

Harmonizing Car Emissions, Air Quality, and Fuel Quality Standards in the Wake of the VW Scandal

How to Square the Circle?

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I. Introduction

Given that cars have become icons for flexibility, individuality, and freedom,¹ it comes as no surprise that the passenger car fleet in almost all of the EU Member States is constantly growing. In 2010 there were about 239 million heavy-duty vehicles and 35 million light-duty vehicles in the then 27 Member States, more than a quarter of the cars and trucks on the road worldwide. It is expected that this number will grow by 31% by 2030.² Not only has the number of vehicles grown constantly over recent decades, but the distance travelled by each has increased as well. Cars, and the industries producing them, do however have significant impacts on the environment ranging from smog to climate change.

In the wake of the VW scandal, it is the purpose of this article to explore some of the key issues arising out of the discussion of the EU environmental regulatory techniques aiming at tackling air pollution. Given that we have attempted to capture where the law stands at present, there is no need to delve into the technical and scientific controversies.

To shed light on the effectiveness of EU law, the next section looks at the principles governing the choice of legal bases in the area of air pollution (Section II). It concludes by outlining the two-pronged approach that the EU institutions have followed since the early 70s. The merits and drawbacks of the different regulatory techniques are adumbrated in Section III. We put our finger on the following paradox: though car emission standards have been gradually tightened, ambient air quality has not really improved in a number of cities. Last but not least, in Section IV, we closely examine the inappropriateness of the different test methods that are implemented in a haphazard fashion by 28 State authorities.

This article primarily aims at discussing pollution impacts from light cars powered by gasoline and diesel. Accordingly, CO₂ emissions are debated incidentally.³

II. Principles Governing the Choice of Legal Bases in the Area of Air Pollution

Each piece of EU legislation must be rooted in one or more legal basis set out either in the Treaty on the European Union (TEU) or in the Treaty on the Functioning of the European Union (TFEU). The determination of the relevant legal base is required in light of the principle of the allocation of powers, the duty to preserve the prerogatives of the EU institutions, the obligation to state reasons, and the requirement of legal certainty.⁴ Needless to say, the choice of legal basis of pieces of legislation aiming at protecting the air quality represents a critical juncture in relations between institutions, as well as the relations between the Member States and the EU. First, in defining the scope of the EU's intervention, the legal base enables the EU to exercise its legislative competence in such

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1 N.A. Ashford and C.C. Caldart, *Environmental Law, Politics, and Economics* (Cambridge: MIT Press, 2008) p. 462.

2 The International Council on Clean Transportation (ICCT), *European Vehicle Market Statistics*, 2013, p. 6.

3 Attention should be drawn to the fact that light-duty vehicles – cars and vans – produce around 15% of the EU's emissions of CO₂. These emissions are regulated by Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO₂ emissions from light-duty vehicles, OJ L 140, p. 1.

4 Case C-370/07 *Commission v Council* [2009] ECR I-8917, paras. 37, 39, 46, and 48. It must be noted that AG Kokott stressed in addition to these obligations the principle of transparency (paras. 37 and 38).

a field.⁵ Moreover, the basis chosen determines not only which institution has competence to take action but also the procedure to follow and the objective pursued. Furthermore, it also determines the types of acts that can be adopted. Just as the powers of the Commission, the Parliament and the Council are capable of varying considerably depending on the procedure used, they can also end up expressing contradicting preferences as regards the choice to be made between the different legal bases provided for.

Regarding the EU secondary legislation on pollution caused by light cars, it is possible to trace the dividing line between the Treaty provisions governing the internal market and the environment, respectively.

On the one hand, the rise of environmental policy was undeniably born out of the concern to avoid distortions of competition between undertakings. To give the national authorities free rein to enact unilateral product and operating standards would entail the risk of fragmenting the internal market and hindering the free movement of goods within that market. Against this backdrop, a significant number of product-oriented directives and regulations which have a direct impact on the internal market, and in particular those which lay down product standards, were adopted on the basis of the old Article 100a EC (Article 114 TFEU) within the perspective of the completion of the internal market. This has been the case of the first generation of directives on car emissions (Directive 70/220/EEC). It follows that the directives and regulations laying down fuel quality standards and limiting the emissions from cars⁶ have been founded exclusively on Article 114 TFEU.

On the other side of the dividing line, a residual category embraces all acts for which an analysis of the aim and the content of the measure shows that they seek to achieve a high level of environmental protection and that they at most affect the establishment of the internal market on an ancillary base. Despite their direct or potential impact on the functioning of the internal market, these acts should be adopted on the basis of Article 192 TFEU. This is the case of the directives laying down air quality standards (Directive 2008/50/EC).

Neither Article 192 TFEU nor Article 114 TFEU specify that a particular legal act should be used in order to harmonize environmental measures. Accordingly, the environmental policy reckons upon the five legal acts listed in Article 288 TFEU (direc-

tive, regulation, decision, recommendation and opinion).

That being said, the stakes are high given that the power to enact more stringent standards than the ones embodied in secondary law varies depending on the legal basis chosen by the Union legislator. In effect, for each of these provisions, the TFEU provides for fundamentally distinct exceptions.⁷ In virtue of Article 193 TFEU, any Member State may at any time freely decide to maintain or adopt more stringent standards than those provided for under the act adopted on the basis of Article 192 TFEU. It follows that nothing precludes a Member State from applying more stringent quality standards than the ones set out in Directive 2008/50/EC. The ability for the lawmaker to rely on that provision amounted to a notable exception to the concept of maximum harmonization.

In sharp contrast to Article 193 TFEU, Article 114 restricts the Member States' powers to enact derogating provisions. In that connection, the Dutch Diesel restrictive measure is a case in point. Arguing that the limits on concentrations of particulate matter laid down by the former Air Quality Directive 1999/30 were exceeded in several areas of its territory, the Netherlands notified the Commission in 2005, pursuant to Article 95(5) EC (new Article 114(5) TFEU), of its intention to adopt a decree subjecting, from 1 January 2007 and by derogation from the provisions of Directive 98/69,⁸ new diesel-powered vehicles in Categories M₁ and N₁, Class I, to a limit on emissions of particulate matter of 5 mg/km. Paragraph 5 of Article 114 authorizes the Member States to implement, in certain conditions, more stringent measures than those provided for by a EU harmonizing norm, even though the relevant directive, decision or regulation does not expressly recognize this right. The Dutch

5 Article 5(1) TEU provides that 'The limits of Union competence are governed by the principle of conferral'. Accordingly, competence is conferred on the EU by a swathe of Treaty provisions in order to achieve objectives particular to those provisions, read in the light of the general objectives of the EU. As a result, the legal base occupies centre stage inasmuch as it identifies the competence under which EU institutions act.

