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COURT OF AMSTERDAM

A fdeliii* private law

case number , case number: C 13 ’705 I ?2 HA ZA 2.1 -68 7. C 13 ? 12 7S4 HA ZA 22-7 I eleven C ’’13.712812 HA ZA 22-72

Judgment of 30 July 202a

in de zaak C/13/705132 / HA ZA 21-687 van

the foundation
STICHTING EM ISSION C LA I M.
3exestigd in Aiiisterdain.
plaintiff,
represented by C. Jeloscliek, lawyer in

Amsterdam, against

1. the unnamed partnership
STELLANTIS N.V.,
established in Amsterdam.
2 The decision-making body is called STE L **LANTIS NE** DE RLAN D B.V..
3registered in Amsterdam.
defendants 1 and 2
ada ocaat rn r. A. Kni33e in Amsterdam,

and

ict ‹le -‹/‹rk C' /J 7/ 2 75V *HA Z.4 22-71* r‹io

the foundation
STICHTING CAR CLAI M.
established in Rotterdam,
plaintiff.
l a w yer P. Haas in Rotterdam.

against the defendants mentioned above a n d 2, defendants and

4. the legal entity under foreign law
STELLANTIS AUTO S.A.S., formerly PSA AUTOMOBILES S.A.,
established in Poissy, France,
5. the legal entity under foreign law
AUTOMOBILES PEUGEOT S.A.,

The original defendant 3 is no longer mentioned because the court declared itself incompetent to hear the claims against defendant 3 in its earlier judgment of 16 August 2023. The same applies to the original defendants I ?8 to I-t I

established in Poissy, France,
6. the legal entity under foreign law
AUTOMOBILES CITROËN S.A.S.,
established in Poissy, France,
7. the legal entity under foreign law
GM DEUTSCHLAND HOLDINGS GMBH, formerly ADAM **OPEL GMBH,**
established in Frankfurt am Main, Germany,
8. the legal entity under foreign law
OPEL AUTOMOBILE GMBH,
established in Rüsselsheim am Main, Germany,
9. the legal entity under foreign law
GENERAL MOTORS HOLDINGS LLC,
with its registered office in Detroit (Michigan), United States of America,
10. the legal entity under foreign law
GENERAL MOTORS COMPANY,
with its registered office in Detroit (Michigan), United States of
America, defendants 4 to 10,
represented by A. Knigge, lawyer in Amsterdam,

and against

11. the private limited liability company
NEFKENS B.V.,
established in Utrecht,
12. the private limited liability company
A. VAN **BEEK & ZN. B.V.,**
established in Oudenbosch,
13. the private limited liability company
AUTO BHB B.V.,
established in Leeuwarden,
14. the private limited liability company
AUTO HAAIMA B.V.,
established in Leeuwarden,
15. the private limited liability company
AUTO HILLEN B.V.,
established in Steenderen,
16. the private limited liability company
AUTO JETTEN CUIJK B.V.,
established in Cuijk,
17. the private limited liability company
AUTO KLAVER 5 B.V.,
established in Alkmaar,
18. the private limited liability company
AUTO ROGGEVEEN B.V.,
established in Capelle aan den IJssel,
19. the private limited liability company
AUTO VERSTEEG BUURMAN BARNEVELD B.V.,
established in Barneveld,
20. the private limited liability company

AUTO VERSTEEG BUURMAN EDE C B.V.,
established in Voorthuizen,
21. the private limited liability company AUTO VERSTEEG BUURMAN EDE P B.V.,
established in Ede (Gelderland),
22. the private limited liability company AUTO VERSTEEG BUURMAN ERMELO B.V.,
established in Ermelo,
23. the private limited liability company AUTO VERSTEEG BUURMAN VEENENDAAL B.V.,
established in Voorthuizen,
24. the private limited liability company AUTO VERSTEEG BUURMAN VOORTHUIZEN B.V.,
established in Voorthuizen,
25. the private limited liability company AUTO VERSTEEG BUURMAN WAGENINGEN B.V.,
established in Wageningen,
26. the private limited liability company AUTO VERSTEEG BUURMAN WOUDENBERG B.V.,
established in Woudenberg,
27. the private limited liability company AUTO VISSCHER I B.V.,
established in Culemborg,
28. the private limited liability company AUTOBEDRIJF AMBERGEN B.V.,
established in Stadskanaal,
29. the private limited liability company AUTOBEDRIJF BASTIANS BOZ B.V.,
established in Steenbergen (North Brabant),
30. the private limited liability company AUTOBEDRIJF BASTIANS STB B.V.,
established in Steenbergen (North Brabant),
31. the private limited liability company AUTOBEDRIJF BOUWMAN OMMEN B.V.,
established in Ommen,
32. the private limited liability company AUTOBEDRIJF C. VAN DER MAAT B.V.,
established in Blokker,
33. the private limited liability company AUTOBEDRIJF DIRKS B.V.,
established in Bergeijk,
34. the private limited liability company AUTOBEDRIJF FRANKEN B.V.,
established in Nunspeet,
35. the private limited liability company **AUTOBEDRIJF GAUKE HIJLKEMA** B.V.,
established in Drachten,
36. the private limited liability company AUTOBEDRIJF “GORCUM” B.V.,

established in Gorinchem,
37. the private limited liability company AUTOBEDRIJF GROENEWOUD VAN KESTEREN B.V.,
established in Schagen,
38. the private limited liability company AUTOBEDRIJF HIJLKEMA EMMELOORD B.V.,
established in Emmeloord,
39. the private limited liability company AUTOBEDRIJF HIJLKEMA HEERENVEEN B.V.,
established in Heerenveen,
40. the private limited liability company AUTOBEDRIJF **HIJLKEMA** SNEEK B.V.,
established in Sneek,
41. the private limited liability company JANSSEN KERRES NUENEN B.V.,
established in Gerwen,
42. the private limited liability company JANSSEN KERRES VENLO B.V.,
established in Venlo,
43. the private limited liability company AUTOBEDRIJF JAN GROET B.V.,
established in Den Helder,
44. the private limited liability company JANSSEN KERRES HEERLEN B.V.,
established in Heerlen,
45. the private limited liability company JANSSEN KERRES MAASTRICHT B.V.,
established in Maastricht,
46. the private limited liability company JANSSEN KERRES SITTARD B.V.,
with its registered office in Sittard,
47. the private limited liability company AUTOBEDRIJF KOOIMAN B.V.,
established in Oud-Beijerland,
48. the private limited liability company AUTOBEDRIJF LIEWES RODEN B.V.,
established in Roden,
49. the private limited liability company DRIESSEN AUTO V B.V.,
established in Eindhoven,
50. the private limited liability company GARAGE A.H. DEN BREEJEN ALMKERK B.V.,
established in Almkerk,
51. the private limited liability company GARAGE DE BLIEK B.V.,
established in Oostburg,
52. the private limited liability company GARAGE G.C. VAN VLIET & ZN B.V.,
established in Woerden,

53. the private limited liability company
GARAGE HARTGERINK B.V.,
established in Hengevelde,
54. the private limited liability company
HAARDIJK AUTOMOTIVE B.V.,
established in Hardenberg,
55. the private limited liability company
HEKKERT HEERLEN B.V.,
established in Heerlen,
56. the private limited liability company
HEKKERT MAASTRICHT B.V.,
established in Maastricht,
57. the private limited liability company
HEKKERT ROERMOND B.V.,
established in Roermond,
58. the private limited liability company
HEKKERT SITTARD B.V.,
established in Heerlen,
59. the private limited liability company
HEKKERT VENLO B.V.,
established in Venlo,
60. the private limited liability company
HENRI & HERMAN B.V.,
established in Amersfoort,
61. the private limited liability company JANSSEN VAN
KOUWEN AUTOMOTIVE B.V.,
established in Amsterdam,
62. the private limited liability company
KAMP TWENTE B.V.,
established in Hengelo (Overijssel),
63. the private limited liability company LOUWMAN PB
B.V.,
established in 's-Gravenhage,
64. the private limited liability company LOUWMAN PG
B.V.,
established in 's-Gravenhage,
65. the private limited liability company LOUWMAN PR
B.V.,
with its registered office in The Hague,
66. the private limited liability company
MEKENKAMP AUTO'S B.V.,
established in Bunnik,
67. the private limited liability company
MOTORHUIS B.V.,
established in Leiden,
68. the private limited liability company
MULDERS AUTOBEDRIJF B.V.,
established in Tiel,
69. the private limited liability company

MULDERS AUTOBEDRIJF **NIJMEGEN** B.V.,
established in Tiel,
70. the private limited liability company OPEL CENTRALE SLIEDRECHT B.V.,
established in Sliedrecht,
71. the private limited liability company OPELCENTRALE ALBLASSERDAM B.V.,
established in Papendrecht,
72. the private limited liability company ORANGE MOTORS B.V.,
established in Naaldwijk,
73. the private limited liability company PEEMAN EN SLOT B.V.,
established in Den Helder,
74. the private limited liability company STERN 50 B.V.,
established in Wormerveer,
75. the private limited liability company VAN BEEK AUTOBEDRIJF BERGEN OP ZOOM B.V.,
established in Bergen op Zoom,
76. the private limited liability company VAN BEEK AUTOBEDRIJF BREDA B.V.,
established in Breda,
77. the private limited liability company VAN BEEK AUTOBEDRIJF ROOSENDAAL B.V.,
established in Roosendaal,
78. the private limited liability company VAN BEEK AUTOBEDRIJF VLISSINGEN B.V.,
established in Vlissingen,
79. the private limited liability company VAN DE WEEM VENRAY B.V.,
established in Venray,
80. the private limited liability company VAN DER BURG AUTOMOTIVE B.V.,
established in Zoetermeer,
81. the private limited liability company VAN DER LINDEN VAN SPRANKHUIZEN B.V.,
established in Hoorn NH,
82. the private limited liability company VAN **MILL** DORDRECHT B.V.,
established in Dordrecht,
83. the private limited liability company VAN MOSSEL CITROËN B.V.,
established in Amsterdam,
84. the private limited liability company VAN MOSSEL OPC B.V.,
established in 's-Hertogenbosch,
85. the private limited liability company VAN MOSSEL WEST B.V.,

established in Amsterdam,
86. the private limited liability company VAN OORD **LEIDSCHE RIJN** B.V.,
established in Maarssen,
87. the private limited liability company VAN OORD MAARSSEN B.V.,
established in Maarssen,
88. the private limited liability company VAN OORD-BOLL ZEIST B.V.,
with its registered office in Maarssen,
89. the private limited liability company VAN VLIET PGH B.V.,
established in Woerden,
90. the private limited liability company WASSINK AUTOGROEP C B.V.,
established in Doetinchem,
91. the private limited liability company WASSINK AUTOGROEP P B.V.,
established in Doetinchem,
92. the private limited liability company WELLING CARS B.V.,
established in Heerlen,
93. the private limited liability company WELLING HEUVELLAND B.V.,
established in Heerlen,
94. the private limited liability company **WELLING WESTELIJKE** MIJNSTREEK B.V.,
established in Heerlen,
95. the private limited liability company WENSINK AUTOMOTIVE B.V.,
established in Apeldoorn,
96. the private limited liability company WIJNAND'S AUTO SERVICE BUNSCHOTEN B.V.,
established in Bunschoten,
97. the partnership **AUTOMOBIELBEDRIJF BOUWMAN**
trading under the name AUTOBEDRIJF M.C. BOUWMAN,
with its registered office in Ommen,
98. the private limited liability company AUTOBEDRIJF MULDER B.V.,
established in Zwolle,
99. the private limited liability company AUTOBEDRIJF MULDER BALK B.V.,
with its registered office in De Fryske Marren,
100. the private limited liability company AUTOBEDRIJF MULDER DORDRECHT B.V.,
established in Dordrecht,
101. the private limited liability company AUTOBEDRIJF NIJS B.V.,

established in Someren,
102. the private limited liability company AUTOBEDRIJF NOTEBOOM ROTTERDAM B.V.,
established in Rotterdam,
103. the private limited liability company AUTOBEDRIJF STROEVE B.V.,
established in Coevorden,
104. the private limited liability company AUTOBEDRIJF TINEKE GROET B.V.,
established in Schagen,
105. the private limited liability company AUTOBEDRIJF VAN FRAASSEN B.V.,
established in Goes,
106. the private limited liability company AUTOBEDRIJF VAN JAARSVELD B.V.,
established in Montfoort,
107. the private limited liability company AUTOBEDRIJF VAN SCHIE B.V.,
established in 's-Gravenzande,
108. the private limited liability company AUTOBEDRIJF VAN VOORDEN ALMERE B.V.,
established in Almere,
109. the private limited liability company AUTOBEDRIJF WETERINGS B.V.,
established in Gilze,
110. the private limited liability company **AUTOBEDRIJF WILMINK** ALMELO B.V.,
established in Almelo,
111. the private limited liability company AUTOBEDRIJF WISSE B.V.,
established in Terneuzen,
112. the private limited liability company AUTOHUIS DE POORT B.V.,
established in Amersfoort,
113. the private limited liability company AUTOHUIS **DELFZIJL** B.V.,
established in Delfzijl,
114. the private limited liability company AUTOMOBIEL- EN GARAGEBEDRIJF M. VAN TILBORG B.V.,
established in Zaltbommel,
115. the private limited liability company AUTOMOBIELBEDRIJF P. EN D. BROERE B.V.,
established in Krimpen aan den IJssel,
116. the private limited liability company AUTOMOBIELBEDRIJF RUESINK DOETINCHEM B.V.,
established in Doetinchem,
117. the private limited liability company AUTOMOBIELBEDRIJF RUESINK ENSCHEDE B.V.,
established in Enschede,

