup>6</sup>:

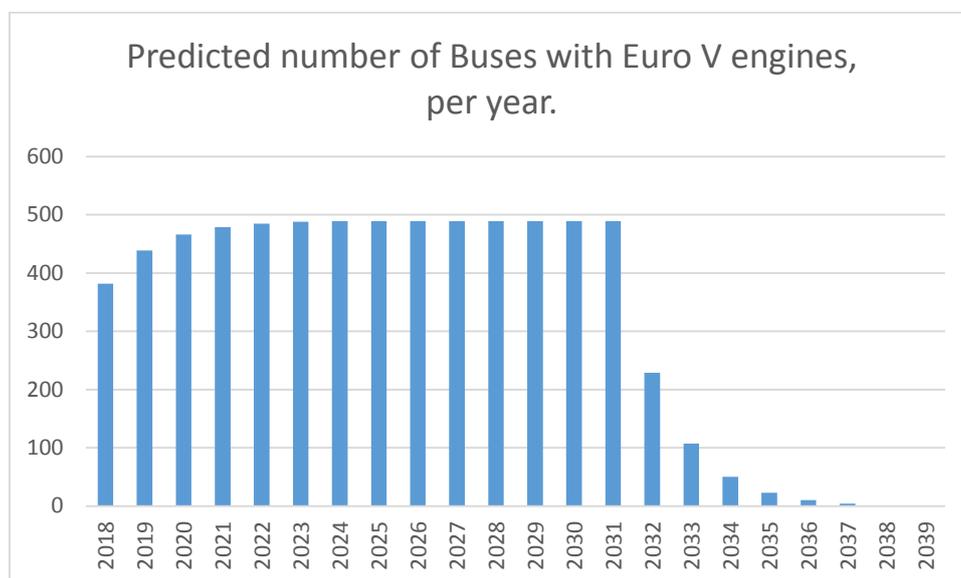
*Fig 3: Predicted number of HGV's with Euro V engines, per year.*



*Fig 4: Predicted number of Buses with Euro V engines, per year.*

<sup>5</sup> Based on assumptions used in; *A review of the efficiency and cost assumptions for road transport vehicles to 2050*, prepared by AEA Technology in 2012.

<sup>6</sup> We assume the efficiency, and level of pollution is constant for an engine over its lifetime.



Costs to business comprises of two parts. Firstly the fixed marginal cost of purchasing a vehicle with a Euro VI engine as opposed to one with a Euro V engine, and secondly, the variable marginal running cost of the engine.

We did not identify any significant variable running costs between Euro V and Euro VI engines. There is some debate about Diesel Exhaust Fluid (DEF) consumption of the engines, but we have assumed there to be no significant difference as some sources identified increased consumption of DEF, whilst others identified a decrease. Therefore we have assumed the change in variable cost to be £0<sup>7</sup>.

There is a fixed cost difference between a Euro V and Euro VI engine<sup>8</sup> which of course will vary between manufacturers, but we have obtained estimates from various literature on the subject. Our high, central, and low scenarios are based on the size of the cost estimates we were able to find (the largest estimate is our high scenario, the lowest our low and the central our central);

Table 1: Marginal engine costs (Euro V to Euro VI).

Additional cost of Euro VI	£
Low <sup>9</sup>	893
Central <sup>10</sup>	1,471
High <sup>11</sup>	4,880

We can therefore assume that there is a fixed cost incurred for every vehicle that is built with a Euro VI engine that would otherwise have been built with a Euro V engine. Therefore our final cost estimates, taking into account the volumes sold over the periods above, are<sup>12</sup>:

Table 2: Total costs.

Total costs	£m	£m (once discounted)
Low	0.47	0.4
Central	0.77	0.7

<sup>7</sup> For example, this report showed some increases and some decreases in operating costs (<http://www.citepa.org/old/forums/egtei/41-synopsis-sheet-road-transport-03-10-05.pdf>).

<sup>8</sup> Note, these costs are from 2015, with the exception of the high estimate, which is from 2012. It would be reasonable to assume that the cost, and relative cost of a Euro VI engine would fall over time as more are produced. It is also assumed that the same engines are used for buses and HGV's – or at least that there is no difference in the cost of engines.

<sup>9</sup> Road Transport passenger cars, light duty vehicles, heavy duty vehicles - <http://www.citepa.org/old/forums/egtei/41-synopsis-sheet-road-transport-03-10-05.pdf>

<sup>10</sup> Costs of Emissions Reduction Technologies for Heavy-Duty diesel vehicles - [http://www.theicct.org/sites/default/files/publications/ICCT\\_costs-emission-reduction-tech-HDV\\_20160229.pdf](http://www.theicct.org/sites/default/files/publications/ICCT_costs-emission-reduction-tech-HDV_20160229.pdf)

<sup>11</sup> Euro VI technologies and costs for Heavy Duty vehicles: The expert panels summary of stakeholders responses - [http://ec.europa.eu/environment/air/pdf/euro\\_6.pdf](http://ec.europa.eu/environment/air/pdf/euro_6.pdf)

<sup>12</sup> Once they have been put through the Business Impact Assessment Calculator.

High	2.55	2.5
------	------	-----

The monetised benefits are from air quality improvements. There are other benefits but we did not consider it to be proportional to monetise those. They include a lower HGV toll charge in Germany and potential for lower charges in London Low Emissions Zone in future for drivers of these vehicles.

We have already demonstrated the number of vehicles that would be subjected to this change per year. To calculate the air quality improvements, we firstly estimate the distance driven by these vehicles.

For HGV's our assumption comes from the *Continuing Survey of Road Goods Transport (Great Britain)*<sup>13</sup>. The low estimate takes the average for 2014-2016, the central estimate takes the average for 2013-2016 and the high estimate uses 2012-2016. The average is taken for all HGV's, and so the assumption is the vehicles affected by this regulation are representative of the fleet at large.

For buses our assumption comes from *Barriers and opportunities to expand the low carbon bus market in the UK (2014)*<sup>14</sup>.

We also assume no change in driving behaviour whether a vehicle is Euro V or VI, and a constant annual distance driven over time.

*Table 3: Average annual KM's for HGV's and Buses.*

Estimates	Average annual km's for HGVs	Average annual km's for buses
Low	45,000	35,000
Central	45,750	40,000
High	47,000	45,000

So we can now make estimates of how many km will be driven with a Euro VI engine that would have otherwise been driven with a Euro V engine, each year.

Euro VI engines emit less pollutants per km than Euro V engines<sup>15</sup>:

*Table 4: Difference in emissions factors between Euro V and Euro VI engines*

Difference in Emission Factors (g/km) between Euro V and VI engines.	RHGVs	AHGVs	Buses	Coaches	All HGV's	Buses & Coaches
<b>NOX</b>	-2.47	-3.58	-2.65	-3.39	-2.81	-3.02
<b>PM</b>	-0.03	-0.04	-0.03	-0.05	-0.04	-0.04

This means we can estimate the pollution abated by the regulation.

The damage costs per tonne are provided by Defra<sup>16</sup>. Defra will be updating damage cost values based on the latest recommendations from COMEAP. New values are expected later this year, at which point the impact assessment will be updated. Given the scale of costs and benefits, new values would not change the conclusions of this analysis.