6 Directive 2006/40/EC of the European Parliament and of the Council of 17 May 2006 relating to emissions from air-conditioning systems in motor vehicles, OJ L 161/12.

7 N. de Sadeleer, *EU Environmental Law and the Internal Market* (Oxford: OUP, 2014) pp. 349-382; I. Maletic, *The Law and Policy of Harmonisation in Europe's Internal Market* (Cheltenham: E. Elgar, 2013) pp. 94-105.

8 See *infra*, section II, 3.

authorities emphasized, in that context, the high demographic density and greater concentration of infrastructure in the Netherlands than in other Member States, which gave rise to a higher rate of emissions of particulate matter per square kilometre. Residents were thus very exposed to air pollution, particularly, in the immediate proximity of automobile traffic zones and residential zones.

Pursuant to Article 114(5) TFEU, national measures derogating from EU internal market legislation should satisfy three requirements: the risk that the measure is supposed to counter should be specific to the Member State requesting the derogation, it should manifest itself after the adoption of the harmonization measure, and should be supported by scientific proof. In its request in favour of more stringent limits on the emissions of particulate matter by diesel-powered vehicles, the Dutch authorities were claiming that for a problem to be specific to a Member State within the meaning of paragraph 5, it was not necessary that it be the result of an environmental danger within that State alone. Though the General Court acknowledged, indeed, that for a problem to be specific 'it is not necessary that it is the result of an environmental danger within that State alone', the Court rejected the Government's argument relating to the interpretation of the criterion of specificity as lacking any factual basis.⁹ That judgment was set aside by the Court of Justice of the EU (CJEU) on

the grounds that the Commission was obliged to demonstrate that there were no specific problems. Such an obligation flows from the Commission's obligation 'both to examine all the relevant elements of the individual case and to give an adequate statement of the reasons for its decision'.¹⁰

III. Clean Air Regulatory Techniques

Environmental law is partly reckoning upon a flurry of technical standards. A division can be made between those that are set by reference to the medium (air) being subject to protection and those that are set by reference to the sources of pollution. Among the source-related standards, a further division must be made between emission standards (emission limit values) and product standards.¹¹ These techniques are not exclusive from each other.

1. Emission Limit Values

a. General Considerations

Let us begin by considering emission limit values (ELV), or disposal standards, that limit the direct or indirect release of substances, vibrations, heat or noise and other pollutants by fixed polluting facilities (plants, facilities, and industries) or diffuse sources into the air, water or land. These standards are 'expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during one or more periods of time'.¹²

Most EU harmonization measures are therefore based on thresholds which may not be exceeded. Concretely speaking, motor vehicle emissions have originally been regulated by Directive 70/220/EEC (light-duty vehicles) and 88/77/EC (heavy-duty vehicles), as further amended. In fact, a whole series of modifications have been issued to gradually tighten the limit values.

For *heavy-duty vehicles*, Directives 2005/55/EC¹³ and 2005/78/EC (implementing provisions)¹⁴ define the emission standards currently in force. In addition, they define a non-binding standard called Enhanced Environmentally-friendly Vehicle (EEV).

For *light-duty vehicles*, the emissions standards were laid down by Directive 98/69/EC relating to measures to be taken against air pollution by emissions

9 Case T-182/06 *Netherlands v Commission* [2007] ECR I-1983, paras. 63-72.

10 Case C-405/07 P *Netherlands v Commission* [2008] ECR I-8301, para. 66.

11 S. Bell, D. McGillivray, O. Pedersen, *Environmental Law*, 8th ed. (Oxford: OUP, 2013), p. 239.

12 Article 3(4) and (5) of Directive 2010/75/EU of the European Parliament and the Council of 24 November 2010 on industrial emissions, OJ L344/17.

13 Directive 2005/55/EC of the European Parliament and of the Council of 28 September 2005 on the approximation of the laws of the Member States relating to the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive-ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles, OJ L 275, pp. 1-163.

14 Commission Directive 2005/78/EC of 14 November 2005 implementing Directive 2005/55/EC of the European Parliament and of the Council on the approximation of the laws of the Member States relating to the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles and amending Annexes I, II, III, IV and VI thereto, OJ L 313, p. 1.

from motor vehicles, which was one of the directives amending Directive 70/220/EEC.

The type-approval emission requirements for motor vehicles pollutants (CO, NO_x) have been gradually and significantly tightened through the introduction and subsequent revision of a flurry of Euro standards.¹⁵ The Euro standards are formulated using a split-level approach: the key aspects are encapsulated in a legal act (Directive 70/220 and, later, Regulation 75/2007) that the Council and the European Parliament may adapt in accordance with the ordinary legislative procedure, whereas technical aspects are regulated by means of implementing measures to be adopted in accordance with Article 291 TFEU by the Commission flanked by a Committee. With respect to implementing powers, the European Commission is endowed with much leeway in setting out the thresholds. In sharp contrast, given the risk of regulatory capture, the US Congress chose in the 70s to establish the car emission standards itself rather than delegate the task to an administrative body.¹⁶

The introduction of the Euro 1 standard in 1992 required the switch to unleaded petrol and the fitting of catalytic converters to petrol cars to reduce carbon monoxide (CO) emissions. The Euro 2 standard further reduced the limit for CO emissions and also reduced the combined limit for unburned hydrocarbons and oxides of nitrogen for both petrol and diesel vehicles. Since the Euro 2 stage, EU regulations introduced different emission limits for diesel and petrol vehicles. Euro 3 also added a separate NO_x limit for diesel engines and introduced separate HC and NO_x limits for petrol engines. With respect to light vehicles, Euro 4 lowered NO_x emissions from 0,50 to 0,25 g/km and PM₁₀ emissions from 0,005 to 0,0025 g/km.