118. the private limited liability company
AUTOMOBIELBEDRIJF RUESINK RUURLO B.V.,
established in Ruurlo,
119. the private limited liability company
AUTOMOBIELBEDRIJF RUESINK ZUTPHEN B.V.,
established in Zutphen,
120. the private limited liability company
AUTOMOBIELBEDRIJF **THALEN** BEILEN B.V.,
located in Midden-Drenthe,
121. the private limited liability company
AUTOMOBIELBEDRIJF VAN SPLUNDER B.V.,
established in Ridderkerk,
122. the private limited liability company AUTOMOBIELBEDRIJF VAN
SPLUNDER OUD-BEIJERLAND B.V.,
established in Oud-Beijerland,
123. the private limited liability company
AUTOMOBIELBEDRIJF VOS DEN BOSCH B.V.,
established in Genderen,
124. the private limited liability company
AUTOMOBIELBEDRIJF VOS ZANDDONK B.V.,
established in Waalwijk,
125. the private limited liability company AUTOPALACE
ZWOLLE B.V.,
established in Zwolle,
126. the private limited liability company BERTENS
TILBURG B.V.,
established in Tilburg,
127. the private limited liability company
BROEKHUIS ALMERE B.V.,
established in Almere,
128. the private limited liability company BROEKHUIS EDE
B.V.,
with its registered office in Ede (Gelderland),
129. the private limited liability company BROEKHUIS
HARDERWIJK B.V.,
established in Harderwijk,
130. the private limited liability company BROEKHUIS
HENGELO B.V.,
established in Hengelo (Overijssel),
131. the private limited liability company DAVO
AUTOBEDRIJVEN B.V.,
with its registered office in The Hague,
132. the private limited liability company DE GOEIJ
GARAGE B.V.,
established in Montfoort,
133. the private limited liability company DE JONG
AUTOBEDRIJF KATWIJK B.V.,
established in Katwijk,
134. the private limited liability company

DELSINK AUTO'S B.V.,
established in Renkum,
135. the private limited liability company
DRIESSEN AUTO I B.V.,
established in Eindhoven,
136. the private limited liability company
AUTOBEDRIJF NOTEBOOM ROTTERDAM NOORD B.V.,
established in Rotterdam,
137. the private limited liability company CARABAS B.V.,
established in Papendrecht,
defendants 1 to 137,
lawyer M.J. van Joolingen in 's-Hertogenbosch,

and

in your case C/13 712812 HA ZA 22-72 of

the foundation
STICHTING DIESEL EMISSIONS JUSTICE,
established in Amsterdam,
plaintiff,
represented by J.D. Edixhoven, lawyer in Amsterdam,

against the defendants named above under 1, 2 and 4 to 137.

The plaintiffs will hereinafter be referred to individually as SEC, SCC and SDEJ. Together, they will be referred to as the Foundations. Defendants 1, 2 and 4 to 10 will hereinafter be referred to collectively as Stellantis et al. Defendants 11 to 137 will hereinafter be referred to collectively as the Car Dealers. Stellantis et al. and the Car Dealers will also be referred to collectively as the defendants.

1. The proceedings

1.1. The **further** course of the proceedings in the three cases that have now been joined is apparent from:
- the order of 18 September 2024,
- the deed of the court's authority to rule on IMIs' by SDEJ (also on behalf of SEC and SCC),
- the deed on the EU legal framework for type approvals by Stellantis et al.,
- the statement of defence on the EU law framework for type approvals by the Car Dealers,
- the case list decision of 11 February 2025,
- the abridged report of the oral hearing of 1 February 2025 and the documents referred to therein

the documents **referred to therein**.

1.2. Finally, judgment has been rendered.

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[3] IM I: illegal manipulation tool

2. What is this case about?

2.1. This case is a collective action. Each of the Foundations acts as an advocate for the (former and current) owners of certain types of diesel cars of the Opel, Peugeot, Citroën and DS car brands that were placed on the market between 1 September 2009 and 1 September 2019. According to the Foundations, these diesel vehicles contain prohibited manipulation devices, which cause the emission control systems in these vehicles to perform less well (or not at all) on the road compared to the test situation, and as a result, the vehicles emit more nitrogen oxide (NOx) than is permitted. According to the Foundations, this has caused damage to the car owners. The Foundations have brought claims against Stellantis et al. (consisting of, among others, top holding companies, car manufacturers and distributors) and against the car dealers who, according to the Foundations, sold these cars.

2.2. In the previous phase of the proceedings (see the interim judgments of 16 August 2023 and 29 November 2023), the court ruled on formal aspects of the case. The court ruled that it has jurisdiction t o hear the claims against the Dutch defendants (Stellantis N .V., Stellantis Nederland B .V. and the car dealers) and the claims brought on behalf of Dutch car owners against the EU defendants (Stellantis Auto S.A.S., Automobiles Peugeot S.A., Automobiles Citroën S .A.S., GM Deutschland Holdings GmbH, Opel Automobile GmbH), General Motors Holdings LLC and General Motors Company.
It has also been decided that the old collective right of action applies to the claims of the Foundations, i.e. the right of action as it applied until 1 January 2020. Dutch law applies to the substantive assessment of the claims.
Furthermore, it has been decided which claims of the Foundations can be dealt with in these proceedings. Finally, the court ruled that the Foundations are admissible: they meet the guarantee requirement and the other legal requirements to proceed as a collective representative.

2.3. At this stage of the proceedings, the central question is whether the defendants are liable to the persons on whose behalf the Foundations are acting. This primarily concerns the factual question, which is essential for that liability, of whether the diesel-powered vehicles that (the legal predecessors of) Stellantis et al. and the car dealers placed on the Dutch market in the period from 1 September 2009 to 1 September 2019 contain manipulation devices and whether there is any justification for their presence. The oral hearing on 11 February 2025 focused on the aforementioned factual question and on the question of the significance of the type-approval decisions. The court requested the parties to also address the question of when a manipulation device is inadmissible in civil law and what role European regulations, including the Emissions Regulation, type approvals, a conformity factor, (mandatory or non-mandatory and irrevocable or non-irrevocable) recall actions and other circumstances play in this regard.
Furthermore, during the oral hearing in the context of the question of liability, the burden of proof and the request of the Foundations pursuant to Article
22 of the Dutch Code of Civil Procedure.

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2.4. In this judgment, the court ruled that it has jurisdiction to rule on whether the diesel vehicles in question are equipped with prohibited manipulation devices. The fact that type approvals have been issued by the approval authorities does not preclude this. The court then ruled that the Opel vehicles of the Euro 5 and Euro 6b generations, as well as the Peugeot, Citroën and DS vehicles of the Euro 6b generation, are equipped with prohibited manipulation devices. Unless proven otherwise, it is presumed that the Euro 5 Peugeot, Citroën and DS vehicles are equipped with one or more prohibited manipulation devices.

3. The facts

Diesel vehicles manufactured by Stellantis et al.

3.1. Stellantis et al. include car manufacturers of the Peugeot, Citroën, DS and Opel brands and affiliated companies. For the position of the individual defendant companies that are part of the Stellantis group and the formation of the current Stellantis group, the court refers to the findings of fact in the interim judgment of 16 August 2023 (in particular paragraphs 3.16 to 3.23 and 3.29 to 3.32).

3.2. The Car Dealers are a group of car dealers based in the Netherlands. At least some of the Car Dealers sell vehicles of the Peugeot, Citroën, DS and Opel brands.

3.3. Between 2009 and 2019, Stellantis et al. marketed various diesel vehicles. These include the following models:

Peugeot	**Citroën**	DS	**Opel**
207	C 1	DS3	Adam
307	C2	DS4	Corsa
407	C3	DS5	Crossland
208	C4	DS7	Mokka
308	C5		Astra
508	C6		Grandland
2008	C8		Insignia
3008	Berlingo		Cascada
5008	Jumpy		Combo
Partner	Jumper		Zafira
Expert	Nemo		Meriva
Boxer			Vivaro
Bipper			Movano

3.4. Various engine capacities and versions of diesel vehicles have been brought onto the market.

Regulations for vehicle manufacturers and emission limits for diesel vehicles

3.5. European directives and regulations apply in the European Union that impose obligations on car manufacturers who wish to place motor vehicles on the European market.

3.6. The Framework Directive on Vehicles, the Emissions Regulation, the Test Regulation and the Framework Regulation on Vehicles are among the most important pieces of legislation in this procedure. Although the Framework Directive on Vehicles was repealed with effect from 1 September 2020, it is still relevant to this procedure because of the period to which the claims of the Foundations relate (1 September 2009 to 1 September 2019).

3.7. Before a motor vehicle can be put into service, it must obtain type approval. Vehicle type approval is harmonised within the European Union on the basis of the Motor Vehicle Framework Directive. Under Article 7(1) of the Motor Vehicle Framework Directive, the manufacturer must submit an application for approval to the approval authority in one Member State. The approval authority then assesses whether the type of vehicle complies with the applicable European regulations. If it approves the application, it issues a type-approval certificate (Article 3(33) of the Motor Vehicle Framework Directive). The manufacturer must then provide the vehicle with a Certificate of Conformity (hereinafter: CoC) in accordance with Article 18(1) of the Motor Vehicle Framework Directive. With the CoC, the manufacturer declares that the vehicle in question conforms to the vehicle type for which type approval has been obtained and that it complies with all relevant regulations at that time. Once the CoC has been granted, the car can be used anywhere in Europe.

3.8. The introduction of the Framework Regulation on Vehicles has brought in new provisions for market surveillance. Under the Framework Regulation on Vehicles, market surveillance authorities have been given enforcement powers to impose measures on vehicles that have already been type-approved.

3.9. As part of the type approval process, cars must comply with the Emissions Regulation. The Emissions Regulation aims to reduce vehicle emissions, in particular NOx emissions from diesel vehicles, in order to achieve the air quality objectives in the European Union. The relevant provisions of the Emissions Regulation are as follows:

' 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.

6 Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information.

"Commission Regulation (EC) No 692/2008 of 18 July 2008 implementing and amending the Emission Regulation.

' Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No. 715 '2007 and (EC) No 595/2009 and repealing Directive 2007 '46'EC. Recitals 4, 5 and 6 of the Emissions Regulation.

“Article 3
Definitions

For the purposes of this Regulation and its implementing measures, the following definitions apply:

10. ‘manipulation device’ means a component that measures the temperature, driving speed, engine speed, gear position, intake pressure or other parameters in order to activate, modulate, delay or disable a component of the emission control system, thereby reducing the effectiveness of the emission control system under conditions that can be expected during normal use of the vehicle;
(…)

Article 4
Obligations of manufacturers

1. Manufacturers shall demonstrate that all new vehicles sold, registered or put into service in the Community have been type-approved in accordance with this Regulation and comply with its implementing measures. (...)
These obligations include compliance with the emission limit values set out in Annex I and the implementing measures referred to in Article 5.
2. Manufacturers shall ensure that the type-approval procedures for checking the conformity of production, the durability of the emission control system and the conformity of vehicles in service are complied with.
In addition, the technical measures taken by the manufacturer must be such as to ensure that the exhaust and evaporative emissions are effectively limited in accordance with this Regulation throughout the normal life of the vehicles under normal conditions of use. (...)

Article S
Requirements and tests

1. Manufacturers shall equip their vehicles in such a way that the components that may affect emissions are designed, constructed and assembled so that the vehicle can comply with this Regulation and its implementing measures under normal conditions of use.
2. The use of manipulation devices that reduce the effectiveness of emission control systems is prohibited. This prohibition does not apply if:
a) the device is necessary to protect the engine from damage or accidents and to ensure the safe operation of the vehicle;
b) the device only functions when the engine is started, or
c) the conditions have been taken into account to a significant extent in the test procedures for checking evaporative emissions and average exhaust emissions.

3.10. Annex I to the Emissions Regulation sets out the emission limits that vehicles must comply with. For Euro 5 diesel vehicles, where relevant, an NOx limit value of 180 mg/km applies, and for Euro 6 diesel vehicles, where relevant, an NOx limit value of 80 mg/km applies. Within Euro 6, the following generations can be distinguished: 6b, 6c, 6d-temp and 6d. The same NOx limit value (80 mg/km) applies to these variants, but the testing method is different.