*Table 5: Damage costs per tonne for air pollutants*

<sup>13</sup> Available at: <https://www.gov.uk/government/statistical-data-sets/rfs01-goods-lifted-and-distance-hauled>

<sup>14</sup> "Averages from London and non-London locations appear to range between 35,000 and 45,000."

<sup>15</sup> This is based on DfT speed curve calculations.

<sup>16</sup> Values are available here; [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/460398/air-quality-econanalysis-damagecost.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/460398/air-quality-econanalysis-damagecost.pdf)

Annual uplifts are available here; [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/460401/air-quality-econanalysis-nitrogen-interim-guidance.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/460401/air-quality-econanalysis-nitrogen-interim-guidance.pdf)

And the methodology is outlined here; [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/182391/air-quality-damage-cost-methodology-110211.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182391/air-quality-damage-cost-methodology-110211.pdf)

Damage costs per tonne - Average transport cost - DEFRA	Sensitivities		
	Low	Central	High
2015 Prices in £			
PM	45,510	58,125	66,052
NO <sub>x</sub> - (value of when using PM10 as well)	8,417	21,044	33,670

We can then work out the avoided costs per year. Putting this through the Business Impact Assessment Calculator gives our final estimates:

*Table 6: Total air quality benefits*

Total benefits	£m (once discounted)
Low	12.4
Central	32.5
High	55.8

Therefore, combing the costs and benefits of this piece of regulation gives us a **central net present value estimate of £31.77m.**

### 5.2.2 Light Duty Vehicle (LDV) emissions

We are proposing to implement WLTP in NSSTA and IVA schemes. This will ensure that after 1 Sep 2018, most vehicles presented for approval under these schemes will be WLTP compliant. It is possible that this will result in a cost for industry having to upgrade to WLTP, compared to a continuance of the status quo where solely Euro 6 is compulsory.

However usage of the IVA and NSSTA schemes for light duty vehicles is much less prevalent than for heavy duty vehicles, for the following reasons:

- LDVs are generally much cheaper than HDVs which means the cost of an IVA, which consists of DVSA fee plus the cost of submitting a vehicle for test, makes a greater proportion of the car's purchase cost.
- LDVs are predominantly mass produced, whereas HDV are normally customised to some extent, to take account of the needs of the haulier or bus operator concerned. The IVA and NSSTA schemes are used for bespoke small batches or individual vehicles, but these make up a smaller proportion of the LDV market than they do of the HDV market. For NSSTA, the volume permitted is such that only the most specialised conversions find this route viable.

Where LDV's do use IVA and NSSTA they are less likely to use an engine without WLTP compliance. This is because:

- LDV engines are produced in much greater quantities than HDV engines, and they are smaller. This means they are cheaper. Therefore the difference in price between a Euro 6 and WLTP (light duty) engine is much smaller than the difference between Euro V and Euro VI. This means there is less incentive to install the older one, due to a smaller saving of the order of a few hundred pounds, which is likely to be outweighed by the cost of submitting the vehicle for an IVA.
- A lot of LDV IVAs and NSSTAs are generally due to non-engine modifications, such as conversions for wheelchair accessibility or to motor caravans. These modifications are usually made to a vehicle that is already compliant with latest EU standards and therefore the converters would incur a cost to change it, which they are unlikely to do.

In conclusion, most IVA and NSSTA vehicles are conversions based on a mass produced car, which will by default be fitted with an engine of the correct level of compliance. Those very few mass producers of LDVs that would consider the use of IVA, will see little advantage in staying with Euro 6 given that the cost of submitting the car for an IVA is likely to exceed the incremental cost of fitting a WLTP compliant engine.

To conclude, the costs and benefits are likely to be so small that it would not be proportional to monetise them.

### 5.2.3 Vehicles exceeding EU height limits

This is a case where the UK permits vehicles exceeding 4m in height, whereas many EU countries do not and thus EU approval is not available. Manufacturers selling taller vehicles, which includes double-decker buses, double-deck trailers and tractor units with fixed air deflectors on the roof, are required to use the UK NSSTA and/or IVA schemes. This is a disadvantage to vehicle manufacturers in the UK as there is increased administrative burden in navigating these schemes, compared to using the EU Whole Vehicle approval for that vehicle.

Permitting higher limits for the NSSTA scheme will provide a cost-saving to business. This is calculated by the cost of the administrative burden which is currently being incurred, multiplied by its occurrence. The costs of creating the approvals will not be considered here, as they already exist, but the costs of maintaining the approvals on an ongoing basis will be estimated, as following the planned change to regulation, this will cease as existing EC type approvals can be used. The costs of maintaining approvals depends upon the number of approvals held, the typical number of “extensions” (modification to approval due to a change in the technical characteristics of a vehicle) to that approval per year and the typical cost of an extension. The latter is comprised of internal costs incurred within the manufacturer in preparing the relevant technical documentation, and the fees paid to VCA to check and process these documents. The costs of testing are not included as that would be required anyway, to amend the EU type approval. The data below has been obtained from manufacturers, VCA records, discussions with VCA staff and information taken from a previous IA on type approval.

#### 5.2.3.1 Heavy goods vehicles

We have identified two manufacturers who have provided data on their annual costs<sup>17</sup>. We understand that other manufacturers have found work-arounds, for example fitting devices that increase cab height such as air deflectors after registration rather than in the factory.

Manufacturer A – has created 32 NSSTA approvals, compared to the baseline situation where all vehicles have EU approval.

Manufacturer B - typically obtains 300 IVA's at a cost of £200 each, meaning a total cost of £60,000.

#### 5.2.3.2 Double decker buses

We have found two manufacturers affected by the limits on double deck buses: other manufacturers produce fewer than 250 per year for the UK market.

Manufacturer A – has created 8 additional NSSTA.

Manufacturer B - has created 1 additional NSSTA.

#### 5.2.3.3 Heavy trailers

We have found five manufacturers affected by the limits on trailers over 4m, other manufacturers produce fewer than 250 4m high trailers per year for the UK market.

These manufacturers have had to create, on average, 15 new NSSTA, in addition to the NSSTA that they would normally have.

Table 7: Height restriction avoidance costs

	<b>a) No. of extra NSSTA types</b>	<b>b) No of extensions per year (approx.)</b>	<b>c) Cost of extension in VCA fees (approx.)</b>	<b>d) Cost of extension in internal costs (approx.)</b>	<b>Total cost (£)</b> <i>a × b × (c + d)</i>
Truck chassis (manufacturer A)	32	4	541	550	139,648

<sup>17</sup> We are confident that all those disadvantaged by this have approached either us or SMMT, who would have passed it on.