In 2007, Directive 70/220/EEC was repealed and replaced by Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 which harmonizes the technical emission standards - known as EC type-approval - for motor vehicles.¹⁷ Tighter emission limits, known as Euro 5 and Euro 6, of atmospheric pollutants such as particulates and nitrogen oxide for vehicles sold in the EU market were established. Manufacturers are called on to prove that all new vehicles sold, registered or put into service comply with the emission standards set out in the regulation.

Euro 5 applied to passenger cars and light-duty vehicles of categories M1, M2, N1 and N2 (all with a ref-

erence mass not exceeding 2,610kg) and was mandatory for vehicles registered from the 1st January 2011 or from the 1st January 2012 for some vehicles. Euro 5 further tightened the limits on particulate emissions from diesel engines from 25mg/km to 5mg/km. In addition, all diesel cars needed particulate filters to comply with the new requirements.

Given that the share of diesel vehicles in the overall sales of light-duty vehicles is increasing, Euro 6 requires the reduction of emissions of NO_x from diesel cars from 180mg/km to 80mg/km. Euro 6 thresholds apply to new vehicle registrations from 2015. The Euro 6 emission limits range from 68% (gasoline carbon monoxide) to 96% (diesel particulates) lower than those established under Euro 1 in 1992. Accordingly, their implementation was somewhat challenging given that in 2012, less than 1% of new vehicles already complied with the Euro 6 standard, while 91% of all cars sold complied with the Euro 5 standard.¹⁸

The Euro 5 and Euro 6 ELVs are summarized in the tables 1 and 2.

Table 1: European emission standards for gasoline passenger cars, g/km

	Date	CO	NO _x	PM
Euro 5	September 2011	0,50	0,180	0,005
Euro 6	September 2014	0,50	0,80	0,005

15 Given the absence of harmonization of eco-taxes, Member States have significant freedom to carry out their environmental tax policies with a view to encouraging the best environmental standards. Taxation on second-hand vehicles compatible with Euro standards has been giving rise to litigation. See N. de Sadeleer, *EU Environmental Law and the Internal Market*, supra note 7, pp. 237-259. Regarding the compatibility of a pollution tax levied on first registration of second-hand vehicles compatible with Euro 3 and Euro 4 air pollution standards is consistent with Article 110 TFEU, see Case C-254/13 *Orgacom BVBA* [2014] C:2014:2251. Whether a Rumanian environmental tax levied on first registration of motor of second-hand vehicle compatible with Euro 2 air pollution standards is discriminatory, see Case C-263/10 *Iulian Nisipeanu v Direcția Generală a Finanțelor Publice Gorj and Others* [2011] C:2011:466.

16 N.A. Ashford and C.C. Caldart, supra note 1, p. 472.

17 The specific technical provisions necessary to implement that regulation were adopted by Commission Regulation (EC) No 692/2008.

18 The International Council on Clean Transportation, *European Vehicle Market Statistics 2013*, p. 6.

Table 2: European emission standards for diesel passenger cars, g/km

	Date	CO	NOx	PM
Euro 5	September 2011	1,0	0,180	0,005
Euro 6	September 2014	1,0	0,80	0,005

All in all, NOx emissions limits for diesel vehicles have been tightened as illustrated by table 3.

Table 3

Euro standards	NOx emissions thresholds	Entry into force
Euro 3	500 mg/km	January 2000
Euro 4	250 mg/km	January 2005
Euro 5	180 mg/km	September 2009
Euro 6	80 mg/km	September 2014

19 N. de Sadeleer, *EU Environmental Law and the Internal Market*, supra note 7, pp. 199-202.

20 ACEA – European Automobile Manufacturers' Association; JAMA – Japanese Automobile Manufacturers' Association, and KAMA – Korean Automobile Manufacturers' Association.

21 See Communication from the Commission, Results of the review of the EU Strategy to reduce CO₂ emissions from passenger cars and light-commercial vehicles, COM (2007) 19 final. E.g. L. Krämer, *EC Environmental Law*, 6th ed. (London: Sweet & Maxwell, 2007), p. 316.

22 Given that the car industry was unable to reach its own objectives as set out in these three agreements, in February 2007 the Commission acknowledged the need to replace this conciliatory approach with a genuine regulatory approach. As a result, the Commission proposed the Council and the European Parliament to adopt a regulation setting emission performance standards for new passenger cars as part of the EU's integrated approach to reduce CO₂ emissions from light-duty vehicles. See Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars [2009] OJ L 140/1–15.

23 N. de Sadeleer, *EU Environmental Law and the Internal Market*, supra note 7, pp. 211-212.

24 The articulation between the two techniques is somewhat haphazard. In Joined Cases C-165/09 to C-167/09 *Stichting Natuur en Milieu and Others* [2011] C:2011:348, the Court looked into the question of the interpretation of IPPC Directive 2008/1, which establishes the principles that govern the procedures and conditions for granting permits for the construction and operation of large industrial installations, and of Directive 2001/81, which introduces a system of national emission ceilings for certain

b. Advantages and Drawbacks of ELVs

The ELV technique plays an essential yet controversial role in EU environmental law. From the outset, it is against the background of self-regulation that the value of ELVs must be assessed.¹⁹ It must be noted that self-regulation has been seen as a response to deficiencies both of administrative regulation and economic instruments. However, several participatory approaches endorsed by the European Commission failed. Among the agreements concluded under the aegis of the European Commission, the most well-known and controversial was the one concluded between the federations of carmakers, which undertook to apply measures reducing CO₂ emissions - below the threshold of 140 gm/km. In 1999 and 2000, the Commission endorsed the three agreements concluded by the business federations regrouping carmakers.²⁰ The Commission endorsed the reduction targets relating to CO₂.²¹ Given that this approach has not borne fruit, the EU lawmaker adopted a decade later Regulation (EC) No 443/2009 setting emission performance standards for new passenger cars.²²

The enactment of the Euro ELVs entails three obvious advantages.²³

First, given that the Euro ELVs are binding, an infringement is an automatic result of any failure to respect them. The binding thresholds thus set a dividing line between what is lawful and what is unlawful.

Second, the harmonisation of ELVs on EU level is particularly valued by the car industry, since the adoption of uniform standards limits the distortions in competition resulting from decisions taken on a case by case basis by 28 national agencies, which creates uncertainty. Hence, thresholds are likely to buttress legal certainty and enhance a smooth functioning of the internal market.