3.1 l . Vehicles requiring type approval must be tested in accordance with the provisions of the Test Regulation. A test is standardised on the basis of prescribed, public parameters. Euro 5 and Euro 6b vehicles are tested

the *New European Driving Cycle* (hereinafter: NEDC test). The NEDC test takes place in a laboratory on a roller bench and consists of four simulations of city driving *(Urban Driving Cycle)* and one simulation of driving outside built-up areas *(Extra Urban Driving Cycle),* at higher speeds.

3.12. As of 1 September 2018, the NEDC test has been replaced by the *Worldwide Harmonised Light Vehicles Test Procedure* (hereinafter: WLTP test). Euro 6c, 6d-temp and 6d vehicles are tested using the WLTP test. This test also takes place on a roller bench in a laboratory. As of 1 September 2019, the WLTP test will be supplemented by the *Real Driving* £ntis5ioiis test (hereinafter: RDE test), which takes place on the road. Euro 6d-temp vehicles and Euro 6d vehicles will be tested using the WLTP and RDE tests from 1 September 2019.

The operation of a diesel engine and the use of emission control systems

The operation of a diesel engine

3.13. Compared to a petrol engine, a diesel engine has more power. A diesel engine also offers more torque (pulling power) at low revs compared to a petrol engine. Due to the way diesel burns, diesel engines need to be more robust than comparable petrol engines.

3.14. A diesel engine works on the principle of self-ignition. Fuel is mixed with air in the engine's combustion chamber, where it is ignited under high pressure. The energy released drives the mechanical parts of the engine. In simple terms, this process works as follows. The combustion chamber consists of a cylinder containing a piston that moves up and down. When the piston moves down, the air intake valve is open and the combustion chamber fills with air. When the piston then moves up, the air intake valve is closed and the air in the combustion chamber is compressed (compression). This compression increases the pressure and temperature of the air in the combustion chamber. When the piston reaches its highest point and the pressure is at its highest, diesel is injected into the combustion chamber. The heat causes the diesel, combined with air, to ignite as soon as the auto-ignition temperature is reached. This combustion causes a powerful downward movement of the piston. The movement of the piston in turn causes the crankshaft to rotate.

3.15. In the report submitted by Stellantis from Lesueur dated 17 December 2024, the operation of the combustion engine and the four-stroke cycle of that process (intake, compression, combustion, exhaust) are visually illustrated using the image below, taken from the *Encyclopaedia Britannica*:

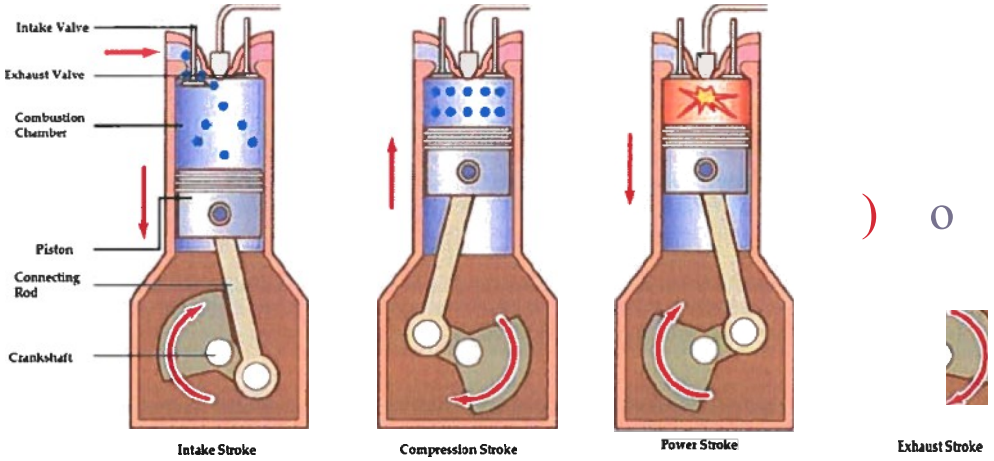

Figure 1 The four-stroke combustion process in Diesel engines!

The use of emission control systems to limit emissions

3.16. Compared to petrol, diesel combustion produces less carbon dioxide (CO), but more other harmful substances, such as nitrogen oxides (hereinafter: NOx), soot and particulate matter. There are various techniques for reducing NOx emissions, including *exhaust gas recirculation (*EGR), *selective catalytic reduction (*SCR) and *Lean NOx Trap (*LNT).

3.17. Under the Euro 5 standard, only EGR technology was used as an emission control system in the diesel vehicles concerned. Under the Euro 6 standard, SCR or LNT was also used in addition to EGR technology. Each of these three technologies is discussed in more detail in sections 3.19-3.24 below.

The electronic control of the engine and the emission control system

3.18. Diesel vehicles are equipped with an on-board computer, also known as an *electronic control* unit (ECU). The ECU controls the mechanical and electronic processes in a diesel car based on values measured by sensors. The engine, including emission control and treatment, of a diesel vehicle is controlled by the ECU. The ECU receives data from various systems in the vehicle and this data is interpreted by software. The software then sends signals to the engine and related systems, including the emission control systems, which are used to control the engine(s). The ECU adjusts the behaviour of the engine and the emission control systems during vehicle use based on the conditions under which the vehicle is being used. The operation of the ECU and the content and calibrations of the software used by the ECU are determined by the car manufacturer. The software is programmed by or on behalf of the car manufacturer.

Techniques to limit emissions of harmful substances

* Exhaust gas recirculation (EGR)

3.19. EGR is a technology designed to limit the initial formation of NOx in the combustion chamber. It involves exhaust gases produced during the combustion process being fed back into the engine's combustion chamber via an EGR cooler (exhaust gas recirculation) and mixed with fresh incoming air.

3.20. An EGR system consists of an EGR cooler, which reduces the temperature of the recirculated gas, an EGR valve that operates in different positions, and an EGR pipe through which the exhaust gases are fed back into the engine's combustion chamber. The EGR ratio is the indication of the amount of exhaust gas that is fed back into the engine's combustion chamber. The EGR rate is usually expressed as a percentage of the total air flow (fresh air and exhaust gas combined) entering the combustion chamber. A high EGR rate indicates that, proportionally, more exhaust gases and less fresh air are entering the combustion chamber. A higher EGR rate generally leads to lower NOx concentrations in the exhaust gases that ultimately leave the engine.

3.21. The use of EGR lowers the combustion temperature in the engine's combustion chamber. An additional effect of this is poorer combustion of diesel, higher production of soot and other particles, and reduced power. In addition, EGR has a negative effect on fuel consumption and driving performance.

* Selective catalytic reduction (SCR)

3.22. SCR is a technology that treats and reduces NOx in the exhaust system before it is emitted through the exhaust pipe. This technology uses a catalytic converter. A urea solution (often referred to by the brand name
Ad Blue) is injected, causing a chemical reaction between ammonia and NOx. This requires a temperature of approximately 200 degrees Celsius. NOx is then converted into mainly nitrogen and water. The use of an SCR system requires the installation of a urea tank. In some diesel cars, the user can refill the urea tank themselves, while in others this can only be done during a service at the garage.

3.23. For SCR technology to work efficiently, the engine must reach a certain temperature. When used optimally, SCR achieves better results than the LNT technology discussed below, particularly in heavier vehicles and under heavier loads. SCR is less suitable for use in smaller (city) vehicles.

* Lean NOx trap (LNT)

3.24. With LNT technology, the NOx in exhaust gases is captured in a catalytic converter. This contains an absorbent, such as zeolite, to which NOx can attach itself. Once the temperature of the catalytic converter is within a certain range, the

captured NOx is converted into nitrogen by means of a catalytic reaction.[10] The catalyst continues to work until it is full.

3.25. The LNT technology is not used in Peugeot, Citroën and DS vehicles, but it is used in some Opel vehicles of the Euro 6b and Euro 6c generation. LNT is mainly used in engines with a smaller displacement.

* Other techniques

3.26. In addition to the three techniques mentioned above, other systems are also used to reduce harmful emissions. For example, diesel vehicles are generally equipped with a diesel oxidation catalyst and a diesel particulate filter. A diesel oxidation filter converts some of the hydrocarbons and carbon monoxide formed into water vapour and carbon dioxide. A diesel particulate filter filters the amount of particulate matter (soot) before the emissions leave the vehicle's exhaust.

The Volkswagen diesel scandal in 2015

3.27. In 2015, it came to light that certain diesel cars manufactured by Volkswagen (and by Audi, Seat, Skoda and Porsche, hereinafter referred to collectively as Volkswagen) emitted much higher levels of NOx than permitted by regulations. In September 2015, Volkswagen publicly admitted that the software in its diesel engines with an EA l 89 engine was fraudulent. This Volkswagen software used test detection: when the system detected that the vehicle was in test conditions, the emission control system operated much better than in real-world driving conditions. A mechanism that recognises whether the vehicle is in test conditions and switches certain functions on or off based on this is also known as a *cycle beater*.

3.28. Volkswagen has reached settlements and paid compensation to car owners in Germany and the United States, among other countries. Criminal fines have also been imposed on Volkswagen in Germany.

3.29. SCC, as the claimant, initiated collective proceedings against Volkswagen in the Netherlands in 2018. In those proceedings, this court ruled in its judgment of 14 July 2021 that Volkswagen had acted unlawfully.[11] Proceedings have also been brought against Volkswagen in other countries.

Investigations into other car manufacturers

3.30. Following the revelation of the Volkswagen diesel scandal, government agencies and interest groups in various countries subsequently investigated the harmful emissions of diesel vehicles from other car brands.

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[10] This pure form of nitrogen is not harmful to the environment. It is only harmful when nitrogen combines with other elements.

[11] Amsterdam District Court, 14 July 2021, ECU:NL:RBAMS:2021:361 7.

TNO investigation

3.31. On behalf of the Dutch **Ministry** of Infrastructure and the Environment, TNO conducted research into the practical emission behaviour of sixteen different Euro 6 passenger cars with diesel engines. The summary of the research report published in May 2015 states, among other things, the following:

> "(…)
> Resftafeii.*-pratiti'jkemissies are significantly higher than the Euro 6 limit value.*
> The tests carried out involved both laboratory measurements on a roller bench and measurements using mobile measuring equipment (PEMS and SEMS) on public roads. The tests show that all sixteen vehicles tested comply with the Euro 6 NOx standard of 80 mg/km based on the NEDC *type approval test*. However, under *real-world conditions,* NOx emissions are up to eight times higher. (...)"

3.32. The vehicles tested by TNO included a Peugeot 5008, a Peugeot 308 and an Opel Zafira.

3.33. In October 2016, TNO conducted further research into various diesel cars on behalf of the Dutch Ministry of Infrastructure. The summary of the TNO report of October 2016 states, among other things:

> This report describes a measurement programme for screening the NOx emissions of fourteen Euro 6 diesel passenger cars and one Euro 6 diesel delivery vehicle. The vehicles were equipped with mobile emission measurement equipment, the Smart Emission Measurement System (SEMS) developed by TNO, and tested during practical drives on public roads. Three vehicles were also subjected to more detailed testing on a roller bench in the laboratory.
>
> *Practical emissions on the road*
> The average NOx emissions of Euro 6 diesel vehicles tested on the road are in practice two to sixteen times higher than the Euro 6 limit value of 80 mg/km. The NOx emissions measured in urban traffic for these vehicles vary in practice from 162 to 1306 mg/km. (...)
>
> *Trends **in the emission behaviour of** modern diesel vehicles*
>
> The emissions research on these vehicles confirms the results found in earlier studies: diesel cars can meet the type approval standard in the laboratory, but in practice NOx emissions are often significantly higher. Research into the cause is beyond the scope of the emissions measurement programme reported here.
>
> In the past, differences between type approval values and values in practice could be partly explained by driving behaviour and driving conditions. These tests and those carried out in recent years show that, for driving behaviour and engine power requirements similar to those in the type approval test, NOx emissions in practice are much higher in many cases. This applies both on the road and in the laboratory. Higher NOx emissions occur, for example, when a type approval test is started with an engine that is already warm. These higher emissions cannot be explained by the use of margins in the test method (so-called test flexibilities) by manufacturers. (...)

A different type of study is needed to determine the causes of the higher NOx emissions mentioned above.

3.34. The Euro 6 diesel vehicles tested by TNO in 2016 included a Citroën Cactus, two Peugeot 308s, a Peugeot Partner and an Opel Zafira. The NOx emissions measured for these vehicles on the road were on average between 4 and 10 times higher than the emission standard.