Double decker bus	9	2	750	750	27,000
Trailers	75	1	750	750	112,500
<b>Total</b>					<b>279,148</b>

Total avoided cost per year (NSSTA) - £279,148

Total avoided cost per year (NSSTA) - £60,000

**Total avoided cost per year (NSSTA) - £339,148**

#### 5.2.4 Vehicles fuelled by alternative fuels

Alternative fuels refer to hydrogen and electric powered vehicles. It would not be proportional to monetise costs and benefits for this issue. This is because;

- Hydrogen vehicles are required to comply with these standards at present via the current special permit regime.
- The number of electric vehicles approved under IVA and NSSTA is very small, DVLA data suggests around 91 in two years, 2015 to 2016. Complete and unambiguous data is not available but the majority already possess ECE 100 approval (DVSA data suggests at least 71 out of the 91).

#### 5.2.5 Advanced driver assistance systems on trucks and coaches

It would not be proportional to monetise costs and benefits for this issue. This is because;

- Domestic regulations will include various exemptions under EU regulations for vehicles where it would be infeasible, unreasonable or unnecessary to have these systems.
- Buses and trucks are normally assembled in two parts: chassis and body.
- Normal practice is that these systems are fitted as standard by the chassis manufacturer, when this is a major company. The regulations will contain exemptions for vehicles built on low volume or specialised chassis that will not have the systems fitted as standard, to avoid the potentially expensive addition of these systems when not built-in by the chassis manufacturer.
- Chassis converters and bodybuilders will be aware in advance that they must not disable or remove these systems, enabling them to plan accordingly and thus minimise their costs.
- Our assumption therefore is that this requirement will impose nil or negligible costs. This has been confirmed as reasonable by the Society of Motor Manufacturers & Traders (SMMT).

#### 5.2.6 Mirror regulations

It would not be proportional to monetise costs and benefits for this issue. This is because;

- Normal practice is that rear view mirrors are fitted by the chassis manufacturer. They will fit the new mirrors as standard, because they are required for vehicles with EU approval and generally they standardise EU production as much as possible to save costs.
- Chassis converters and bodybuilders will be aware in advance that they must not disable or remove these mirrors, enabling them to plan accordingly and thus minimise any potential costs. In fact it will normally be cheaper to maintain the mirror than source a new one.
- Even for specialised chassis, the additional cost for the new type of mirror is minimal, given that they are produced in great numbers for the EU market.
- Our assumption therefore is that this requirement will impose nil or negligible costs. This has been confirmed as reasonable by the SMMT.

#### 5.2.7 Fuel economy labelling

It would not be proportional to monetise costs and benefits for this issue. This is because;

- The new regime will not require any new labels or information provision, just modification of the text on existing labels.
- Around 18 months' notice is being provided, giving ample time to plan the changeover
- Due to modern printing technology the change in the design of the label is expected to impose negligible change-over costs.

- Due to the need for regular updates to the labels anyway due to frequent changes to vehicle specification that impact on fuel consumption, the new label is unlikely to lead to disposal of large quantities of out-of-date labels.
- Our assumption therefore is that this will impose nil or negligible costs. This has been confirmed as reasonable by the SMMT.

### **5.2.8 Application for consent for certain large trailers**

It would not be proportional to monetise costs and benefits for this issue. This is because;

- The number of trailers affected is expected to be very small
- There is potential for small changeover costs for trailer makers in adapting to the new system of Consent, but assuming that they have type approval in line with regulation, these are likely to be negligible.
- Once the new system is operational, there is potential for a small but probably negligible cost saving, in that delays due to DVSA requesting technical data shortly before the first annual test will be eliminated.

### **5.2.9 Defeat Device penalties**

It would not be proportionate to monetise costs and benefits for this issue. This is because:

- Compliant manufacturers and importers would not incur any costs from this measure
- Non-compliant manufacturers would in principle incur cost if they were caught and found guilty, however we believe that investigations and prosecutions in the near future are unlikely for the following reasons: i) if this penalty was implemented it would provide a strong deterrent effect; ii) new guidance has brought clarity to the definition of defeat devices making it unlikely that manufacturers would take risks with compliance; and iii) given the fall-out from the VW “Diesel gate” scandal manufacturers are being extremely rigorous in ensuring that defeat devices are not fitted.
- We assume that there is no additional costs, as manufacturers are already being extremely rigorous in ensuring defeat devices are not fitted.

## **5.3 Risks, sensitivities and uncertainty**

The main risks within this analysis are around;

- a) The projected numbers of vehicles being impacted. Changes in these forecasts could cause significant changes to the costs and benefits. Due to the small amount of data to extrapolate from there is a risk that this could be wrong. However this will not have an impact on the conclusion of the analysis, as revising the number changes both costs and benefits by the same proportion, in the same direction.
- b) The engine costs. There are fairly wide estimates on these, and in any case they depend on the manufacturer. In general however they are dropping over time, so the likelihood is that any error is exaggerating our cost estimates.
- c) The composition and behaviour of the vehicles being impacted. There is no evidence to suggest that the fleet of impacted vehicles differ from the fleet at large in terms of what they do and where they do it. If this was significantly different to our assumptions it would impact the benefits, however there is no way to tell if this would increase or decrease the benefit estimate. That would depend on the difference in behaviour.

## **5.4 Costs to business**

The costs to business are low (£0.3m).

For the engine emissions regulation change, they may have to purchase more expensive engines. However this affects a small, declining number of vehicles.

The other measures, for the most part, would actually incur costs to not comply, or be negligible. For example, you would have to go to the effort of disabling driver assistance, or changing the mirrors that comes as standard on the vehicle under modification. In other cases the costs will be minimal, as most vehicles meet these standards.

Familiarisation costs are not considered to be large, as this package harmonises regulations, and manufacturers are likely to be familiar with the regulations, as they already apply to most of the market.

## 6 Other impacts

### 6.1 Small and micro business assessment.

Although small businesses rarely manufacture entire vehicles, they are prominent in the bodybuilding and vehicle conversion industries. We are conscious of the need to assist these businesses and are working to reduce the impact on SMEs of our national schemes in two main ways: - by minimising the administrative burden associated with providing proof of compliance, and by offering appropriate relaxations to the European requirements that nonetheless ensure that the level of safety and environmental protection is as high as is practicable.

Looking at the standards in question, the emissions standards for heavy vehicles should not present a problem, as compliant engines can be bought from major suppliers. For light duty vehicles, exemptions are available for vehicles produced in very low volume. Turning to the safety requirements, exemptions from certain advanced driver assistance systems are available to vehicles produced in very low volume. These exemptions should minimise the impact on small businesses manufacturing or converting vehicles.

### 6.2 Disabled equality.

The regulations include provisions for approval of wheelchair accessible vehicles. These are vehicles which allow a wheelchair user to travel in the vehicle whilst remaining in his wheelchair. The creation of a single European market for these vehicles in 2007 is thought to have allowed economies of scale to be exploited. Increased availability and lower prices of such vehicles was expected to improve the mobility of wheelchair users, particularly the severely disabled who are unable to leave their wheelchair, and improve their quality of life, although it is not possible to quantify this benefit. National approval schemes are available for the more specialised vehicles which cannot be made to comply with EU rules, widening the choice for users and providing the flexibility to enable specific needs to be catered for, such as “drive from wheelchair” vehicles. The proposed changes are not expected to have a negative impact on wheelchair accessible vehicle manufacturers.