Third, ELVs are in principle set in line with scientific criteria. Experts, who play an essential role, are accordingly consulted in order to identify the threshold above which pollution becomes problematic, and should accordingly be prohibited by EU law. However, ELVs do offer absolute environmental protection provided that they are set and applied in order to avoid that EQS are exceeded.²⁴ As discussed below, the interconnection between ELVs and EQS is far from obvious.

In spite of their benefits, the scientific foundation of the ELVs is likely to be undermined where the

thresholds result from a compromise between the car industry and the EU institutions.²⁵ It comes as no surprise that the protection level offered by setting out emission thresholds essentially remains the fruit of a political compromise, which proves to be particularly problematic since it is science itself that is uncertain. Indeed, the level of protection is more the result of a pragmatic, gradual approach and a search for the possibilities than a desire to implement in detail the scientific experts' recommendations. It is noteworthy that the more stringent Euro 5 standards have fallen short in addressing major ambient air pollution events in London, Paris, Brussels, Madrid, Lyon, etc.

Three factors explain why a clean air policy in major cities is doomed for failure. On the one hand, EU emission standards do not influence the manner in which cars are driven, which significantly impacts the air quality.²⁶ On the other hand, the reductions in air emissions have constantly been eaten up by an overall increase in traffic.²⁷ Indeed, accumulation of car exhausts within cities gives rise to significant concerns on the grounds that quality thresholds are exceeded. What indeed is the point of equipping cars with new technologies if the number of cars and total kilometres travelled constantly increases?

Last, the technique of compartmentalising the regulations that applied to different media makes it possible to circumvent ELVs. In effect, as discussed below, the laboratory New European Driving Cycle (NEDC) tests did not accurately reflect the amount of air pollution emitted during real driving conditions. As a result, while vehicles in general have delivered substantial emission reductions across the range of

regulated pollutants, this was not the case for NOx emissions from diesel engines, in particular light-duty vehicles.²⁸

2. Product Standards

a. General Considerations

Product standards are those which set limits on pollution or nuisance levels and may not be exceeded both as regards the product's composition as well as its emissions.²⁹ In the course of the 90s, under the Auto/Oil programme, initiatives were taken to carve out combined solutions concerning car emissions and fuel composition.

Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998, relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC,³⁰ sets technical specifications on health and environmental grounds for fuels to be used for vehicles equipped with positive-ignition and compression-ignition engines.³¹ From 1 January 2000, the Member States were prohibited from allowing lead in petrol within their territory.³² Directive 2009/30/EC³³ amended Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil. In addition, the 2009 directive establishes sustainability criteria that must be met by biofuels if they are to count towards the greenhouse gas intensity reduction obligation.

Since 1 January 2009, the Member States are called on to ensure that diesel fuel may be marketed in their territory provided it complies with the environmen-

pollutants (SO₂ and NO_x). The Court held that, when granting an environmental permit for the construction and operation of an industrial installation, the Member States are not obliged to include among the conditions for grant of that permit the national emission ceilings for SO₂ and NO_x laid down by Directive 2001/81.

25 In the course of the 90s, under the Auto/Oil I programme, the European Commission set up working groups where the representatives of European car associations and petrol industries were invited to share their expertise. NGOs did not take part in these groups. In contrast, different stakeholders among which environmental NGOs took part in the Auto/Oil II programme. See L. Krämer, *EC Environmental Law*, above, pp. 315-316.

26 S. Bell, D. McGillivray, O. Pedersen, *supra* note 11, p. 245.

27 L. Krämer, *EC Environmental Law*, *supra* note 21, p. 316.

28 Preamble, para. 4 Commission Regulation amending Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6).

29 A product standard is defined by ISO as 'a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that products, ... are fit for their purpose'.

30 OJ 1998 L 350, p. 58.

31 Article 1. Directive 98/70/EC was amended by Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 with the aim of dealing with the marketing of diesel fuels with a higher biofuel content.

32 Article 3(1).

33 Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC, OJ L 140, pp. 88-113.

tal specification set out in Annex IV except for the sulphur content which shall be a maximum of 10 mg/kg.³⁴ Limits are laid down in that annex for the following parameters: cetane number, density at 15° C, distillation, polycyclic aromatic hydrocarbons and sulphur content.

Departing from the principle of maximum harmonization, Article 6 of the directive empowers the Member States to enact more stringent environmental specifications. That provision states:

‘1. By way of derogation from Articles 3, 4 and 5 and in accordance with Article 95(10) of the Treaty, a Member State may take measures to require that in specific areas, within its territory, fuels may be marketed only if they comply with more stringent environmental specifications than those provided for in this Directive for all or part of the vehicle fleet with a view to protecting the health of the population in a specific agglomeration or the environment in a specific ecologically or environmentally sensitive area in that Member State, if atmospheric or ground water pollution constitutes, or may reasonably be expected to constitute, a serious and recurrent problem for human health or the environment.

2. A Member State wishing to make use of a derogation provided for in paragraph 1 shall submit its request in advance, including the justification for it, to the Commission. The justification shall include evidence that the derogation respects the principle of proportionality and that it will not disrupt the free movements of persons and goods.’

The CJEU ruled recently that Directive 98/70/EC does not preclude a Member State ‘from laying down in its national law quality requirements that are additional to the ones contained in that directive for the marketing of diesel fuels, such as that relating to the flash point at issue in the main proceedings, since it does not constitute a technical specification of diesel

fuels relating to the protection of health and the environment for the purposes of that directive.’³⁵

b. Advantages and Drawbacks of Product Standards

One is always facing the risk that the product thresholds reflect more of a political compromise than a genuine technical judgment.

As discussed above,³⁶ whether the provisions of Directive 98/69 contribute effectively to limit the emissions of particulate matter in very populated countries with a great concentration of infrastructure remains to be seen.

3. Environmental Quality Standards

a. General Considerations

Environmental quality standards (*EQS*), or quality targets, means ‘the set of requirements which must be fulfilled at a given time by a given environment or particular part thereof’.³⁷ Regarding air pollution, EQS are set numerically (parts of a substance per million or mg/m³).