Research by Je RDW

3.35. The Dutch Vehicle Authority (RDW) is the competent approval authority in the Netherlands within the meaning of European emissions legislation. The RDW has investigated, among other things, Opel vehicles for which it had issued an emissions approval. The summary of the investigation report of October 2016 states:

> "(...) Thirty vehicles were tested by the RDW at the RDW Test Centre. (...) The analysis of Based on the test results, the RDW has drawn the following conclusions:
> 1. The method developed is suitable as an indication of emission behaviour. The combination of the TNO measuring equipment and its use on the test track can be regarded as a good screening tool. The results are therefore comparable with those of other countries.
> 2. The tests confirm that emissions on the road are (many times) higher than the limit set in the current type approval test. This finding is consistent with the picture painted by the TNO Emissions Sampling Programme and with tests carried out by other Member States.
> 3. Half of the vehicles showed abnormal emissions behaviour based on a certain speed, time, distance or outside temperature. These devices are not allowed unless they are necessary to protect the engine, for example;
> (. . .)
>
> These findings have prompted the RDW to take the following follow-up actions:
> • For vehicles with abnormal emissions, further testing will be carried out on a roller test bench to obtain a more accurate picture of the abnormalities detected.

3.36. The category of vehicles in which the RDW found deviating emission behaviour included a Euro 5 generation Opel Mokka and a Euro 6 generation Opel Mokka. During the practical tests carried out, the NOx emissions for these two vehicles were more than five times and almost eight times higher than the applicable emission limit value.

3.37. In July 2017, the RDW reported on the follow-up investigation into, among other things, the Euro 6 generation Opel Mokka. The summary of the report states:

> Based on the test results, the discussions held and the information provided, the RDW has come to the following conclusions:
> (...)
> • At Opel (...) it was found that the emission control system switches off below (...) l8"C. This is close to the temperature at which the approval test is carried out. However, it has been demonstrated that the emission reduction technology used is not robust, which means that there is a risk of engine damage at lower temperatures. The modulation of the emission control system is therefore justified on the grounds of engine protection. In addition, for these vehicles, it is not

possible to implement a voluntary update and continue to comply with the type approval values. In this case, the RDW cannot take any action to further reduce emissions in practice.

Investigation by Deutsche Umwelthilfe

3.38. In 2015, the German environmental organisation Deutsche Umwelthilfe had emission tests carried out in the laboratory and on the road for various Euro 6 diesel vehicles, including several Peugeot and Opel cars. The NOx emissions measured were consistently higher than the emission limit value. The following research results have been published on the Deutsche Umwelthilfe website, with the column 'NOX-FAKTOR' indicating the factor by which the emission limit value was exceeded:

Opel Astra Sports Tourer 1.6 CDTi	133 g/km	546 mg/km	6.8	06.2017
Opel Astra Sports Tourer 1.6 CDTi	134 g/km	554 mg/km	6.9	03.2015
Opel Insignia Sports Tourer 2.0 CDTi	144 g/km	127 mg/km	1.6	**09.2017**
Opel Insignia Sports Tourer 2.0 CDTi, after software update **Update**	191 g/km	365 mg/km	4.6	05.2016
Opel Zafira Tourer 1.6 CDTi	155 g/km	404 mg/km	5.1	2015
Opel Zafira Tourer 1.6 CDTi	151 g/km	995 mg/km	12.4	03
Opel Zafira Tourer 1.6 CDTi	128 g/km	1474 mg/km	18.4	03

Peugeot 2008 1.6 BlueHDi 10	109 g/km	299 mg/km	3.7	05.2016
Peugeot 2008 1.6 **BlueHDi** 120	112 g/km	220 mg/km	2.8	03.2017
Peugeot 208 BlueHDi FAP 100	104 g/km	773 mg/km	9.7	11.2017
Peugeot 308 BlueHDi 130	136 g/km	25 mg/km	0.3	05.

Research by the British Department for Transport

3.39. In April 2016, the British Department for Transport published research results on NOx emissions from tested Euro 5 and Euro 6 diesel vehicles from various car brands. In short, it was reported that NOx emissions during road tests were substantially higher than the applicable emission limit values.

3.40. The Euro 5 vehicles tested included a Citroën C4 (NOx emissions approximately six times higher than the emission limit value) and a Peugeot 208 (NOx emissions more than seven times higher than the emission limit value).

3.41. Among the Euro 6 vehicles tested were a Peugeot 3008 (NOx emissions more than thirteen times higher than the emission limit value).

Investigation by the Royal Commission

3.42. In 2015, the then French Minister for Ecology, Sustainable Development and Energy, Ségolène Royal, set up an independent commission (the Royal Commission) to investigate emissions from diesel vehicles sold in France.

3.43. A total of 86 vehicles (partly Euro 5 and partly Euro 6) were investigated. The investigation comprised three different tests (referred to as D1, D2 and D3):
- the D1 test is similar to the NEDC test, but with a few minor adjustments;
- the D2 test is a modified version of the NEDC test on a roller bench;
- the D3 test is a repeat of the NEDC test, but now on the road instead of on the roller bench.

3.44. The vehicles tested included eleven Peugeot vehicles, seven Citroën vehicles and four Opel vehicles. The findings of the Royal Commission published in April and July 2016 show that, with the exception of one Peugeot 308, all Peugeot, Citroën and Opel vehicles tested

vehicles in the D3 test exceeded the applicable NOx emission limit by a significant margin.

Independent investigation in France

3.45. In 2016, the French supervisory authority DGCCRF, part of the Ministry of Finance, investigated possible fraud in the production and sale of Peugeot and Citroën diesel vehicles due to the possible presence of prohibited manipulation devices. Following the findings of the DGCCRF, the French Public Prosecutor's Office launched a criminal investigation in 2017 into Automobiles Peugeot S.A. and Automobiles Citroën S.A. in relation to certain Euro 5 diesel engines produced by them. The current status of this criminal investigation is not known.

Research by ICCT

3.46. The *International Council on Clean Transportation* (ICCT) compiled data from various studies in a report published in September 2017. This data was collected by different organisations in different countries and concerned NOx emissions from 541 Euro 5 and Euro 6 diesel vehicles. For each car brand, the ICCT mapped the difference between NOx emissions during a type approval test and NOx emissions during driving conditions on the road.

3.47. The data included in the ICCT report shows, among other things, that Euro 5 Opel vehicles emit on average more than five times the standard amount of NOx, and Euro 5 Peugeot and Citroën vehicles emit on average three times the standard amount. For Euro 6 Opel vehicles, this is on average more than seven times the permitted standard, and for Euro 6 Peugeot and Citroën vehicles, on average more than four times the permitted standard.

Mandatory recalls by the KBA

3.48. For certain Opel models of the Euro 6 generation, the Kraftfahrt-Bundesamt (hereinafter: KBA), the competent authority in Germany for granting type approvals, has made recalls mandatory due to the presence of prohibited manipulation devices.
For example, in its decision of 17 October 2018, the KBA made software updates mandatory for certain Opel vehicles with an SCR system. This concerns the following models: Insignia (B20DTH engine), Zafira Tourer (B16DTH and B20DTH engines) and Cascada (B20DTH engine). Furthermore, in decisions dated 2 December 2021 and 10 January 2022, the KBA made software updates mandatory for certain Opel vehicles with an LNT system. This concerns the following models: Corsa (with B13DTC, B13DTR and B13DTE engines), Astra (with B l6DTH, B I6DTL, B l6DTC, B I6DTE, B l6DTU and B16DTR engines), Insignia (with B16DTH and B l 6DTJ engines) and Meriva (with B l6DTE engine).

3.49. GM Deutschland Holdings GmbH has lodged an appeal against the KBA's decisions with the German administrative court.

The **assessment**

4. Introduction

4.1. All claims by the Foundations are based on the assertion that the diesel vehicles in question are equipped with one or more prohibited manipulation devices. The defendants dispute that prohibited manipulation devices are involved.

4.2. The court will now consider the following in turn:
- the status of the type-approval decisions and their significance for the jurisdiction of the civil court (Chapter 5);
- the meaning of the term 'manipulation device', the prohibition on its use and possible exceptions (Chapter 6)
- the question of whether the vehicles of Opel, Peugeot, Citroën and DS contain prohibited manipulation devices (Chapter 7).

4.3. The positions of the parties will be discussed, insofar as relevant, under the individual topics.

5. The status of the type-approval decisions

5.1. The defendants take the most far-reaching position that the civil court does not have jurisdiction to rule on whether the devices in the vehicles constitute a prohibited manipulation device. The defendants argue as follows in this regard.

5.1.1. Type-approval decisions have been issued for diesel vehicles by approval authorities and these have not been withdrawn or declared invalid by the competent authorities at any time. The certificates of conformity have also been issued. According to the defendants, the applicable European regulatory framework does not allow the court to disregard the type-approval decisions in these proceedings. There is a closed European legal system for enforcing the conformity of vehicles with emission requirements by supervisory authorities with the necessary technical knowledge. This means that national civil courts are not competent to assess whether vehicles are equipped with prohibited manipulation devices. The civil court is bound by the decisions of an approval authority and the market surveillance authorities. Once approved, a vehicle must be authorised throughout the European Union on the basis of the principle of mutual recognition. A different ruling by the civil court on the presence of prohibited manipulation devices would undermine the system of maximum harmonisation, which is incompatible with the principle of loyal cooperation and the prohibition of double testing applicable in the European Union. It also undermines legal certainty and is contrary to the principle of trust. Car manufacturers and buyers must be able to rely on the validity of a type approval issued. A manipulation device is only inadmissible in a civil law sense if no type approval has been issued or if the competent authority has imposed restrictions on a type approval issued, according to the defendants.

5.2. The Foundations do not dispute that type-approval decisions have been issued for all vehicles and that none of those type-approval decisions have been revoked, but they argue that the

civil court has its own jurisdiction to rule on whether the vehicles are equipped with a prohibited manipulation device.

5.3. The court finds that it is required to assess independently whether the vehicles in question are equipped with a prohibited manipulation device. The court thus reaches the same conclusion as in its judgment of 13 November 2024 in a case against Mercedes. The fact that the approval procedure for the admission of motor vehicles within the European Union has been fully harmonised means that the civil court cannot reach a different conclusion on the question of whether a vehicle can be admitted to the road. However, that question is not at issue in these proceedings. The claims of the Foundations do not seek to prohibit the use of the vehicles concerned on the road. In these proceedings, the main question is whether Stellantis et al. acted unlawfully towards buyers by placing vehicles with a prohibited manipulation device on the Dutch market. In addition, the question is whether the car dealers sold a non-compliant vehicle by selling these vehicles. The court will therefore have to assess in this context whether the vehicles are equipped with a prohibited manipulation device. The fact that the civil court can form its own opinion on the presence of a prohibited manipulation device also follows from the case law of the Court of Justice of the European Union (hereinafter: CJEU).

5.4. In its judgment in DS/Porsche Inter Auto and Volkswagen, the CJEU answered questions referred for a preliminary ruling by the referring court in Austria.[3] The referring court had to assess whether a vehicle that had been fitted with a prohibited manipulation device prior to the update and was subsequently fitted with a temperature window (which, according to the KBA, was a permitted manipulation device) complied with the contract. The vehicle had type approval, but the referring court considered that there was a prohibited manipulation device within the meaning of the Emissions Regulation. The referring court then asked the CJEU for a preliminary ruling on whether a vehicle with type approval, which is equipped with a prohibited manipulation device (according to Article 3(10) and Article 5(2) of the Emissions Regulation), offers the quality that is normal for goods of the same type and that the consumer can reasonably expect, and whether this vehicle must therefore be presumed to be in conformity with the contract of sale. The CJEU answered this question in the negative. A vehicle equipped with a prohibited manipulation device does not offer the quality that is normal for goods of the same type and that the consumer can reasonably expect, even if the vehicle has a valid type approval and is therefore authorised for use in road traffic.
This judgment shows that a vehicle with a prohibited manipulation device is non-compliant, even if it has been granted type approval. It follows that the civil court is not bound by a decision of the approval authority when assessing the (non-)compliance of the vehicle. If the civil court were bound by a decision of the approval authority when assessing the (non-)conformity of the vehicle, the ECJ would have had to take that aspect into account when answering the preliminary question. The ECJ did not do so.

'* Amsterdam District Court, 13 November 2024, ECU:NL:RBAMS:2024:6884 (Stichtingen Mercedes c.s.). " ECJ 14 July 2022, ECU:EU:C:2022:572, C-145 '20 (DS 'Porsche Inter Auto and Volkswagen). "Within the meaning of Article 2(2)(d) of Directive 1999/44/EC on certain aspects of the sale of consumer goods and associated guarantees.

5.5. The objections raised by the defendants do not alter the above. There is no question of a double review or reassessment by the civil court. The civil court does not reassess whether a type approval was rightly granted and whether a vehicle may be admitted to the road. It assesses the civil law questions of whether there has been an unlawful act and/or (non-)conformity within the framework of the purchase agreement, which means that the civil court must determine whether a vehicle is equipped with a prohibited manipulation device. Nor is it the case that the civil court, by giving an affirmative judgment, restricts the harmonised system for the free movement of a type-approved vehicle. The vehicles remain freely marketable. The court does not affect the type-approval decisions. Contrary to the defendants' arguments, legal certainty is therefore not at stake.