# Annex B: Full list of Consultation Questions

**Note: where a question below is of a *closed* format, in other words a *yes/no* answer, please provide the reasoning behind your answer, and any supporting data or sources of data, if applicable.**

## **Defeat devices (page 11)**

- 1 Do you agree that supplying a vehicle fitted with a defeat device should be an offence?
- 2 Do you agree that the offence should be such that manufacturer, importer and/or dealer could be found guilty of this?

## **Fuel consumption labelling (page 13)**

- 3 Do you agree that published *Official Fuel Consumption* information for all new cars should change to that obtained from the new more representative WLTP (World Light-duty Test Procedure) testing, with effect from 1 January 2019?
- 4 Do you agree that published *Specific CO<sub>2</sub> emissions* information for all new cars should change to that obtained from the new WLTP testing, with effect from 6 April 2020?

## **Emissions standards for national schemes (page 17)**

- 5 Do you agree with the introduction of Euro 6 (Heavy duty) emissions standards for buses and trucks, in national approval schemes NSSTA/IVA?
- 6 Do you support the proposed introduction date of 3 months after the Regulations are signed (an expected build date of approximately **1 July 2018**)?
- 7 Do you agree with the introduction of WLTP in NSSTA, for vehicles built after 1 September 2018?
- 8 Do you agree with the introduction of WLTP in IVA, for vehicles built after 1 July 2018?
- 9 Are you content with our proposals to cater for converters engaged in multi-stage build, in terms of permitting an increase in reference mass or frontal area, on condition that emissions control devices are not removed?
- 10 Are you content to require kit cars submitted for IVA to meet the latest MOT standards, thereby removing the current rule that kit cars are IVA tested to MOT standards according to engine age?
- 11 Do you agree we should permit approval of vehicles running on a mixture of diesel and hydrogen (*dual fuel*) and do you have any suggestions for suitable test standards?

- 12 Do you agree we should permit approval of heavy duty vehicles with *range extender* engines taken from light duty vehicles, and do you have any suggestions for suitable test standards?

### **Safety standards for national schemes (page 20)**

- 13 Do you agree with our proposal to require AEBS and LDWS on certain HGV and minibuses/coaches?
- 14 Do you agree with the proposed exemptions for
- a) vehicles based on car or van (M1 or N1) chassis?
  - b) vehicles produced by a manufacturer making fewer than 1000 chassis per year?
- 15 Are there any other exemptions for AEBS/LDWS that you would like to see?
- 16 Do you agree with our proposals for more stringent rules on a) HGV Mirrors and b) rear under-run?
- 17 Do you have any other comments on how we might improve heavy goods vehicle safety?
- 18 Do you agree with our proposals for introducing EU and UNECE Regulations on a) Electric vehicles and b) Hydrogen fuelled vehicles?
- 19 Are there any additional regulations you would like to see accepted as an alternative the EU or UNECE rules, e.g. from the USA or Japan?

### **End-of-series derogations (page 22)**

- 20 Do you agree with our proposed limited end-of-series derogations procedure for vehicles not complying with the World Light Duty Test Procedure (WLTP) and/or Real Driving Emissions Particle Number (RDE PN), for registrations after 1 September 2018?
- 21 *(If you answered no to Q19)* How do you think we can most effectively ensure that as many new vehicles as possible are compliant with the new emissions requirements from the deadline?
- 22 Are you content for VCA to publish a list of manufacturers and the number of derogations that they have applied for?
- 23 *(if you answered no to Q21)* What are your concerns? Can you propose alternative ways of ensuring the process is transparent?

### **Other miscellaneous questions (page 25)**

- 24 Are you content with our proposals on higher numerical limits for NSSTA?
- 25 Are you content with our proposal on referring to the latest version of Framework Directive 2007/46, as regards administrative provisions governing NSSTA?
- 26 Are you content with our proposal on heavy trailer Consent?
- 27 Do you have any comments on anything else that is in the consultation, or relevant to national approval schemes?

## **EU Exit (page 26)**

### **What would you like to see in this area of regulation following Brexit?**

- 28 Do you have any views on whether the UK should continue to follow this approval scheme after Brexit?
- 29 Would you like to see special measures to minimise disruption and smooth the changeover to the post-Exit situation? Feel free to make suggestions for how the DfT can assist.

## **Impact assessment (Annex A)**

A1 When responding to the consultation, please comment on the analysis of costs and benefits, giving supporting evidence wherever possible.

A.2 Please also suggest any alternative methods for reaching the objective and highlight any possible unintended consequences of the policy, and practical enforcement or implementation issues.

A3 In particular, please comment on our estimates for the costs of fitting Euro VI engines rather than Euro V, our assumption that Diesel Emissions Fluid (DEF or "AdBlue") consumption stays broadly the same at Euro VI compared to Euro V, and our assumption that fuel consumption is similar at Euro VI compared to Euro V.

# Annex C: Indicative Draft Statutory Instrument

---

S T A T U T O R Y   I N S T R U M E N T S

---

**2018 No. 0000**

**ROAD TRAFFIC**

**ENVIRONMENTAL PROTECTION**

**The Road Vehicles (Approval) and Passenger Car (Fuel  
Consumption and CO2 Emissions Information) (Amendment)  
Regulations 2018**

<i>Made</i>	- - - -	2018
<i>Laid before Parliament</i>		2018
<i>Coming into force</i>	- -	2018

The Secretary of State for Transport makes the following Regulations in exercise of the powers conferred by section 2(2) of the European Communities Act 1972 (“the 1972 Act”)(a).

The Secretary of State for Transport is a Minister designated (b) for the purposes of section 2(2) of that Act for the regulation of the type, description, construction or equipment of vehicles, and of components of vehicles, and in particular any vehicle type approval scheme and in relation to measures relating to the environment.

These Regulations make provision for a purpose mentioned in section 2(2) of the 1972 Act and it appears to the Secretary of State that it is expedient for references in these Regulations (and in consequential amendments made by these Regulations) to Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles(c) to be construed as references to a version of that Directive as it may be amended from time to time.

---

(a) 1972 c.68. Section 2(2) was amended by the Legislative and Regulatory Reform Act 2006 (c.51), 27(1), and by the European Union (Amendment) Act 2008 (c.7), section 3(3) and Part 1 of the schedule.

(b) S.I. 1972/1811 and S.I. 2008/301.

(c) OJ No. L263, 9.10.2007, p.1. The Directive was amended by [Commission Regulation (EC) No. 1060/2008 of 7 October 2008 replacing Annexes I, III, IV, VI, VII, XI, and XV (OJ No. L292, 31, 10, 2008, p.1)].

[Type here]

## PART 1

### PRELIMINARY

#### Citation, commencement and extent

1.—(1) These Regulations may be cited as the Road Vehicles (Approval) and Passenger Car (Fuel Consumption and CO<sub>2</sub>) Emissions Information) (Amendment) Regulations 2018 and come into force as follows—

- (a) regulation 5 on 1<sup>st</sup> January 2019;
- (b) regulation 4 on 6<sup>th</sup> April 2020; and
- (c) the remaining Regulations on [2018].

(2) These Regulations extend to Northern Ireland.