A key outcome of the 2005 Thematic Strategy on air pollution adopted by the Commission in September 2005, Directive 2008/50/EC on ambient air quality and cleaner air for Europe entered into force on 11 June 2008. Directive 2008/50/EC merges several air quality directives in a single legislation - except for the fourth daughter directive³⁸ - with no change to existing air quality objectives.

Directive 2008/50/EC sets out limit values and target values for several pollutants (sulphur dioxide, PM₁₀ and PM_{2.5}, benzene, CO, lead, nitrogen dioxide and oxides of nitrogen). In addition, it distinguishes alert and limit values (for human beings) from critical levels (for ecosystems, plants, and trees).

Regarding PM₁₀ values, it establishes a daily limit value for PM₁₀ of 50µg/m³ not to be exceeded more than 35 times a calendar year; annual limit value for PM₁₀ of 40µg/m³; hourly limit value for NO₂ of 200µg/m³ not to be exceeded.

It introduced new air quality objectives for PM_{2.5} (fine particles) including the limit value and exposure related objectives – exposure concentration obligation and exposure reduction target.

³⁴ Article 4.

³⁵ Case C-251/14, *György Balázs* [2015] C:2015:687, para. 44.

³⁶ Case T-182/06 *Netherlands v Commission* [2007] ECR I-1983.

³⁷ Article 1(6) of Directive 2010/75/EU of the European Parliament and the Council of 24 November 2010 on industrial emissions, OJ L 344, p. 17.

³⁸ Directive 2004/107/EC of the European Parliament and of the Council relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

What is more, where target values or limit values are exceeded Member States are called on to enact an air quality plan.³⁹ Such plan shall contain the appropriate measures to attain the relevant values.

Although air quality has improved over the past decade thanks to these standards, all EU citizens are still exposed to levels of air pollution that the WHO considers harmful to health.⁴⁰ Given the high levels of air pollution, there are 400,000 premature deaths annually, 10 times the number killed in road accidents. The health problems are particularly acute throughout the EU, especially in urban areas and densely populated regions. In addition, the Commission is of the view that pollution is giving rise to 15 billion annual workday losses and annual damage between 330 and 940 billion euro.⁴¹ According to the EEA 2015 report, 'the annual limit value for nitrogen dioxide (NO₂) was widely exceeded across Europe in 2013, with 93% of all exceedances occurring close to roads. A total of 19 of the 28 EU Member States recorded exceedances of this limit value at one or more stations. Of the EU-28 urban population, 9% lives in areas in which the annual EU limit value and the WHO AQG for NO₂ were exceeded in 2013'.⁴²

This is giving rise to litigation at both the EU and domestic levels. On the one hand, the European Commission has initiated infringement proceedings in accordance with Article 258 TFEU against 18 Member States for breaching the limits on PM₁₀ and NO₂. On the other hand, several NGOs have initiated proceedings against their national agencies on the grounds that they do not comply with Directive 2008/50/EC EQS. By way of illustration, in *ClientEarth v Secretary of State for the Environment, Food and Rural Affairs*, the Supreme Court referred certain questions to the CJEU, who answered them in a judgment dated 14 November 2014 (Case C-404/13).⁴³ Following these precisions, in April 2015, ClientEarth won a landmark case against the UK Government for failing to tackle air pollution. In its judgment, the Supreme Court ordered the UK Government to produce new plans to bring air pollution within legal limits as soon as possible.⁴⁴

b. Advantages and Drawbacks of EQS

The advantages of setting EQS are threefold.

Firstly, EQS cover all pollutants irrespective of their sources whereas ELVs tend to permit the accumulation of a specific pollutant (NO_x, for instance)

given the rise in traffic transportation in urban areas.⁴⁵ These standards provide guarantees of the quality of the air striking a balance between the quality of the environmental medium and the concentration of pollutants.

Secondly, ELVs and EQS should go hand in hand. Indeed, emission standards have to be set with a view to improving air quality. Accordingly, air quality should improve thanks to the introduction of the tougher Euro 6 ELVs.

Thirdly, EQS offer more flexibility to regional or local authorities. Given the sensitivity of some areas (urban areas) more stringent EQS have to be applied in accordance with Article 193 TFEU.

On the negative side, Directive 2008/50/EC EQS offers plenty of grist for debate on the grounds that the legislation leaves the Member States a considerable amount of leeway.⁴⁶

Traditionally, the breach of EQS does not provide an immediate indication of the action to be taken. It signals that the concentration of pollutants exceeds the threshold.⁴⁷ Accordingly, they tend to be set as objectives rather than as legal requirements.⁴⁸ As a result, they may give 'no incentive to polluters to improve their performance in areas in which the standard is already being met'.⁴⁹ Last but not least, EQS are less easy to control and to enforce than ELVs.

Table 4 differentiates the three regulatory techniques discussed above.

Furthermore, EU policy regarding the impacts of cars on air quality can also be conveniently divided into two headings: air quality and product standards. Table 5 summarizes the techniques applied with respect to both the quality of the air and the emission sources (fuels and cars).

39 Article 23(1).

40 EEA, *Air quality in Europe — 2013 Report*.

41 Report of the European Commission, *Improving Air Pollution*, 2013.

42 EEA, *Air quality in Europe — 2015 report*, 5/2015, p. 8.

43 Case C-404/13 *ClientEarth* [2014] C:2014:2382.

44 *ClientEarth v Secretary of State for the Environment, Food and Rural Affairs*, 29 April 2015.

45 S. Bell, D. McGillivray, O. Pedersen, *supra* note 11, p. 244.

46 J.H. Jans and H.H.B. Vedder, *European Environmental Law*, 4th ed. (Groeningen: Europa Law, 2012), p. 421.

47 N. Haigh, *EEC Environmental Policy and Britain*, 2nd ed. (Longman, 1990), p. 17.

48 S. Bell, D. McGillivray, O. Pedersen, *supra* note 11, p. 244.

49 *Ibid.*, p. 244.