5.6. In view of the above, the court sees no reason to await the preliminary questions referred to by the Landgericht Duisberg, to which Stellantis et al. have referred.

6. The concept of 'manipulation device', the prohibition on its use and possible exceptions

The concept of 'manipulation device'

6.1. Article 3(10) of the Emissions Regulation defines a manipulation device as: *"a device that restricts the temperature, speed, engine speed, acceleration, deceleration or other parameters necessary to activate, modulate, delay or disable a component of the emission control system." acceleration, intake pressure or other parameters necessary to activate, modulate, delay or disable a component of the emission control system, so that the effectiveness of the emission control system is impaired under conditions that are to be expected during normal use of the vehicle."*

6.2. In its judgment of 17 December 2020, the CJEU clarified the concepts of 'construction component' and 'emission control system', which are part of the definition of the term 'manipulation device'. That case concerned a so-called *cycle beater,* i.e. software that can detect the test approval phase and then adjusts the emission control system·

6.3. In the aforementioned judgment, the CJEU ruled that the term 'component' can refer to both mechanical parts and electronic parts that control mechanical parts, if these affect the functioning of the emission control system and reduce its effectiveness. Furthermore, the ECJ ruled that software that is built into the engine management system or that operates on this system constitutes a component
within the meaning of Article 3(10) of the Emissions Regulation, in so far as the software affects the functioning of the emission control system and reduces its effectiveness.

6.4. With regard to the term 'emission control system' in Article 3(10) of the Emissions Regulation, the ECJ ruled that this refers to both the technologies and the so-called exhaust gas after-treatment strategy that limit emissions after they have been produced — i.e. after they have been produced — as well as the technologies and strategy which, like the exhaust gas recirculation system, limit emissions in advance — i.e. during their formation. The judgment further ruled

" Case C-751 '23, 7 December 2023 (FD'Mercedes-Benz Group AG).
" ECJ 17 December 2020, ECU:EU:C:2020:1040 (Manipulation device in diesel engines).

that a device that recognises parameters related to the conduct of the approval procedures referred to in this Regulation, with the intention of improving the performance of the emission control system during those procedures in order to obtain type-approval for the vehicle, is a 'manipulation device' within the meaning of Article 3(10) of the Emissions Regulation, even if such an improvement can also be observed sporadically under normal conditions of use.

When are the emission control values met?

6.5. A manipulation device is deemed to exist if the effectiveness of the emission control system is reduced under conditions that can be expected during normal use of the vehicle, as stated in Article 3(10) of the Emission Regulation. In addition, Article 4(2) of the Emissions Regulation requires manufacturers to ensure that exhaust and evaporative emissions are effectively limited in accordance with this Regulation throughout the normal life of the vehicles under normal conditions of use. Article 5(1) of the Emissions Regulation requires manufacturers to equip their vehicles in such a way that a vehicle can comply with the regulation under normal conditions of use.

6.6. In this regard, the parties disagree on whether the vehicles must comply with the emission limit values only in the test situation (in the context of obtaining type approval) or also outside that situation.

Arguments of the parties

6.7. The Foundations take the position that vehicles must comply with the NOx emission limits both inside and outside the test situation. The term 'normal conditions of use' (in Article 5(l) and Article 4(2) of the Emissions Regulation) covers both the conditions in the approval test and the actual driving conditions normally found in the territory of the European Union. NOx emissions in the test should not differ significantly from emissions on the road. In this regard, they refer to case law of the Court of Justice of the European Union and to the opinion of Advocate General Rantos of
21 November 2024.

6.8. According to Stellantis et al., this is not the case and the NOx emission limits only apply in the test situation. Stellantis et al. base this on the judgment of this court of 14 July 2021 and on the European Commission's *"Guidance on the evaluation of Aiixiliciry Eniission Strategies and the presence of Defeat Devices*," in which the European Commission provided guidance for determining permissible NOx emissions for Euro 5 and Euro 6b generation vehicles.
diesel vehicles tested on the road. In this *Guidance*, the European Commission
on Euro 5 and 6b generation vehicles tested on the road, even

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'See, inter alia, ECJ 17 December 2020, ECU:EU:C:2020:1040 (CLCV and others v AGLP and others), paragraphs 96-102, CJEU 14 July 2022, ECU: EU:C:2022:570 (GSMB Invest'VW), para. 40, and CJEU 14 July 2022, ECU: EU:C:2022:57 l
(IR/Volkswagen AG), paragraphs 47-49.

" Opinion of Advocate General Rantos of 21 November 2024, ECJ: EU:C:2024:977 (OB and YV 'Mercedes), paragraphs 34-49. " Amsterdam District Court 14 July 2021, ECL I:NL:RBAMS:202 l:36l7 (SCC Volkswagen, Audi, Seat and Skoda), paragraphs 8.5-8.8.

recommended to apply a conformity factor of up to 5 *without* setting (or intending to set) a limit value.
Recently manufactured diesel vehicles that must comply with the NOx emission limits set under the Euro 6d-temp and final Euro 6d standards may emit 2.1 and 1.43 times as much NOx during the RDE test on the road as during laboratory tests. NOx emissions below this threshold are permissible. Even if a vehicle's NOx emissions exceed this threshold, the European Commission does not consider this to be an unacceptable calibration, but the manufacturer must provide an explanation.
It is therefore generally recognised and accepted by European legislators that NOx emissions during road tests are higher than during laboratory tests. The Royal Commission even applied a conformity factor of 5 when testing diesel vehicles from various car manufacturers.
According to Stellantis et al. none of this has been superseded by the judgment of the Court of Justice in *Ville de Paris, City of Brussels and Ayiintaittiento de Maclrid Coittitiissie*. Thecontext of that judgment is the question of whether the European Commission had the power to amend the emission limit value.
It was therefore not a question of enforcement powers. The preliminary question under 7 of the Landgericht Duisburg concerns this. There is therefore still uncertainty about this.

6.9. The Foundations, in turn, argued that the conformity factors introduced by the European Commission in Regulation 2016/646 in the context of the introduction of the RDE test are irrelevant. These were temporarily introduced as a transitional regime from the NEDC test to the RDE test in order to eliminate statistical uncertainty in a new test format. Until 1 January 2020 (Euro 6d-temp), cars were allowed to emit 2.1 times the standard in the RDE test; from that date onwards, 1.5 times. In the aforementioned judgment *Kif/e de Paris, Stad Brussel and Ayiintatttienio de Madrid! Cotitttiissie,* the ECJ put an end to these standards.

Oorcleel court

6.10. Contrary to the ruling of this court in its judgment of 14 July 2021 (SCC/Volkswagen) , the court finds that the vehicles must comply with the emission limits not only in the test environment, but also outside the test. In the *Ville de Paris* judgment, *City of Brussels and Ayuntaittiento de Madricl Cottintissie*, the ECJ ruled that the emission limits for Euro 5 and Euro 6 form the central element of the Emissions Regulation, because all provisions of that regulation are intended solely to ensure that those limits are complied with during the normal life of vehicles under normal conditions of use.
Furthermore, in the judgment of 14 July 2022 (IR/Volkswagen) and in the opinion of Advocate General Rantos of 2 November 2024, it was considered that the wording of Article 3 (10) of the Emissions Regulation shows that the concept of 'normal use' of a vehicle refers to its use under normal driving conditions, and therefore not only its use in the

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'0 CJEU 13 December 2018, ECL1: EU:T:2018:927 (Ville de Paris, Stad Brussel and Ayuntamiento de Madrid v Commission).
" Preliminary questions in Case C-75l '23, 7 December 2023 (FD.'Mercedes-Benz **Group** AG).
- ECU:NL:RBAMS:202 l:36l7, r.o. 8.5 8.
** ECJ 13 December 2018, ECU: EU:T:2018:927 (Ville de Paris, City of Brussels and Ayuntamiento de Madrid v Commission), paragraph 1 18.
" ECJ 14 July 2022, ECU:EU:C:2022:57 l (I
R/Volkswagen). " ECU:EU:C:2024:977 (OB and
YV'Mercedes).

Test situation. This concept refers to the use of this vehicle under real driving conditions as they normally exist in the territory of the European Union. Support for this can also be found in the provisions of Article 4(2) and Article 5(1) of the Emissions Regulation (see 6.5). Those provisions always concern the limitation of emissions under normal conditions of use.
This means that Stellantis et al.'s reliance on a conformity factor and the European Commission's *Guidelines* is unsuccessful.

Deterioration of the effectiveness of the emission control system Positions of the

parties

6.11. Furthermore, Stellantis et al. have taken the position that, when assessing whether the effectiveness of the emission control system has been reduced by a manipulation device, it is necessary to consider not only NOx emissions, but also the effectiveness of the emission control system as a whole. After all, the effectiveness of an emission control system lies not only in limiting NOx emissions, but also in limiting
emissions of other harmful substances. The exhaust emissions are decisive. The software in a diesel engine can be calibrated in such a way that, for example, it temporarily reduces the operation of the EGR under certain conditions, but that the NOx emissions of the vehicle on the road are still controlled to such an extent that they are permissible. In that case, there is no conflict with the Emissions Regulation. Even if a diesel vehicle has (temporarily) high NOx emissions, this does not necessarily mean that a prohibited manipulation device is being used. A calibration strategy whereby the NOx emissions of a diesel vehicle are temporarily higher, but which at the same time limits the emissions of other harmful substances, cannot be classified as such on that basis alone.
manipulation device within the meaning of Article 3(10) of the Emissions Regulation. When calibrating the emissions software, a continuous balance must be found in the formation of NOx and other (equally harmful) combustion products. Emission control systems must also limit the emission of harmful substances other than NOx, and the calibration that achieves this and aims to achieve the optimum balance cannot be regarded as a device that reduces the effectiveness of the emission control system, according to Stellantis et al.

6.12. The Foundations recognise that part of the emission control system, for example the EGR, may be scaled down when another part, for example the SCR, compensates for the reduced capacity, provided that the emission control system as a whole continues to comply with the emission limit values. Downscaling may also be applied to the reduction of one harmful substance in order to optimise the reduction of another harmful substance. However, according to the Foundations, this may not result in the emission limit value for one of the substances no longer being achieved.

Court ruling

6.13. The court agrees with the Foundations that scaling down must not mean that the emission limit value for one of the substances (e.g. NOx) is no longer achieved. On this point, the court follows the conclusion of Advocate General Rantos, who considered that a component in a vehicle with a diesel engine that alters the combustion parameters by increasing the emissions of one harmful substance while reducing the emissions of other harmful substances must be interpreted as constituting a manipulationdevice when this increase leads to the limits laid down in Annex I to the Emissions Regulation being exceeded.

established limit value for the harmful substance in question.'[6] This means that all emission limit values for the substances listed in the Emission Regulation must always be complied with.

Prohibition on the use of a tampering device and the penalties for doing so

6.14. Article 5(2) of the Emissions Regulation (see 3.9) states that the use of manipulation devices that reduce the effectiveness of emission control systems is prohibited, unless one of the three exceptions mentioned applies. Under a, the prohibition does not apply if the device is necessary to protect the engine from damage or accidents and to ensure the safe operation of the vehicle. Under c, the prohibition does not apply if the circumstances have been taken into account to a significant extent in the test procedures for checking evaporative emissions and average exhaust emissions. The exception under b does not apply in this judgment.

6.15. The Court of Justice has provided guidance on the exception in Article 5(2)(a) of the Emissions Regulation.
In its judgment of 17 December 2020, the ECJ ruled that this exception must be interpreted strictly. It must concern the protection of the engine against sudden and exceptional damage. The pollution and ageing of the engine cannot be regarded as an accident or damage within the meaning of the exception, since these events are, in principle, foreseeable and inherent in the normal functioning of a vehicle. This interpretation is supported by the objective of the Emissions Regulation to ensure a high level of environmental protection and to improve air quality in the European Union, which means that NOx emissions must be effectively reduced throughout t h e normal life of vehicles. Only if there are acute risks of damage or defects to the engine which make driving a vehicle a concrete danger can the use of a manipulation device be justified within the meaning of Article 5 (2) (a) of the Emissions Regulation. Finally, in its judgment of 17 December 2020, the CJEU ruled that the defeat device at issue in that case (a *cycle beater)* cannot fall within the exception provided for in Article 5 (2) (a) of the Emissions Regulation.
In its judgments of 14 July 2022, the ECJ once again referred to the strict interpretation of Article 5(2)(a) of the Emissions Regulation and ruled that a manipulationis only necessary and therefore permitted as an exception under Article 5(2)(a) if, at the time of type-approval of that device or of the vehicle equipped with it, there is no other technical solution that would prevent acute risks of damage or malfunction of the engine that would make driving a vehicle a real danger.