#### Interpretation

2. In these Regulations—

“the 2001 Regulations” means the Passenger Car (Fuel Consumption and CO<sub>2</sub> Emissions Information) Regulations 2001(a);

“the 2009 Regulations” means the Road Vehicles (Approval) Regulations 2009(b); and

“Regulation (EU) 2016/1628” means Regulation (EU) 2016/1628 of the European Parliament and of the Council of 14 September 2016 on requirements relating to gaseous and particulate emission limits and type-approval for internal, combustion engines for non-road mobile machinery, amending Regulations (EU) No 1024/2012 and (EU) No 167/2013 and amending and repealing Directive 97/68/EC.

#### Amendment of the 2001 and 2009 Regulations

3. The 2001 Regulations are amended as specified in Part 2 of these Regulations and the 2009 Regulations are amended as specified in Parts 3 to [ ] of these Regulations.

## PART 2

### AMENDMENTS TO THE 2001 REGULATIONS

4. In regulation 3 (interpretation) of the 2001 Regulations, in the definition of “official fuel consumption” for the words “ Regulation (EC) No. 715/2007 of the European Parliament and of the Council of 20th June 2007 substitute “Commission Regulation (EC) No. 1151/2017 of 1<sup>st</sup> June 2017”.

5. In Schedule 2 (requirements for the fuel economy label) for Figure 1 substitute the following:

#### “Figure 1

##### **Environmental Information**

A guide on fuel economy and CO<sub>2</sub> emissions which contains data for all new passenger car models is available at any point of sale free of charge. In addition to the fuel efficiency of a car, driving behaviour as well as other non-technical factors play a role in determining a car’s fuel

(a) S.I. 2001/3523 as amended by S.I. 2004/1661, S.I. 2011/1043 and S.I. 2013/65.  
(b) S.I. 2009/717 as amended by S.I. 2011/1946.

[Type here]

consumption and CO2 emissions. CO2 is the main greenhouse gas responsible for warming.		
Make/Model:	Engine Capacity (cc)	
Fuel type:	Transmission	
Fuel Consumption		
Drive Cycle	Litres/100km	Mpg:
Low		
Medium		
High		
Extra High		
Combined		
<b>Carbon Dioxide emissions (g/km):</b>		
<b>Important note: some specifications of this make/model may have lower CO2 emissions than this.</b>		
Check with your dealer		

## PART 3

### AMENDMENTS TO PART 1 OF THE 2009 REGULATIONS: PRELIMINARY

**6.** In regulation 3 (interpretation: general):

- (a) in the definition “Framework Directive” for “as amended by Commission Directive 2010/19/EU” substitute “as it may be amended from time to time”; and
- (b) in paragraph (b) of the definition of “regulatory act” for “the table in Part II” substitute “a table in Part I or Part II”.

**7.** [In regulation 4 (interpretation of expressions relating to vehicles), in the definition of “large trailer” for “Schedule 2 to the Goods Vehicle (Plating and Testing) Regulations 1988” substitute “[ ]”.]

**8.** In Schedule 2 (interpretation of requirements in regulatory Acts)–

(1) in paragraph 1(a) for “1<sup>st</sup> September 2011” substitute “[INSERT DATE OF COMING INTO FORCE]”; and

(2) delete paragraphs 4, 5 and 6 and Table 2.

## PART 4

### AMENDMENTS TO PART 4 OF THE 2009 REGULATIONS: NATIONAL SMALL SERIES TYPE APPROVAL AND INDIVIDUAL APPROVAL

9.—(1) Regulation 25 (grant of national small series type approval) is amended as follows.

(2) After paragraph (2) insert—

“(2A) The approval authority may, when giving notice of its decision under paragraph (1)(c), notify the applicant manufacturer in writing that it has in making its decision waived the requirements of any of the following paragraphs of Annex II to the Framework Directive, namely, paragraphs 1.1.1.(c), 2.1.1(h), 3.1.1(d), 4.1.1(e), 5.1.1 (f) and 6.1.1(f).”

(3) For the definition of “maximum permitted number” substitute—

“maximum permitted number” means—

- (a) for any type of vehicle other than one specified in sub-paragraph (b), the number shown in column (2) of Table 1 below in relation to the vehicle category to which that type belongs: and
- (b) for a type of vehicle specified in column 1 of Table 2 below, the number shown in column 2 (2) of that Table 2”.

(4) For the Table at the end, substitute the following Tables—

**“Table 1**

**Maximum permitted numbers**

<i>(1) Vehicle category</i>	<i>(2) Maximum permitted number</i>
M1	100
M2 or M3	250
N1	250
N2 or N3	250
O1 or O2	500
O3 or O4	250

**Table 2**

**Maximum permitted numbers**

<i>(1) Vehicle Category</i>	<i>(2) Maximum permitted number</i>
M2 or M3	1,000
N2 or N3	1,200
O2 or O4	2,000”

10.—(1) In Schedule 4 (technical and administrative requirements for grant of national small series type approval), Section 1 of Part 2 (requirements for vehicles of category M1) is amended as follows.

(2) In item 1 of the table:

- (a) for the heading “2. Emissions”, substitute “2. Light Duty Emissions”;
- (b) in the first column:
  - (i) in paragraph 3, for “Vehicles” substitute “Complete or Completed vehicles”.
  - (ii) after paragraph 3 insert —

“(4) Complete or Completed vehicles manufactured after 1<sup>st</sup> September 2018: the technical provisions of Annex XXI to Regulation (EC) 1151/2017 (WLTP)”.

(c) in the third column:

[Type here]

- (i) in paragraph 5 for “The requirements” substitute “In the case of a completed vehicle, the requirements”.
- (ii) in paragraph 6 at the end insert “or aerodynamic performance”.
- (3) In item 3 of the table, in the first column at the end insert:
  - “Or
  - The technical provisions of EU Regulation 79/2009 or ECE Regulation 134 for hydrogen.”
- (4) Delete item 11 of the table.
- (5) In item 41 of the table:
  - (a) For the heading “**41 Diesel Emissions**” substitute the heading “**41. Heavy Duty Emissions**”.
  - (b) In the first column, after paragraph 2 insert—
    - “**3. Complete or Completed vehicles manufactured on or after [1st July 2018]: Regulation (EC) No. 595/2009 Annex I limit values**”.
  - (c) In the third column, in paragraph 3 for “For vehicles with a maximum speed mass equal to or exceeding 2500kg” substitute “In the case of completed vehicles”.
- (6) At the end of the table add the following item:

<b>“ 51. Electrical Safety</b>		
Vehicle: The technical provisions of UNECE Regulation 100.01”		