Table 4: Typology of environmental regulatory techniques applied to air pollution caused by cars

	EQS	ELV	Product standards
Legislation	Directive 2008/50	Regulation 715/2007	Directive 98/70
Objective	Set of concentrations of pollutants which must be fulfilled at a given time in the air	Standards expressed in terms of level of an emission	Standards setting limits on concentrations of pollutants in the gasoline and in the diesel
Addressees	Authorities	Car producers or importers	Gasoline or diesel producers or importers
Level of stringency	Different course of actions can be triggered in case of exceedances (alert values, limit values, enactment of an air quality plan, etc.) according to the pollutant at issue	Inasmuch as the operator does not exceed the ELVs, he is free to choose the technology	Standards not to be exceeded as regards the fuel's composition
Sanctions	Administrative measures	Administrative and criminal sanctions	Administrative and criminal sanctions

IV. Emission Test cycle

Just as important as the emission standards are the tests needed to ensure the proper compliance with these standards. These are laid out in a standardized emission test cycle aiming at measuring emissions performance against the regulatory thresholds applicable to the tested vehicle. At this stage, two separate, albeit related, issues must be distinguished. The first issue concerns the CE certificate procedure. Closely related to this is the issue of whether the tests are rigorous enough.

1. The Flaws of the Type-approval Procedure

Directive 2007/46/EC⁵⁰ provides the Member States with a common legal framework for the approval of motor vehicles. Under the type-approval regime, be-

fore being placed on the market, the vehicle type is tested by a national technical service. The national approval authority then delivers the approval ('CE certificate') on the basis of these tests. The manufacturer may make an application for approval in any EU country. Thanks to the principle of mutual recognition, the CE certificate is valid throughout the EU. In other words, it suffices that the vehicle is approved in one EU Member State for all vehicles of its type to be registered with no further checks throughout the EU on the basis of their certificate of conformity. However, from an environmental perspective, the system appears to be somewhat flawed. Firstly, given that the national approval authorities' incomes stem from the manufacturers, one could call into question their independence. Secondly, given that the type-approval granted is valid throughout the EU, the national approval authorities are likely to compete with each other.⁵¹ Thirdly, these authorities do not have access to the software which the manufacturer uses.

2. The Flaws of the Testing of Air Emissions Limits

With respect to light vehicles, since the Euro 3 regulations in 2000, performance has been measured us-

50 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 (Framework Directive), OJ L 263, p. 1.

51 L. Krämer, personal communication.

Table 5: Air quality and product standards

LEGAL INSTRUMENTS	AIR QUALITY	PRODUCTS
Legal bases	Article 192 TFEU	Article 114 TFEU
Instruments	Framework directives (Directive 2008/50)	Directives and regulations laying down product standards and ELVs (Regulation 715/2007, Directive 2009/30/EC)
Level of integration	Decentralisation	Centralisation at EU level
Principles	Prevention, precaution, and rectification at source	Prevention, precaution, and substitution
Ex ante assessments	Impact Assessment of proposed legislation	Substance risk assessments
Authorisation	—	No product can be placed on the market without a prior authorisation
Restrictions	Traffic restrictions, process standards likely to be underpinned by EQS	Prohibition or restrictions on the use of hazardous products either in cars or in fuels
Participation	Public enquiry decided at domestic level with respect to the establishment of air quality plans	—
Information for the public	Alert and information values (Directive 2008/50); Access to environmental information (Directive 2003/4)	Environmental labelling (Regulation 443/2009)
Control	Administrative enforcement	Life-cycle approach

ing the New European Driving Cycle (NEDC). Emissions standards for heavy-duty vehicles have been subject to different test requirements.

In spite of the fact that air emissions limits for cars have been progressively tightened, obsolete laboratory testing contribute to explain why they actually remained unenforced. In effect, laboratory tests do not accurately reflect the amount of air pollution emitted during real driving conditions. Several devices are likely to be applied with a view to reducing the emissions (electrical instruments being switched off, battery fully charged, over-inflated tyres, folding of side mirrors, etc.). A consequence of the disparity between the recent Euro standards and the NEDC has been persistent air quality problems, in particu-

lar in urban areas.⁵² It comes thus as no surprise that according to Commission data, currently produced Euro 6 diesel cars exceed the NO_x limit 4-5 times (400%) on average in real driving conditions compared to laboratory testing. In testing 15 Euro 6 diesel cars, the International Council on Clean Transportation (ICTT) found breaches of the 80 mg/km NO_x threshold ranging from 2 to 22 times in different vehicles.⁵³

52 International Council for Clean Transportation (ICTT), *European Vehicle Market Statistics 2013*, p. 11.

53 International Council for Clean Transportation (ICTT), *Assessment of PEMS Datasets from Modern Diesel Passenger Cars*, 20th International Transport and Air Conference, 2014.

To make matters worse, though EU law expressly forbids the use of a defeat device,⁵⁴ VW admitted on 20 September 2015 that it had systematically used a so-called defeat device in its engines with the aim of optimizing apparent emission performance during the emissions test cycle. On 23 September 2015, the undertaking admitted that worldwide, some 11.5 million cars had been manipulated. On 3 November, it acknowledged that up to 800,000 cars had been manipulated to demonstrate low CO₂ emissions. As a result, emissions from typical driving conditions were deliberately left much higher than promised or tested. Was the VW scandal just the tip of the iceberg?

At the very least, the VW scandal highlighted the need to shift the tests out of the lab and onto the road. Given that the Commission's review found that these are no longer adequate or no longer reflect real world emissions,⁵⁵ this institution was called on in virtue of Article 14(3) of Regulation (EC) No 715/2007 to adapt them 'so as to adequately reflect the emissions generated by real driving on the road'. The necessary measures, which are designed to amend non-essential elements of this regulation, by supplementing it, have to be adopted in accordance with the regulatory procedure with scrutiny pursuant to Decision 1999/468/EC.