6.16. The judgments of 14 July 2022 concerned so-called thermal and altitude windows. The DS/Porsche Inter Auto and Volkswagen judgment concerned a thermal window that reduced the effectiveness of the emission control system at temperatures below 15 degrees Celsius and above 33 degrees Celsius. The CJEU ruled that a manipulation device that should function under normal traffic conditions for most of the year

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[6] Opinion of Advocate General Rantos of 2 November 2024, C-251 '23 and C-308'23, paragraph 64.
" ECJ 17 December 2020, ECU:EU:C:2020:1040 (Manipulation device in diesel engines).
" ECJ 14 July 2022, ECU:EU:C:2022:572 (DS/Porsche Inter Auto and Volkswagen), see also ECJ 14 July 2022, ECU:EU:C:2022:571 (I R/Volkswagen) and ECJ 14 July 2022, ECU:EU:C:2022:570 (GSMB Invest Auto Krainer).

to protect the engine from damage or accidents and to ensure the safe operation of the vehicle cannot fall under the exception of Article 5(2)(a) of the Emissions Regulation and is therefore prohibited."
The GSMB Invest/Auto Krainer judgment concerned a device that only ensured compliance with the emission limits laid down in the Emissions Regulation at an outside temperature between 15 and 33 degrees Celsius and at an altitude of less than 1,000 metres. The ECJ ruled that this manipulation device did not fall under the exemption provided for in Article 5 (2)(a) of the Emissions Regulation. The mere fact that this device spares components such as the exhaust gas recirculation valve, the exhaust gas recirculation cooler and the particulate filter for diesel vehicles is insufficient, unless it is demonstrated that this device serves exclusively to prevent acute risks of damage or malfunction of the engine resulting from such a malfunction of one of these components that it creates a concrete danger when driving a vehicle equipped with that system."
In the IR/Volkswagen judgment, the ECJ ruled that a manipulation device (in that judgment, a thermal window) that serves solely to protect the EGR valve does not fall under the exception in Article 5(2)(a) of the Emissions Regulation. The purpose must be to prevent damage to the engine. A distinction must be made between the engine and the pollution control system. The EGR valve is not part of the engine itself.

6.17. This case law clearly shows that the justification in Article 5(2)(a) of the Emissions Regulation for the presence of a manipulation device must be interpreted restrictively.

6.18. No case law of the ECJ has yet been published with regard to the exception in Article 5(2)(c) of the Emissions Regulation.

7. Are there prohibited manipulation devices in the vehicles?

Key points of the parties

7.1. In summary, the Foundations take the position that diesel vehicles of the Peugeot, Citroën, DS and Opel brands that were placed on the market between 1 September 2009 and 1 September 2019 are equipped with manipulation devices that are not permitted under the Emissions Regulation. In support of this position, the Foundations refer in particular to:

l) reports by F. Domke (hereinafter: Domke) and Dr M. Heitz (hereinafter: Heitz) containing findings on the software calibrations of the emission control systems used in a specific number of vehicle types;
2) various recalls and software updates in Germany, the Netherlands and France for several vehicle types;
3) the results of investigations carried out by various organisations in different (European) countries into the emissions of diesel vehicles of different car brands.

7.2. Stellantis et al. dispute that the diesel vehicles in question do not comply with the applicable emissions regulations. According to Stellantis et al., none of the vehicles in question contain

*' ECJ 14 July 2022, ECL I:EU:C:2022:572 (DS'Porsche **Inter Auto and** Volkswagen).
'[0]ECJ 14 July 2022, ECU:EU:C:2022:570 (GSMB Invest/Auto Krainer).
' ECJ 14 July 2022, ECU: EU:C:2022:57 l (lR/Volkswagen).

vehicles prohibited manipulation devices. They point out that the competent type-approval authorities have granted type-approvals for all vehicle models concerned and that none of those type-approvals has been withdrawn subsequently. According to Stellantis, there are
c.s. There have been no mandatory recalls of Peugeot, Citroën and DS vehicles. Software updates have been offered for some of these vehicles, but these updates did not relate to diesel vehicles or excessive NOx emissions. Software updates have been made mandatory for some Opel vehicles by the German KBA, but Stellantis et al. dispute the correctness of the KBA's decisions and have challenged them before the German administrative court. After the software updates, the vehicles complied with the applicable emission standards. In addition, Stellantis et al. refer to the reports by J.N. Lesueur (hereinafter: Lesueur) and A. Leu (hereinafter: Leu) on the functioning of the emission control systems in the vehicles concerned. According to Stellantis et al.,
the calibrations applied cannot be regarded as a manipulation device. Should the court rule otherwise, Stellantis et al. argue that the device is a permitted manipulation device, invoking the exception provided for in Article 5(2)(a) of the Emissions Regulation.

7.3. The car dealers have stated that they were in no way involved in the development or application of the allegedly illegal emission control systems, software and calibrations in the vehicles concerned. They were also unaware of this. The car dealers relied on the type-approval authorities in this regard. As for whether the vehicles contain prohibited manipulation devices, the car dealers refer to the arguments put forward by Stellantis et al.

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7.4. Pursuant to the main rule of Article 150 of the Code of Civil Procedure, the Foundations have the burden of proof and the onus of proof regarding the presence of manipulation devices in the diesel vehicles marketed by Stellantis et al. Since the (engine) technical information of the vehicles concerned, as well as the information on the functioning of the emission control systems, is in the domain of Stellantis et al., the burden of proof rests with Stellantis.
However, in the context of its challenge, the court has a heightened obligation to state reasons.

7.5. If the presence of a manipulation tool is established, the starting point under Article 5(2) of the Emissions Regulation is that that manipulation tool is prohibited. If Stellantis et al. invoke one or more of the exceptions listed in Article 5(2) of the Emissions Regulation, which mean that a manipulation device is not prohibited, Stellantis et al. have the burden of proof and the onus of demonstrating that the conditions for such an exception have been met.

Burden of proof in the Foundations' claims: distinction according to emission generation (Euro 5, 6b, 6c and 6d-tettp

7.6. The claims of the Foundations relate to diesel vehicles that were placed on the market between 1 September 2009 and 1 September 2019. With the starting date of
On 1 September 2009, the Foundations aligned themselves with the date of introduction of the Euro 5 standard. With the end date of 1 September 2019, the Foundations aligned themselves with the date of introduction of the Euro 6d-temp standard.

7.7. Contrary to what Stellantis et al. have argued, the Foundations cannot be required, within the scope of their obligation to provide information, to substantiate specifically for each vehicle model and vehicle version that impermissible emission control systems have been developed and used. Since the relevant information is in the domain of Stellantis et al., it is sufficient for the Foundations to fulfil their obligation to provide information for each car brand and each emission generation. The Foundations have fulfilled this obligation with regard to the Euro 5 and Euro 6b emission generation diesel vehicles marketed by Stellantis et al. with the reports by Domke and Heitz, the results of the investigations carried out in various countries into the NOx emissions of diesel vehicles (including cars from Stellantis et al.), the software updates and the recall campaigns that have taken place for diesel vehicles manufactured by Stellantis et al. This means that sufficient information has been provided to enable a substantive assessment of whether Euro 5 and Euro 6b vehicles manufactured by Stellantis et al. are equipped with prohibited manipulation devices.

7.8. With regard to diesel vehicles of the Euro 6c emission generation, the Foundations have not taken any concrete positions or provided any substantiation, while the reports submitted and the studies to which the Foundations have referred do not relate to Euro 6c vehicles either. This means that the court will not take the Euro 6c generation into account in its further assessment. Incidentally, the Euro 6c generation appears to be of little practical significance. During the oral hearing, Stellantis et al. explained that no Euro 6c vehicles were produced by Peugeot, Citroën and DS and that these car brands switched directly from Euro 6b to Euro 6d-temp after Euro 6b. Stellantis et al. also stated that Opel has only introduced one vehicle type under the Euro 6c standard.

7.9. The following applies to vehicles of the Euro 6d-temp generation. The Foundations' claims relate to diesel vehicles that were placed on the market between 1 September 2009 and 1 September 2019. The Foundations have always assumed that no vehicles of the Euro 6d-temp generation were placed on the market before 1 September 2019. The Foundations have therefore also assumed that Euro 6d-temp vehicles do not fall within the scope of this procedure. During the oral hearing, Stellantis et al. stated that the car brands Peugeot, Citroën and DS had switched directly from Euro 6b to Euro 6d-temp. The Foundations concluded from this that Stellantis et al. had placed a1 vehicles of the Euro 6d-temp generation on the market prior to 1 September 2019, in anticipation of the mandatory entry into force of Euro 6d-temp. In that case, the Foundations argue, the software used in these vehicles will not have been substantially modified compared to the Euro 6b generation. During the oral hearing, the Foundations therefore took the position for the first time that Euro 6d-temp vehicles placed on the market before 1 September 2019 also contain prohibited manipulation devices.

7.10. The court is of the opinion that, at this stage of these (long-running and complex) proceedings, the inclusion of Euro 6d-temp generation vehicles would be contrary to the requirements of proper procedural order. Until now, the factual debate between the parties on whether or not prohibited manipulation devices are present has focused on the emission control systems and software calibrations of vehicles of the Euro 5 and Euro 6b emission generations. Stellantis et al. have argued that vehicles of the Euro 6d-temp generation contain different software, hardware and calibrations than those of the Euro 6b generation. The court does not consider this to be implausible at this stage. Furthermore, Euro 6d-temp vehicles are also tested by the type-approval authority in a different way than vehicles falling under the Euro 5 and 6b standard. If vehicles of the Euro 6d-temp generation placed on the market before 1 September 2019

temp generation were to be included in the assessment after all, a full (new) factual debate would have to take place. This would unnecessarily complicate and delay these proceedings.

Assessment framework for prohibited manipulation devices

7.11. In assessing whether a prohibited manipulation device is involved, the court applies the assessment framework set out in European legislation and the case law of the Court of Justice of the European Union. For that assessment framework, reference is made to the findings of fact set out above (see 3.5-3.10) and the considerations in Chapter 6.

Distinction between categories of vehicle types and different emission standards

7.12. When determining whether (prohibited) manipulation devices exist, the court will distinguish between vehicles of the Peugeot, Citroën and DS brands (hereinafter: PCD vehicles) on the one hand, and vehicles of the Opel brand (hereinafter: Opel vehicles) on the other. PCD vehicles were designed, developed and manufactured throughout the period from 2009 to 2019 by the French defendants Stellantis Auto S.A.S. (formerly PSA Automobiles S.A.), Automobiles Peugeot S.A. and Aiitomobiles Citroën S.A.S. By contrast, the Opel car brand was part of the General Motors group (a competitor of the French car manufacturers) until 1 August 2017. Opel vehicles were designed, developed and manufactured by entities within the General Motors group until that date. From 1 August 2017 (after the General Motors group sold the Opel brand Opel had sold to the French car manufacturers) had gradually developed and produced parts (including emission control systems) for new Opel vehicles through the Stellantis group.

7.13. In addition, a distinction will be made in the assessment between vehicles covered by the Euro 5 standard and those covered by the Euro 6 standard. Different emission limits apply to each of these standards. The emission limit value of the Euro 6 standard, which came into force on 1 September 2014, is 80 mg/km stricter than the Euro 5 standard of 1 80 mg/km that previously applied (from 1 September 2009). Under the Euro 5 standard, only EGR technology was used in diesel vehicles to reduce harmful emissions. Under the Euro 6 standard, an after-treatment technology (SCR or LNT) was also used in addition to EGR technology.

Latest reports from Domke and Heitz

7.14. During the oral hearing, Stellantis et al. requested to be allowed to respond in writing to the latest reports by Domke (dated 29 January 2025) and Heitz (dated 31 January 2025). The court does not consider this necessary. In its assessment, the court will disregard those two latest reports insofar as they contain new information to which Stellantis et al. were unable to respond or were unable to respond sufficiently during the oral hearing.

Euro 5 Opel vehicles

The use of a temperature window

7.15. The Foundations have taken the position that the emission control software in Euro 5 Opel vehicles contains a temperature window (also known as a thermo window) that

operation of the EGR above and below certain temperatures. According to the Foundations, this temperature window constitutes a prohibited manipulation device. According to the Foundations, the range of the temperature window within which the EGR is fully operational was deliberately chosen by the car manufacturers because the EGR is then in any case operational during the NEDC test, where a prescribed test temperature between 20 and 30 degrees Celsius applies.