- (7) In Section 2, Part A—
  - (a) In paragraph 4, re-letter the sub-paragraphs (c) to (i) as sub-paragraphs (a) to (g) respectively;
  - (b) In paragraph 5, re-letter the sub-paragraphs (j) and (k) as (a) and (b) respectively; an
  - (c) In paragraph 7, re-letter the sub-paragraphs (l) and (m) as (a) and (b) respectively.
- 11.—**(1) In Schedule 4, Section 2 of Part 2 is amended a follows.
  - (2) In paragraph 4 (testing of restraint system anchorages), re-letter the sub-paragraphs (c) to (i) as sub-paragraphs (a) to (g) respectively.
  - (3) In paragraph 5 (forces applied to a wheelchair), re-letter the sub-paragraphs (j) and (k) as (a) and (b) respectively.
  - (4) In paragraph 7 (anchorage system performance), re-letter the sub-paragraphs (l) and (m) as (a) and (b) respectively.
- 12.—**(1) In Schedule 4, Section 1 of Part 3 (requirements for vehicles of category N1) is amended as follows.
  - (2) In item 2 of the table, for the heading “2. Emissions” substitute the heading “2. Light Duty Emissions”.
  - (3) In the first column of item 2 of the table, at the end add the following paragraph:
    - “**4. Complete or Completed vehicles manufactured after 1 March 2020: the technical provisions of Annex XXI in Regulation (EC) 1151/2017 (WLTP).**”
  - (4) In the third column of item 2 of the table, in paragraph 4, for “special purpose vehicle” substitute “special completed vehicle” and at the end add “or aerodynamic performance”.
  - (5) In the first column of item 3 of the table, insert at the end

“Or

[Type here]

The technical provisions of EU Regulation 79/2009 or ECE Regulation 134 for hydrogen.”

(6) Delete item 11 (diesel smoke).

(7) In item 41 (diesel emissions):

(a) in the title, after for “ Diesel Emissions” substitute “Heavy Duty Emissions”; and

(b) in the first column, after paragraph 2 add the following paragraph:

“Complete or completed vehicles manufactured on or after [1<sup>st</sup> July 2018]; Regulation No. 595/2009 Annex I limit values.”

(8) At the end of the table add the following item:

<b>“ 61. Electrical Safety</b>		
Vehicle: The technical provisions of UNECE Regulation 100.01”		

**13.**—(1) In Schedule 4, Part 4 (requirements for vehicles of categories M2, M3, N2, N3, and O) is amended as follows.

(2) In item 2 (emissions):

(a) in the heading, for “**Emissions**” substitute “**Light Duty Emissions**”;

(b) in the first column, in paragraph 3, for “Vehicles” substitute “Complete or Completed vehicles”;

(c) in the third column:

(i) delete paragraph 2.

(ii) [in paragraph 7, at the end add “or aerodynamic performance”.]

(3) In item 3 (fuel tanks / rear protective devices) In item 3 of the table, in the first column at the end insert:

“Or

The technical provisions of EU Regulation 79/2009 or ECE Regulation 134 for hydrogen.”

(4) For item 8 (indirect vision) substitute:

<b>“ 8. Indirect Vision</b>		
Component: Directive 2003/97/EC.  Vehicle: 1. The technical provisions of: Directive 2003/97/EC Annex III. 2. N2 and N3 vehicles manufactured after 1 April 2016: the technical provisions of paragraph 15 of UNECE R46.04.		1. Does not apply to O category vehicles. 2. Field of view requirements do not apply to optional mirrors. 3. In the case of a Completed vehicle, the requirements according to the category of the base or incomplete vehicle based on maximum mass apply. 4. In the case of an armoured vehicle, exemption from one or more of the provisions in column 1 is permitted where it can be demonstrated to the satisfaction of the approval authority that the special

[Type here]

		<p>purpose of the vehicle makes it impossible to fully comply.</p> <p>5. The vehicle requirements in col 1 paragraph 2 do not apply to vehicles where [any part of] the mirror is below 2.4m above the ground.</p> <p>6. The requirements in col 1 paragraph 2 do not apply to vehicles where the incomplete vehicle is of a type that is type approved to Directive 2003/97”.</p>

(5) Delete item 11 (diesel smoke).

(6) In item 41 (diesel emissions):

(a) in the heading, for “**Diesel Emissions**” substitute “**Heavy Duty Emissions**”;

(b) in the first column, at the end add—

“(6) [Complete or Completed vehicles manufacture on or after 1<sup>st</sup> July 2018: Regulation (EC) No. 595/2009 Annex 1 limit values].”

(c) in the third column:

(i) delete paragraph 2; and

(ii) for paragraph 6 substitute “6. Does not apply to—

(a) mobile cranes which have an engine meeting the technical requirements of Regulation (EU) 2016/1628; or

(b) vehicles designed to tow combinations exceeding 200 tonnes which have an engine meeting the technical requirements of Regulation (EU) 2016 1628”.

(d) After item 52 (buses and coaches) insert the following items;

<p><b>“ 53. AEBS</b></p> <p>The technical provisions of Regulation (EU) 347/2012 or UNECE Regulation 131.</p>		<p>1. A Completed vehicle where the Complete or Incomplete vehicle it is based upon was manufactured before 1 November 2017.</p> <p>2. A Completed vehicle which was manufactured before 1 November 2017.</p> <p>3. A Completed vehicle where the Complete or Incomplete vehicle upon which it is based either has a gross weight of not more than 8 tonnes or has hydraulic brakes or is not equipped with pneumatic rear suspension; and was manufactured before 1 November 2020.</p> <p>4. A Completed vehicle which has a gross weight of not more than 8 tonnes or has hydraulic</p>
---	--	---

[Type here]

		brakes or is not equipped with pneumatic rear suspension; and was manufactured before 1 November 2020. 5. The vehicle classes listed in Article 1 of EU Regulation 347/2012. 6. Completed vehicles based on a Complete or Incomplete vehicle of category N1 or M1.
<b>54. Electric Safety</b>		
Vehicle: The technical provisions of UNECE Regulation 100.01”.		

**14.**—(1) Schedule 5 (technical and administrative requirements for grant of individual approval) is amended as follows.

(2) In Part 1 (general provisions), in paragraph 7(2) for “does not exceed 300” substitute “does not exceed 500”.

(3) In Part 2 (requirements for Part 2 vehicles)—

(a) in item 2 (emissions), for the heading “**2. Emissions**” substitute “**2. Light Duty Emissions**”;

(b) in the first column of item 2:

“(i) for paragraph 2(a) substitute “(a) if the vehicle was first registered prior to August 1986 and has the original engine of the same capacity and type, 4.5%;

(ii) delete paragraph 2(b);

(iii) in paragraph 2(c), delete the words from “and is neither” to “on or after 1st August 1994.”;

(iv) in paragraph (b) delete “(or 2(b))”;

(v) in paragraph 2(d), delete the words from “and is” to “1<sup>st</sup> September 2002.”.

(vi) in paragraph 4, delete words from “must not exceed 0.3%” in paragraph (a) to “exhaust emissions from the engine” in paragraph (b)”.

(c) in the third column of item 2:

“(i) for paragraph 3 substitute “3. Paragraphs 2, 3 and 4 do not apply to vehicles propelled by a spark ignition engine.”

(ii) delete paragraphs 4 to 6;

(iii) in paragraph 9 insert at the beginning “In the case of a completed vehicle.”.

(d) in item 3 (fuel tanks), in the first column at the end insert:

“Or

The technical provisions of EU Regulation 79/2009 or ECE Regulation 134 for hydrogen.”