In the wake of the VW scandal, the European Commission was intent upon introducing testing in real-world conditions called Real Driving Emissions (RDE) in addition to laboratory tests in adopting a regulation amending Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6). The amending regulation follows the principles already applied to heavy-duty vehicles by Euro VI Regulation (EC) 595/2009 and its implementing measures. It provides for a RDE pro-

cedure that shall complement the laboratory based procedure with a view to checking that the emission levels of NO_x are not exceeded. At a later stage, particle numbers (PN), measured during the laboratory test, are also confirmed under real driving conditions. Practically speaking, cars will be tested on roads according to random acceleration and deceleration patterns. The pollutant emissions will be measured by portable emission measuring systems (PEMS) that will be attached to the car. In reflecting real-world driving style to a greater degree, the new tests should score more accurate results than the lab tests.⁵⁶ What is more, in addressing the problem of NO_x emissions from diesel vehicles, the amending regulation should contribute to the decrease of the current sustained high levels of NO₂ concentrations in ambient air, which are a major concern regarding human health.⁵⁷

On 27 October 2015 the European Parliament adopted a resolution calling on the European Commission and the Member States to introduce an ambitious on-the-road test in 2017 to finally meet the current Euro 6 limit for diesel cars of 80 mg of NO_x per km. However, the Commission and the Member States were still at pains to finalize the dates of implementation and the stringency of the new tests.

On 28 October 2015, the Technical Committee of Motor Vehicles (TCMV) voted on the second package of measures on the regulatory not-to-exceed (NTE) emission limits applicable in RDE testing, which needs to enter into force so that RDE testing has implications on the conformity certificate issued by the national type-approval authority (TAA). Though the TCMV voted by a large majority on the second package of implementing measures, it watered down the proposal from the European Commission. Initially, NO_x readings primarily associated with diesel cars could exceed an 80 mg/km limit by 60%, before falling to 20%. In order to allow manufacturers to gradually adapt to the RDE rules, the final quantitative RDE requirements should be introduced in two subsequent steps, although with laxer requirements.

- in a first step, car manufacturers will have to bring down the discrepancy to a conformity factor of maximum 2.1 (110%) for new models by September 2017 (for new vehicles by September 2019); and
- in a second step, this discrepancy will be brought down to a factor of 1.5 (50%), taking account of

54 Article 13 of Regulation (EC) No 715/2007.

55 The Commission has performed a detailed analysis of the procedures, tests and requirements for type approval that are set out in Regulation (EC) No 692/2008 on the basis of own research and external information and found that emissions generated by real driving on the road of Euro 5/6 vehicles substantially exceed the emissions measured on the regulatory New European Driving Cycle (NEDC), in particular with respect to NO_x emissions of diesel vehicles. See Recital 3, Preamble of the Commission Regulation amending Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6).

56 Transport & Environment, *Realistic real-world driving emission tests: the last chance for diesel cars?*, July 2015.

57 Recital 6, Preamble.

Timetable	Vehicles	Conformity factor	Maximum overshoot
September 2019	New models	Maximum 2.1 (110%)	168 mg/km NOx
September 2019	New vehicles	Maximum 2.1 (110%)	168 mg/km NOx
January 2020	All new vehicles	Maximum 1.5 (50%)	120 mg/km NOx

Table 6

technical margins of error, by January 2020 for all new models (by January 2021 for all new vehicles).

Table 6 sets forth these new arrangements.

In spite of these changes, the Commission hammered out a deal with the TCMV calling it a breakthrough on emissions testing.⁵⁸ In particular, Commissioner Elżbieta Bieńkowska, responsible for Internal Market, Industry, Entrepreneurship and SMEs, welcomed the TCMV' agreement. She issued a clarion call: *'The EU is the first and only region in the world to mandate these robust testing methods. ... We will complement this important step with a revision of the framework regulation on type-approval and market surveillance of motor vehicles. We are working hard to present a proposal to strengthen the type-approval system and reinforce the independence of vehicle testing.'*

Given that the new tests have to be adopted by the Commission in accordance with the regulatory procedure with scrutiny,⁵⁹ the European Parliament was empowered under Decision 1999/468/EC to object to it. In Brussels, on 14 December 2015, the Parliament Environment Committee drafted a formal objection to the Commission's proposal stating that the requirements were too lax. The objection was adopted by 40 votes to 9 with 13 abstentions. However, in January 2016 in Strasbourg a deeply divided European Parliament could not muster the objection endorsed by its Environment Committee. Whereas EEP and ECR political groups supported the compromise and the Greens opposed it, other groups, like the Liberals and the Socialists, broke ranks. Moreover, MPs from countries with car industries opposed the resolution. Hence, it failed to overturn the standards agreed in comitology in October 2015 by 317 to 323 MEPs, with 61 abstaining. Commissioner Elżbieta Bieńkowska promised the review of the emissions

overshoot in order to eliminate it by 2020 at the latest.

To assess whether the new RDE requirements amount to a breakthrough or to a hoax depends on which end of the telescope one peers through at the issue. Peering from one end, one could take the view that the allowed divergence between the regulatory limit measured in real driving conditions and measured in laboratory conditions is still a significant reduction compared to the current discrepancy (400% on average). A look from the other end, however, produces a quite different picture. In effect, thanks to a conformity factor of 2.1 from late 2017, diesel cars could emit more than twice the Euro 6 legally binding thresholds. The permitted overshoot shall fall to 50% by 2020. Needless to say, the new measure is especially controversial in the wake of the VW emissions cheating scandal and is likely to even further dent consumer confidence.⁶⁰ In addition, given the high concentrations of NOx emissions in urban areas and the flurry of infringements of Directive 2008/50/EC, urgent consideration should be given to

58 European Commission - Press Release, 'Commission welcomes Member States' agreement on robust testing of air pollution emissions by cars', Brussels, 28 October 2015.

59 The European Parliament and the Council has the right of scrutiny that enables it to pass a resolution if the institution believes that the proposed measure exceeds the implementing powers provided for in the basic act. the "Comitology" Regulation No. 182/2011 on 16 February 2011 did not have the effect of abrogating the RPS introduced by Council Decision 2006/512/EC. Although Regulation No. 182/2011 introduced considerable changes to existing comitology mechanisms, nonetheless the RPS 'shall be maintained for the purposes of existing basic acts making reference thereto'. See Regulation (EU) 182/2011, Article 12(2) and Recital No 21.

60 N. de Sadeleer, 'Dieselgate. Quand l'enfer est pavé de bonnes intentions', *L'Echo*, 25th November 2015, p. 12; A. Gurzu, 'Parliament fails to overturn weak emissions tests' *Politico*, 4 February 2016, p. 14.

robust RDE test with a view to ensuring a significant reduction of NOx emissions.