7.16. The court finds that it is not disputed that in Euro 5 Opel vehicles, the operation of the EGR is partly controlled on the basis of the ambient air temperature. In his report of 17 December 2024, Leu set out the parameters relating to the ambient air temperature on the basis of which the EGR is calibrated for various engine types in Euro 5 Opel vehicles. These parameters are as follows:

		1.3 CDTi **A13DTC**	1.7 CDTi **A17DTR**	1.7 CDTi **A17DTS**	2.0 CDTi
Ambient air **temperature**	*F•!!x operational*	18 - 30 °C	17 - 30 °C	20 - 30 °C	17 - 33 °C
	Raniping down	13 18 °C; 30 36 °C	0 - 17 °C; 30 - 38 °C	17 - 20 °C	-10 - 17 °C, 33 - 40 °C
	O	‹13 °C:›36 °C	‹0 °C.›38 °C	‹17 °C.>32 °C	<-10 °C, >40 °C

7.17. This table shows that, for example, for a vehicle with a 1.3-litre diesel engine, the EGR is only fully operational at temperatures between 18 and 30 degrees Celsius. Between 13 and 18 degrees Celsius, as well as between 30 and 36 degrees Celsius, the EGR operates at reduced capacity. At temperatures below 13 degrees Celsius or above 36 degrees Celsius, the EGR is switched off.

7.18. This means that the operation of the EGR in Euro 5 Opel vehicles depends on a temperature window. The exact bandwidth of the temperature window, as shown in the table, depends on the engine capacity and engine variant.

The temperature window is a manipulation instruction.

7.19. In the opinion of the court, the temperature window applied can be regarded as a manipulation tool within the meaning of the Emissions Regulation. The following reasons support this conclusion.

7.20. The criterion for determining whether an instrument constitutes a manipulation device is whether the effectiveness of the emission control system is reduced under conditions that can be expected during normal use of the vehicle. Conditions that can be expected during normal use of the vehicle must also include conditions in which the temperature is outside the range covered by the parameters. It is common knowledge that in part of the territory of the European Union, including the Netherlands, the average temperature is lower than the lower limit of the temperature windows applied (17, 18 and 20 degrees Celsius respectively) for several months of the year. This means that the EGR is not (or not fully) operational for a significant part of the year, so that NOx emissions are not (or only to a limited extent) reduced. It follows from the case law of the CJEU that in such a situation — where only within the temperature window

ensures that the emission limits are complied with and are not exceeded — is not a manipulation tool as referred to in Article 3(10) of the Emissions Regulation.

The temperature window fs *is a prohibited manipulation tool in the absence of justification*

7.21. The use of a manipulation device that reduces the effectiveness of the emission control systems is prohibited, unless one of the exceptions listed in Article 5(2)(a) to (c) of the Emissions Regulation applies.

7.22. Stellantis et al. have argued that the question of the justification for the temperature window in Euro 5 Opel vehicles is the subject of administrative proceedings in Germany. In a decision dated 2 July 2024, the KBA determined that the calibration of the software in Euro 5 Opel vehicles that controls the EGR based on temperature is a prohibited manipulation device. Opel Automobile GmbH has lodged an appeal against that decision. Stellantis et al. take the view that the court must await the outcome of those administrative proceedings in Germany. In the court's opinion, there is no reason to await that outcome, because the court must give its own opinion on the admissibility of the manipulation device in the present civil proceedings. In doing so, the court is not bound by the KBA's decision or by a ruling of the German administrative court on a decision of the KBA.

7.23. When it comes to justifying the temperature window, Stellantis et al. have stated that, at the time the calibrations were developed, the reduced operation or deactivation of the EGR at certain temperatures was necessary. At low temperatures
, the operation of the EGR must be temporarily reduced to prevent soot formation, and at high temperatures, the operation of the EGR must be temporarily reduced to prevent the engine from overheating, according to Stellantis et al.

7.24. The court finds that this general and otherwise unexplained assertion is insufficient to successfully invoke the provisions of Article 5(2)(a) of the Emissions Regulation. The mere fact that soot formation occurs does not necessarily lead to damage to the engine. Furthermore, Stellantis et al. have not made clear why the functioning of the EGR at temperatures above 30 degrees leads to overheating of the engine. Stellantis et al. have therefore not presented any concrete facts on the basis of which it can be established that the temperature window is necessary to protect the engine from damage or accidents and to ensure the safe operation of the vehicle. Moreover, there is no *temporary* reduction in the functioning of the EGR, because the EGR is completely deactivated below a certain temperature and, given the average temperature in the EU, this situation can occur for months at a time. In that case, it can no longer be considered a temporary reduction. In view of the strict interpretation that must be given to the exception in Article 5(2)(a) of the Emissions Regulation, Stellantis et al. have not demonstrated that these specific temperature calibrations were necessary.

7.25. It follows from the above that each of the temperature windows used in the Euro 5 Opel vehicles is a prohibited manipulation device.

The software update announced by Stellantis et al. is of no significance.

7.26. According to Stellantis et al., Opel Automobile is currently developing a software update for Euro 5 Opel vehicles. According to Stellantis et al., this software update will adjust the temperature-dependent control of the EGR and remove the alleged prohibited nature of that manipulation device. The first update is expected to be rolled out in September 2025, according to Stellantis et al.

7.27. The court finds that this future update is not relevant to the assessment of whether the vehicles in question were equipped with a manipulation device at the time they were placed on the market. Therefore, it can be left open at this stage whether the announced future update will remove the prohibited nature of the manipulation device. Even if that were the case, it would not alter the fact that the Euro 5 Opel vehicles were equipped with a prohibited manipulation device from the moment they were placed on the market (mostly between 2009 and 2014) and that this is still the case today.

Which Euro 5 Opel vehicles were equipped with a temperature sensor?

7.28. Next, it must be determined which vehicles are equipped with this prohibited manipulation device. The Foundations have stated that all Euro 5 Opel vehicles equipped with General Motors technology are equipped with the temperature window discussed above. This has not been disputed by Stellantis et al., at least not clearly, while Stellantis c.s. — although it was within its power to do so — did not provide any concrete information that could clarify this point. Furthermore, the court infers from the wording of Leu's report (he simply refers to 'the different Euro 5 engines') that the information he provided relates to all engine capacity variants of Euro 5 Opel vehicles. It must therefore be assumed that in all Euro 5 Opel vehicles equipped with General Motors technology, the operation of the EGR is partly determined by one of the temperature windows mentioned by Leu — and classified by the court as a prohibited manipulation device.

7.29. Furthermore, the Foundations have stated that Opel used Renault technology and an engine in its commercial vehicles. According to the Foundations, Renault also used a temperature window, whereby the emission control system was only activated at an outside temperature between 17 and 35 degrees Celsius. Stellantis et al. have not disputed this. This means that it must be assumed that the Euro 5 Opel commercial vehicles with a Renault engine are also equipped with a temperature window. In view of the above considerations, a temperature window that only activates the emission control system at an outside temperature between 17 and 35 degrees Celsius must be regarded as a prohibited manipulation device. The question of whether Stellantis et al. are liable for engine types supplied by Renault in Euro 5 Opel commercial vehicles — which Stellantis et al. have disputed on the grounds that those engine types were not developed and/or produced by the Opel manufacturers — will be addressed at a later stage of these proceedings in connection with the (legal) question of the liability of the individual defendants for the presence of prohibited manipulation devices. Contrary to what Stellantis et al. believe, Opel vehicles equipped with a Renault engine are therefore not outside the scope of these proceedings.

Conclusion regarding Euro 5 Opel vehicles

7.30. The conclusion is that all Euro 5 Opel diesel vehicles were equipped with at least one prohibited manipulation device at the time of their introduction on the market, namely a temperature window that was set in such a way that the EGR function was reduced or completely disabled during part of the year.

Are there any other manipulation devices in *Euro 5 Opel vehicles?*

7.31. The Foundations have suggested that the operation of the EGR in Euro 5 Opel vehicles may also have been influenced by other manipulation devices. They point out that Stellantis et al. have not provided any information about other calibrations. The Foundations suspect that, for example, engine speed and air pressure/altitude have also been used as calibrations for the operation of the EGR in Euro 5 Opel vehicles, as is the case with Euro 6 Opel vehicles.

7.32. The court finds that it can be left open whether there may be other prohibited manipulation devices. In view of the above ruling, it has already been established that all Ettro 5 Opel vehicles are equipped with a prohibited manipulation device. Therefore, there is no interest in investigating the existence of any other manipulation devices.

Euro 6b Opel vehicles

7.33. For some Euro 6b Opel vehicles, software updates were offered at various times after February 2017. The court first of all states that in this judgment it will only assess the functioning of the emission control system prior to the software updates mentioned by Stellantis et al., as this concerns the situation at the time the vehicles in question were placed on the market.

7.34. Furthermore, a distinction will be made between the two different after-treatment systems (SCR and LNT) used in Euro 6 Opel vehicles.

Vehicles with a combination of EGR and SCR. The use of various parameters

7.35. In Euro 6b Opel vehicles that used a combination of EGR and **SCR** to reduce NOx emissions, both the operation of the EGR and the operation of the SCR were controlled on the basis of multiple parameters. For the EGR, these included temperature, engine speed and air pressure. For the SCR, these included temperature, engine speed and driving speed. In its report of 17 December 2024, Len presented the parameters originally used (i.e. prior to the software updates) in two tables.

7.36. The table in paragraph 72 of Leu's report relates to the operation of the EGR and reads as follows:

Global EGR calibration parameters used for the Euro 6b 1.6 and 2.0 CDTi engines with an SCR system			
		1.6 CDTi *Pre software update*	2.0 CDTi *Pre-software update*
Temperature	Fully operational	16 - 34.S "C	16 - 32 °C
	Ramping down	-11 - 16 °C	-10 - 16 °C
	Off	<-11 °C, >34.5 °C	<-10 °C, >32 °C
Rotations Per minute (RPM)	Fully operational	<2,400 RPM	<2,900 RPM
	Ramping down	2,400 - 3,500 RPM	2,900 - 3,300 RPM
	Off	>3,500 RPM	>3,300 RPM
Air pressure	Fully operational	>90.5 kPa[2]	>91 kPa”
	Ramping down		91 - 88 kPa
	Off	<90.5 kPa	<88 kPa[2] ‘

7.37. The table in paragraph 77 of Leu's report relates to the operation of the SCR and reads as follows:

Global SCR calibration parameters used for the Euro 6b 1.6 and 2.0 CDTi engines with an SCR system.			
		1.6 CDTi Pre-software update	2.0 CDTi Pre-software update
Temperature	Fully operational	17 - 33 °C	16 - 32 °C
	Ramping down	<17°C; >33°C	-10 - 16 °C;> 33°C
	Off	<-11°C	n/a
RPM	Fully operational	<2,750 RPM	<2,900 RPM
	Ramping down		2,900 — 3,300 RPM
	Off	>2,750 RPM	>3,300 RPM
Speed	Fully operational	6-145 km/h	20-145 km/h
	Ramping down		>145 km/h
	Off	<6 km/h; >145 km/h	> ; 200 km/h

7.38. These two tables show that, if certain values of the parameters used occur, the operation of the EGR or the operation of the SCR is scaled down or completely switched off by the software that controls the emission control system. The question is whether this reduces the effectiveness of the emission control system under conditions that can be expected during normal use of the vehicle.

7.39. With regard to the ambient temperature, a temperature window applies to both the EGR and the SCR. The EGR and SCR are only fully operational within the applicable temperature window. At temperatures outside this temperature window, the EGR and SCR will operate at reduced capacity or be switched off. Furthermore, the temperature windows for the EGR and SCR overlap to a large extent.

agree, means that, for example, at temperatures below 16 degrees, both the EGR and **SCR** systems are reduced in performance. In the opinion of the court, a temperature below 16 or 17 degrees Celsius must be regarded as normal operating conditions. It also follows from the case law of the Court of Justice that such temperatures fall within the conditions that can be expected during normal use of a diesel vehicle. In a large part of the territory of the European Union, including the Netherlands, the average temperature is lower than the lower limit of 16 or 17 degrees of the applied temperature windows for several months of the year. This means that, due to the temperature window used, the EGR and SCR are scaled down for a significant part of the year.

7.40. The operation of the EGR also depends on air pressure. According to Leu's report, the EGR is deactivated when the air pressure is lower than 90.5 or 88 kPa. According to Stellantis et al., these values correspond to approximately 900 metres and 1,215 metres above sea level, respectively. The EGR is therefore deactivated at higher altitudes. It follows from the case law of the Court of Justice that it is customary in the European Union to drive on roads located at an altitude of more than 1,000 metres.[3] In line with this, the court considers that, within the European Union, driving at an altitude of more than 900 metres or more than 1,215 metres above sea level must be regarded as a circumstance that can be expected under normal use. The fact that such altitudes do not occur in the Netherlands does not alter the fact that driving in other European countries (where such altitudes do occur) must also be considered normal conditions of use for Dutch car owners.

Causal link

7.41. During the oral hearing, Stellantis et al. argued that there is no manipulation device because, in its view, there is no causal link between the temperature and air pressure calibrations on the one hand and the reduction in the effectiveness of the emission control system on the other. Stellantis et al. argue as follows. At falling temperatures or falling air pressure, the EGR works less effectively because soot formation in the EGR cooler increases significantly under these conditions. The **SCR** also works less effectively at lower temperatures. This is because urea crystallisation increases at lower temperatures. Under these conditions, the effectiveness of the EGR and **SCR** is therefore reduced in any case, according to Stellantis et al.