(e) in the first column of item 11 (diesel smoke), for paragraphs 1 and 2 substitute “When the engine is subject to the **free-acceleration** test, the **co-efficient of absorption** of the exhaust emissions from the engine immediately after leaving the exhaust must not exceed 0.7 per metres or the plate value (if any), whichever is lower.”

(f) in the second column of item 11, at the end insert: “**plate value**” means the **co-efficient of absorption** specified either on the vehicle’s plate provided under item 18 of this table, or on any other plate provided for this purpose.”;

[Type here]

- (g) in item 41, for the heading “**41. Diesel Emissions**” substitute the heading “**41. Heavy Duty Emissions**”;
- (h) in the first column of item 41, at the end insert “5. Complete or completed vehicles manufactured on or after [1<sup>st</sup> July 2018]: Regulation (EC) No. 595/2009 Annex I limit values”;
- (i) after item 60 (frontal protection systems (“bull bars”) (if fitted)), insert the following item:

<b>“ 61. Electric Safety</b>		
Vehicle: The technical provisions of UNECE Regulation 100.01.		For a vehicle with batteries with maximum voltage 48V – only compliance with the essential technical requirements of UNECE Regulation 100.00 is required”.

(4) In Part 3 (requirements for Part 3 vehicles) —

- (a) for the heading “**2. Emissions**” substitute the heading “**2. Light Duty Emissions**”;
- (b) in column 1 of item 2, at the end insert “6. Complete or Completed vehicles manufactured after [1 July 2018] in the case of M1 vehicles and [1 July 2019] otherwise: the technical provisions of Annex XXI to Regulation (EC) 1151/2017 (WLTP).”;
- (c) in column 3 of item 2, for paragraph 4, substitute “4. In the case of a completed vehicle, the requirements according to the category and date of completion of the base or incomplete vehicle based on maximum mass may apply.”;
- (d) in item 41 (diesel emissions);
  - (i) in the heading for “**41. Diesel Emissions**” substitute the heading “**Heavy Duty Emissions**”;
  - (ii) in the first column, at the end add—  
“(6) Complete or Completed vehicles manufactured on or after [1<sup>st</sup> September 2018]: Regulation (EC) No. 595/2009 Annex I limit values;
  - (iii) in the third column—
    - (iiia) delete paragraph 2; and
    - (iiib) for paragraph 6 substitute “6. Does not apply to—
      - (a) mobile cranes which have an engine meeting the technical requirements of Regulation (EU) 2026/1628; or
      - (b) vehicles designed to tow combinations exceeding 200 tonnes which have an engine meeting the technical requirements of Regulation (EU) 2016/1628”.
- (e) in column 1 of item 41, at the end insert “5. Complete or completed vehicles manufactured on or after [1<sup>st</sup> July 2018]; Regulation (EC) No. 595/2009 Annex I limit values.”.
- (f) in column 3 of item 41, at the beginning of paragraph 2 insert “In the case of a completed vehicle”.
- (g) After item 54 (side impact) insert the additional item:

<b>“ 55. Electric Safety.</b>		
Vehicle: The technical provisions of UNECE Regulation 100.01”.		

[Type here]

- (5) In Part 4 (requirements for other vehicles) —
- (a) for the heading “**2. Emissions**” substitute the heading “**2. Light Duty Emissions**”.
- (b) in item 2, for the entry in the first column substitute the following:
- “1. Directive 70/220/EEC as amended by Directive by Directive 94/12/EC, Annex I, paragraph 5.
2. Vehicles manufactured on or after 1<sup>st</sup> January 2001; Directive 70/220/EEC as amended by Directive 98/69/EC, Annex I.
3. Vehicles manufactured on or after 1<sup>st</sup> January 2006; Directive 70/220/EEC as amended by Directive 98/69/ EC Annex I, paragraph 5 (Row B limits).
4. Vehicles manufactured on or after [1<sup>st</sup> September 2012]: Regulation (EC) 715/2007, Annex I, Table 1.
5. Vehicles manufactured on or after [1<sup>st</sup> September 2016]: Regulation (EC) 715/2007, Annex I, Table 2.”
- (c) in item 2, in the third column:
- (i) delete paragraph 2;
- (ii) in paragraph 6, for “motor caravan, ambulance, or hearse” substitute “completed vehicle”.
- (d) in item 3 (fuel tanks rear protective devices), at the end of column 1 insert :
- “Or
- The technical provisions of EU Regulation 79/2009 or EU Regulation 134 for hydrogen”.
- (e) in item 8 (indirect vision), in the third column:
- (i) in paragraph 3 for the words ”motor caravan, ambulance or hearse” substitute “Completed vehicle”; and
- (ii) after paragraph 4 insert the following paragraphs :
- “(5) The vehicle requirements in col 1 paragraph 2 do not apply to vehicles where [any part of] the mirror is below 2.4m above the ground.
- (6) The requirements in col 1 paragraph 2 do not apply to vehicles where the incomplete vehicle is of a type that I type approved to Directive 2003/97.”
- (f) delete item 11 (diesel smoke).
- (g) for the heading “**41. Diesel Emissions**” substitute the heading “**41. Heavy Duty Emissions**”.
- (h) in item 41, in the first column, for paragraphs 1 and 2 substitute:
- “(1) [Directive 88/77/EC as amended by Directive 91/542/EEC Row B limit values.]
- (2) Vehicles manufactured on or after 1<sup>st</sup> October 2001: Directive 88/77/EEC as amended by Directive 99/96/EC Row A limit values.
- (3) Vehicles manufactured on or after 1<sup>st</sup> October 2006; Directive 88/77/EEC as amended by Directive 99/96/EC Row B1 limit values.
- (4) Vehicles manufactured on or after 1<sup>st</sup> October 2009: Directive 88/77/EEC as amended by Directive 99/96 EC Row B2 limit values.
- (5) Complete or completed vehicles manufactured on or after [1<sup>st</sup> July 2018]: Regulation (EC) No. 595/2009 Annex I limit values.”
- (i) In item 41, in the third column:
- (i) [delete paragraph 2];
- (ii) in paragraph 5 for “a motor caravan, ambulance or hearse” substitute “a completed vehicle”; and

[Type here]

(iii) for paragraph 6 substitute “6. In the case of a mobile crane or a vehicle designed to tow combinations exceeding 200 tonnes, compliance with Regulation 2016.1628 can be accepted.”