3. Penalties

In virtue of Article 13 of Regulation (EC) No 715/2007, Member States are called on to lay down the provisions on penalties applicable for infringement by manufacturers of the provisions of this regulation and to take all measures necessary to ensure that they are implemented. One has to bear in mind that Article 197 TFEU refers to an 'effective implementation of Union law by the Member States'.⁶¹

The types of infringements which are subject to a penalty include falsifying test results for type approval⁶². The use of a defeat device that reduces the effectiveness of emission control systems is prohibited.⁶³ The penalties provided for must be 'effective, proportionate and dissuasive'. Given that the penalties have not been harmonized, Member States are empowered to choose the penalties which seem to them to be appropriate. In contrast to US federal law,⁶⁴ the national sanctions for marketing a car that does not conform to a type-approved car appear to be ineffective.⁶⁵ What is more, in order to assess whether the penalty in question is consistent with the principle of proportionality, account must be taken of different factors (the economic benefits for the wrongdoer, previous convictions, etc.). In particular, the national courts will have to pay heed to the nature and degree of seriousness of the infringement which the penalty seeks to sanction and of the means of establishing the amount of the penalty.⁶⁶ In a recent judgment regarding a case of transfrontier movement of waste, the CJEU held that:

'As regards the penalties imposed for infringement of the provisions of Regulation No 1013/2006, which aims to ensure a high level of protection of the environment and human health, the national court is required, in the context of the review of the proportionality of such penalty, to take particular account of the risks which may be caused by that infringement in the field of protection of the environment and human health.'⁶⁷

Given a shortage of data, it is difficult to assess the impact of the national penalties. Moreover, whether recent infringements of Regulation 715/2007 are likely to be prosecuted remains to be seen.

V. Conclusions

According to the EEA, air pollution poses the single largest environmental health risk in Europe today.⁶⁸ In spite of many improvements, substantial challenges remain and considerable impacts on human health and the environment persist.

Against this backdrop, several regulatory issues arise for comment here.

The core issue is whether EU environmental regulations on cars resemble more an approach accompanying the growth of the car industry and enhancing the automotive society rather than a move to call the environmental legacy of car transportation into question. As a matter of fact, all noise, pollution, nuisances, or attacks on the natural environment cannot be prohibited: were this to be done, life within society would become impossible. The only viable solution therefore involves authorising polluting activities and requiring compliance with thresholds (ELVs, EQS, product standards) over which the environmental harm is considered to be unacceptable. Therefore, since a certain level of environmental pollution can be sustained without significant environmental harm, certain limits have been set by the EU institutions on the technical characteristics of cars and fuels and the ability of the ecosystems and human beings to withstand their environmental impacts. In fact, the aim of the EU environmental law model is not to eliminate pollution, but rather to contain its most serious consequences. Yet, the picture is not as idyllic as one might think. The following paradox lies at the heart of the EU clean air policy: though car emission standards have been gradually tightened, ambient air quality in a number of cities has not re-

61 P. Nicolaidis and M. Geilmann, 'What is Effective Implementation of EU Law?' (2012) 19: 3 *MJ* 383-399.

62 Article 13 (2) b.

63 Article 5 (2). Regarding the definition of defeat device, see Article 1(3).

64 § 7522(a) (1) Clean Air Act.

65 L. Krämer, personal communication.

66 See, inter alia, C-259/12 *Rodopi-M 91* [2013] EU:C:2013:414, para. 38; Case C-487/14, *SC Total Waste Recycling SRL* [2015] C:2015:780, para. 53.

67 Case C-487/14 *SC Total Waste Recycling SRL* [2015] C:2015:780, para. 55.

68 European Environment Agency, *Air quality in Europe — 2015 report*, 5/2015, p. 7.

ally improved. In particular, emissions of NO_x from road transport have not sufficiently decreased to meet air quality standards in many urban areas.⁶⁹ Accordingly, air quality standards and economic imperatives appear to clash.

Needless to say, the path ahead which must be followed in order to reconcile growth with environmental protection, under the aegis of sustainable development, remains littered with at least three pitfalls.

The success of a clean air policy depends upon a genuine coordination of regulations on fuel efficiency, tailpipe emissions, engine performance, and fuel content. EU law is falling short of meeting that objective. In order to understand the subject matter, one has to juggle numerous directives and regulations spewing out excessive detailed technical measures, measurements, and controls which are constantly modified. Given the absence of consolidating texts, one is struck by the lack of transparency⁷⁰ and the shortage of interactions between these different regulations.

What is more, given the sheer increase of cars placed on the market and the distances covered by drivers, the EU standards should be technology-forcing. However, account must be taken of the fact that, so far, the EU standards did not succeed in forcing the manufacturers and importers to produce alternatively powered vehicles that release a lesser amount of pollutants. In fact, the vast majority of Europe's new cars remain powered by gasoline or diesel motors.⁷¹ Despite an increase over the last few years, passenger cars powered by alternative fuels, including hybrid cars, only made up a small share of the fleet of passenger cars in the EU in 2013.

A final issue touches upon the question of inefficacy of EU law regarding testing car emissions. Here, it is necessary to face hard facts: the main weakness of EU rules is, as recognised by the Commission, their lack of efficacy, with directives and regulations appearing as paper tigers. As a matter of principle, the Commission, as Guardian of the Treaties, should pursue these infringements relentlessly. Here, too, there are numerous pitfalls. Firstly, given the decentralized nature of the EU, compliance with EU emission standards depends on at least 28 different legal and administrative systems underpinned by different cultural factors.⁷² Secondly, the Commission is not sufficiently well informed. Since it does not have any general powers of inspection, nor a body of inspectors, the control exercised by this institution over the national authorities is based largely on the reports transmitted by the Member States. Thirdly, the EU institutions do not appear willing to take bold steps in improving the enforcement. The Commission has been criticised for its inaction in the aftermath of the VW scandal. The European Parliament has been unwilling to object the amending regulation on RDE.

In hindsight, it appears that the EU approach to air pollution caused by light cars has turned out to be little more than a bandaid on a gaping sore.

69 *Ibid.*, p. 9.

70 L. Krämer, *EC Environmental Law*, supra note 21, p. 317.

71 International Council for Clean Transportation, *European Vehicle Market Statistics 2013*, p. 6.

72 C. Sobotta, 'Compliance with European Environmental Law – Deficiencies and Approaches' *JEEPL* 9(1) (2012), p. 93.