(j) After item 57 insert the following items:

<b>“ 58. AEBS</b>		
The technical provisions of Regulation (EU) 347/2012 or UMECE Regulation 131.		<p>1. A Completed vehicle where the Complete or Incomplete vehicle it is based upon was manufactured before 1 November 2017.</p> <p>2. A Complete vehicle which was manufactured before 1 November 2017.</p> <p>3. A Completed vehicle where the Complete or Incomplete vehicle upon which it is based has a gross weight of not more than 8 tonnes or has hydraulic brakes or is not equipped with pneumatic rear suspension; and was manufactured before 1 November 2020.</p> <p>CHAPTER 1</p> <p>5. The exemptions listed in Article 1 of EU Regulation 347/2012.</p> <p>6. Completed vehicles based on a Complete or Incomplete vehicle of category N1 or M1.</p>
<b>59. LDWS</b>		
The technical provisions of Regulation (EU) 351/2012 or UNECE Regulation 130.		<p>1. A Completed vehicle where the Complete or Incomplete vehicle it is based upon was manufactured before 1 November 2017.</p> <p>2. A Complete vehicle which was manufactured before 1 November 2017.</p> <p>3. The exemptions listed in Article 1 of EU Regulation 351/2012.</p> <p>4. Completed vehicles based on a Complete or Incomplete vehicle of category N1 or M1.</p>
<b>60. Electric Safety</b>		
Vehicle: The technical provisions of UNECE Regulation 100.01.		1. For a vehicle with batteries with maximum voltage 48V – only

[Type here]

		compliance with the essential technical requirements of UNECE Regulation 100.00 is required.”
--	--	---

## PART 5

### AMENDMENTS TO PART 5 OF THE 2009 REGULATIONS: VALIDITY OF APPROVALS AND END-OF SERIES VEHICLES

**15.**—(1) Regulation 31 (end-of series vehicles for EC type approval) is amended as follows.

(2) In paragraph (1)(a), for “has been granted by the approval authority” substitute “has been granted for a vehicle pursuant to Article 9 of the Framework Directive”.

(3) In paragraph (7) —

(a) for the definition of “EC type approval” substitute —

““EC type approval” means a type approval granted for a vehicle pursuant to Article 9 of the Framework Directive”;

(b) after that [substituted] definition insert “EC type approval authority” means a competent authority appointed by a member state and notified to the Commission in accordance with article 43 of the Framework Directive.

**16.**—(1) Regulation 32 (end of series for national small series type approval) is amended as follows.

(2) In paragraph (5)(b)(i) for “EC” substitute “national”.

(3) In paragraph (6)(c), at the beginning insert “subject to paragraph (7)”.

(4) After paragraph (6), insert—

“(7) (a) The approval authority may notify the holder of the approval [in writing] that the following condition shall apply to a vehicle in place of that specified in paragraph (6)(c).

(b) The condition is that the number of vehicles of the type in question that have been put into service in the United Kingdom during the relevant period does not exceed such number as is specified in the notification.

(c) The number so specified shall not be greater than that determined in accordance with the second indent of section B of Annex XII to the Framework Directive.”

## PART 6

### AMENDMENTS TO PART 6 OF THE 2009 REGULATIONS: MISCELLANEOUS

**17.**—(1) Regulation 38 (duplicate certificates) is amended as follows.

(2) In the heading for “Duplicate certificates” substitute “Replacement certificates”.

(3) In paragraphs (1) and (6) for “duplicate certificate” substitute “replacement certificate”.

(4) In paragraphs (2) and (3) for “a duplicate” substitute “a replacement certificate”.

(5) For paragraph (4) substitute “(4) A replacement certificate must be marked “Replacement””.

(6) In paragraph (5) for “duplicate certificate” substitute “a replacement certificate” and for “the duplicate” substitute “the replacement”.

(7) In paragraph (6) for “duplicate certificate” substitute “replacement certificate”.

Signed by authority of the Secretary of State

[Type here]

Date

*Name*  
Parliamentary Under Secretary of State  
Department for Transport

### **EXPLANATORY NOTE**

*(This note is not part of the Regulations.)*

These Regulations amend both the Passenger Car (Fuel Consumption and CO2 Emissions Information) Regulations 2001 (“the 2001 Regulations”) and the Road Vehicles (Approval) Regulations 2009 (“the 2009 Regulations”) in order to deal with amendments to the European Union legislation which they implement.

The amendments to the 2001 Regulations, which are dealt with in *Part 2* of these Regulations, reflect the change of the basis of the test to be used for measuring fuel economy from the New European Drive Cycle (NEDC) to the World Harmonised Test Procedure (WLTP) in accordance with Commission Regulation (EC) No. 1171/2017 of 1<sup>st</sup> June 2017. This in turn requires changes to the published material concerning the vehicles produced by motor car manufacturers.

Accordingly, *Regulation 4* of these Regulations amends the definition of “official fuel consumption” to refer to Commission Regulation (EC) No. 1171/2017 and *Regulation 5* substitutes the new format for the Fuel Economy Label prescribed by Schedule 1 to 2001 Regulations.

The amendments to the 2009 Regulations, which are set out in Parts 3 to 6 of these Regulations, update the principal Regulations to incorporate a number of developments in the EU legislation into the provisions concerning National Small Series and Individual Approval and End of Series Vehicles. *Part 3* amends Part 1 of the 2009 Regulations ((preliminary). In particular, *regulation 6* amends the definition of the Framework Directive (Directive 2007/46/EC) to cover both future amendments to it and additional amendments already made and *regulation 8* updates the list of EU instruments specified in Schedule 2 (interpretation of “regulatory acts”).

*Part 4* amends Part 4 of 2009 Regulations (national small series type approval and individual approval). In particular:

*regulation 9* amends regulation 25 (grant of national small series type approval) to permit the approval authority when making a decision over the grant of approval to waive specified requirements of the Framework Directive and to amend the maximum permitted number of vehicles that may be given small series approval in any year;

*Regulations 10 to 13* amend Schedule 4 (technical and administrative requirements for grant of approval), *regulations 10 and 11* amending sections 1 and 2 of Part 2 (requirements for M1 category vehicles), *regulation 12* amending section 1 of Part 3 (requirements for N1 category vehicles) and *regulation 13* amending Part 4 (requirements for category M2, M3, N2, N3, and O vehicles; and *regulation 14* amends Schedule 5 (technical and administrative requirements for the grant of individual vehicle approval)

In Part 6 (Miscellaneous) *regulation 17* reclassifies “duplicate certificates” as “replacement certificates”.

# Annex D: Consultation principles

The consultation is being conducted in line with the Government's key consultation principles. Further information is available at <https://www.gov.uk/government/publications/consultation-principles-guidance>

If you have any comments about the **consultation process** please contact:

Consultation Co-ordinator  
Department for Transport  
Zone 1/29 Great Minster House  
London SW1P 4DR  
Email [consultation@dft.gsi.gov.uk](mailto:consultation@dft.gsi.gov.uk)

Please note that the email address to respond to this consultation is [ivs.enquiries@dft.gsi.gov.uk](mailto:ivs.enquiries@dft.gsi.gov.uk)

## Annex E: List of those notified of the consultation

Society of Motor Manufacturers and Traders (SMMT)  
National Motor Dealers Association (NMDA)  
Vehicle Bodybuilders and Repairers Association (VBRA)  
National Caravan Council (NCC)  
Wheelchair Accessible Vehicle Converters Association (WAVCA)  
British Independent Motor Traders Association (BIMTA)  
American Import Agents Association (AIAA)  
Niche Vehicle Network (NVN)  
National Trailer Towing Association (NTTA)  
Recovery Equipment Manufacturers and Suppliers Association (REMSA)  
Road Safety Markings Association (RSMA)  
Freight Transport Association (FTA)  
Road Haulage Association (RHA)  
Confederation of Passenger Transport (CPT)  
Transport for London (TfL)  
Local Government Association (LGA)  
Low Carbon Vehicle Partnership (LowCVP)