7.42. The court considers that the fact that Stellantis et al. included specific parameters for, among other things, temperature and air pressure in the software and that the operation of the EGR and SCR is reduced or disabled when those parameters are met, justifies the presumption that the effectiveness of the emission control system is affected by those calibrations for temperature and air pressure. It is therefore incumbent on Stellantis et al. to refute the presumption of the existence of a causal link. In the opinion of the court, they have not succeeded in doing so. The explanation provided by Stellantis et al.
, it has not sufficiently substantiated that (i) already at the tipping point of the parameters it applies, for example 15 degrees Celsius for the temperature, (ii) such a degree of soot formation and/or urea crystallisation occurs that (iii) this immediately (and not only at the

" ECJ 14 July 2022, ECLI:EU:C:2022:570 (GSMB lnvest'Auto Krainer, paragraph 44), and ECJ 14 July 2022, ECLI: EU:C:2022:57 l (IR/Volkswagen AG, paragraph 5 l).
" ECJ 14 July 2022, ECLI:EU:C:2022:570 (GSMB Invest Auto Krainer, paragraph 44), and ECJ 14 July 2022, ECLI: EU:C:2022:571 (IR/Volkswagen AG, paragraph 5 l).

longer term) the effective functioning of the EGR and/or SCR is reduced. Stellantis et al. have therefore not established that, even without the calibrations applied for temperature and air pressure, the functioning of the EGR and/or SCR would be reduced to the same extent, solely on the basis of the actual conditions relating to temperature and air pressure.

7.43. It follows from the above that the effectiveness of the emission control system under normal conditions of use is reduced by (at least) the calibrations applied for temperature and air pressure. This means that those calibrations in the Euro 6b Opel vehicles constitute a manipulation device within the meaning of Article 3(10) of the Emissions Regulation.

Are EGR and SCR manipulation devices prohibited?

7.44. A manipulation device is prohibited unless a successful appeal can be made to one of the exceptions listed in Article S(2) of the Emissions Regulation.

7.45. Contrary to what Stellantis et al. have argued, there is no reason to await the outcome of the German appeal proceedings against the KBA's decisions in relation to the question of the justification of the manipulation devices for temperature and air pressure. The court refers to the findings in 7.22 above.

7.46. Stellantis et al. have argued in general terms that, if it is found that a calibration used qualifies as a manipulation tool, such calibration is covered by the exception in Article 5(2)(a) of the Emissions Regulation.

7.47. The court first of all notes that it is not disputed that, in general, there may be a need to calibrate an emission control system to some extent due to certain limitations inherent in the various emission reduction techniques. This does not alter the fact that it is up to Stellantis et al. to demonstrate the necessity of the calibrations specifically applied by it in the context of its appeal under Article 5(2)(a) of the Emissions Regulation.

7.48. With regard to the original calibrations relating to the EGR temperature window and the **SCR** temperature window, Stellantis et al. have not provided any substantiation as to why those specific calibrations are necessary to protect the engine from damage or accidents and to ensure the safe operation of the vehicle. Stellantis et al. have limited their position to the necessity of the calibrations as applied after the software updates. However, the original calibrations are subject to assessment in this judgment. After all, the vehicles were placed on the market on the basis of those original calibrations. Furthermore, as Stellantis et al. themselves have pointed out, not all Euro 6b Opel vehicles have been provided with a software update. This means that some of the Euro 6b vehicles still have the original calibrations that are relevant here.

7.49. The range of the original temperature window in which the EGR and SCR are fully active is fairly limited (see tables in 7.36 and 7.37). The software updates have significantly increased this range (for the EGR, the new range is between 2 and 37 degrees Celsius and for the SCR between 0 and 40 degrees Celsius), as shown in Leu's report. This increase also applies to the point at which the EGR or SCR is completely switched off. Whereas for the EGR this was previously 34.5 degrees Celsius at the upper limit, this has been increased to 50 degrees Celsius. And where it was previously -11 degrees Celsius at the lower end for the **SCR,** this has been extended to -30 degrees Celsius. These extensions raise the question of why there is a need for such a change.

was for the earlier, much more narrowly defined temperature windows. Stellantis et al. did not explain why the original calibrations were necessary. The repeated comment by Stellantis et al. that "continuous research and new technologies made it possible and justifiable to extend the operating range of emission control systems" is too general and therefore insufficient. Nor does Leu's report contain any (reasoned) explanation of the necessity of the original calibrations. Leu merely refers to section 4.1 of his report, but that section only explains in general terms the need for calibrations when using EGR as an emission reduction system.

7.50. Since Stellantis et al. have not provided any explanation focusing on the necessity of the specific calibrations for the temperature window of the EGR and the **SCR,** their reliance on the exception in Article 5(2)(a) of the Emissions Regulation fails. The calibrations applied to the temperature window of the EGR and SCR in the Euro 6b Opel vehicles must therefore be regarded as a prohibited manipulation device.

7.51. Stellantis et al. have not provided clear justification for the air pressure calibrations applied to the EGR prior to the software update offered. Stellantis et al. have mainly explained the calibrations after the software update, whereas the necessity of the original calibrations must be assessed. Stellantis et al. have further commented on the air pressure calibrations in general terms, stating that a falling oxygen concentration can occur at certain altitudes, leading to less efficient combustion and thus to an increase in the formation of hydrocarbons and soot. This in turn poses a risk of ignition faults in the engine. aídus Stellantis et al. Stellantis et al. have not provided any justification specific to the necessity of the specific air pressure calibrations prior to the software update, if only because they have not explained at what altitudes and to what extent there is a decrease in oxygen concentration that is relevant to the functioning of the EGR. In this context, it is also important that the software update adjusted the calibrations and that the EGR continues to function at lower air pressure (and therefore at higher altitudes) after the update. If this adjustment was possible with the software update, this raises the question of why the original calibrations were necessary. Since Stellantis et al. have not made it clear that the original calibrations were necessary to protect the engine from damage or accidents and to ensure the safe operation of the vehicle, their reliance on Article 5(2)(a) of the Emissions Regulation fails.

Interim conclusion on vehicles not using a combination of EGR and SCR

7.52. The interim conclusion is that, in Euro 6b Opel vehicles that use a combination of EGR and SCR, the calibrations originally applied for temperature (during the operation of both EGR and SCR) and air pressure (during the operation of EGR) are prohibited manipulation devices within the meaning of Article 3(10) of the Emissions Regulation.

7.53. In addition, the Foundations have also stated that a number of other calibrations constitute a (prohibited) manipulation device. These include the calibrations used for the operation of the EGR and SCR for engine speed, as well as the calibrations used for the operation of the SCR for driving speed (see the tables in 7.36 and 7.37). In the opinion of the court, the debate on these calibrations has not been sufficiently conducted to enable a decision to be taken on this matter. However, there is no longer any need to assess these calibrations

assess these calibrations, as it has already been established that other prohibited manipulation devices are involved.

Vehicles with a combination of EGR and LNT. The use of various parameters

7.54. In Euro 6b Opel vehicles that used a combination of EGR and LNT to reduce NOx emissions, both the operation of the EGR and the
operation of the LNT were controlled on the basis of multiple parameters, including temperature, engine speed and air pressure. In its report of 17 December 2024, Leu presented the parameters originally used (i.e. prior to the software updates) in two tables.

7.55. The table in paragraph 74 of Leu's report relates to the operation of the EGR and reads as follows:

Global EGR calibration parameters used for the Euro 6b 1.6 and 1.3 CDTi engines with an LNT system

		1.6 CDTi Pre software update			,1.3 C0Ti Pre-software update	
		B16DTH	B16DTL/DTC/ **DTE/DTU**	B16DTR	B13DTR	B13DTC/DTE
Temperature	Fully operational	15.5 - 34 °C	15.5 - 34 °C	1S,5 - 34 °C	16.5 - 32 °C	16.5 - 32 °C
	Ramping down	-11 - 15.5 °C, 34-34.5 °C	-11 - 15.5 °C, 34-34.5 °C	-11 - 1S.5 °C, 34-34.5 °C	-11 - 16.5 °C, 32 - 33 °C	-11 - 16.5 °C, 32 - 33 °C
	Off	<-11 °C, >34.5 °C	<-11 °C, >34.5 °C	<-11 °C, >34.5 °C	<-11 °C, >33 "C	<-11 °C, >33 °C
RPM	Fully operational	<2,600 RPM	<2,800 RPM	<2,400 RPM	<2,750 RPM	<2,800 RPM
	Ramping down	2,600 - 3,750 RPM	2,800 - 3,600 RPM	2,4S0-3,050" RPM	2,750 - 3,700 RPM	2,800-3,550 RPM
	Off	>3,750 RPM	>3,600 RPM	>3,050 RPM	>3,700 RPM	>3,550 RPM
Air pressure	Fully operational	>90 kPa	>90 kPa	>90 kPa	>90 kPa	>90 kPa
	Ramping down					
	Off	<90 kPa	<90 kPa	<90 kPa	<90 kPa	<90 kPa

7.56. The table in paragraph 78 of Leu's report relates to the functioning of the INT and reads as follows:

Global LNT parameters within which the LNT functions, for the Euro 6b 1.6 and 1.3 CDTi engines with an LNT system						
		1.6 CDTi Pre software update			1.3 CDTi Pre software update	
		B16DTH	B16DTL/DTC/ DTE/DTU	B16DTR	B13DTR	B13DTC/DTE
Temperature	Fully operational	-11 - 33.5°C	-11 - 33.5°C	11 - 33.5°C	-11 - 32°C	-11 - 32°C
	Off	<-11 C, >33,S ‘C	-11 °C, >33,S °C	-11 °C, >33.5 °C	<-11 °C, >32 °C	<-11 °C, >32 °C
RPM	**Fully** operational	**<2,800** RPM	**<2,800** RPM	<2,800 RPM	<2,700 RPM	<3,000 RPM
	Off	**>3,600** RPM	**»3,600** RPM	**>3,600** RPM	**>3,700** RPM	**>3,700** RPM
Air pressure	Fully **operational**	>90 kPa	>90 kPa	>90 kPa	>90 kPa	>90 kPa
	OP	<90 kPa	<90 kPa	<90 kPa	<90 kPa	<90 kPa

7.57. In the opinion of the court, at least some of these calibrations reduce the effectiveness of the emission control system under conditions that can be expected during normal use of the vehicle. This concerns the same calibrations as those already classified as prohibited manipulation devices above (see 7.39 to 7.52).
This primarily concerns the temperature window of the EGR. An ambient temperature lower than 15.5 or 6.5 degrees Celsius (depending on the engine type) must be considered normal operating conditions. Reference is made to the considerations in 7.39 above. According to Stellantis et al., this calibration is necessary to prevent soot formation on the EGR valve. However, it follows from the case law of the Court of Justice that a temperature window serving to protect the EGR valve against soot formation does not fall within the exception provided for in Article 5(2) (a) of the Emissions Regulation.
Secondly, there is the air pressure calibration that disables both the EGR and the LNT at a value of less than 90 kPa. The same applies here as considered in 7.40 above. Stellantis et al. have not presented any facts or circumstances that could justify these specific calibrations for air pressure. Reference is made to the considerations set out in 7.5 above.
Leu also failed to explain in his report why these specific calibrations are justified.

All Euro 6b Opel vehicles were equipped with a tyre temperature window.

7.58. On the basis of the position taken by the Foundations, which has not been sufficiently refuted by Stellantis et al., the court assumes that all Euro 6b Opel vehicles were equipped with a temperature window that regulated the operation of the EGR and SCR and/or with an air pressure-based calibration that regulated the operation of the EGR and INT.
Although Stellantis et al. argued in general terms in their statement of defence that the calibrations are different for all vehicle types and models, it follows from Leu's report that this is not the case, at least for the calibrations at issue. Leu's report shows that the calibrations he refers to for vehicles that use EGR in

combination with SCR (more or less) are the same. The same applies to vehicles that use EGR in combination with LNT. Leu did note that the exact parameters for the second group of vehicles may vary slightly depending on the engine type, but any minor deviations are insignificant in this context. Such minor deviations therefore do not detract from the conclusion that the calibrations in question constitute a prohibited manipulation device.

7.59. The Foundations further argued that Opel used Renault technology and an engine in its commercial vehicles. The software and calibrations used therein were developed by Renault. According to the Foundations, Renault used, among other things, a temperature window, whereby the emission control system was only activated at an outside temperature between 17 and 35 degrees Celsius. Stellantis et al. have not disputed this, so this temperature window is also a prohibited manipulation device.

7.60. With specific regard to Opel commercial vehicles with an R9M engine, the Foundations also stated, with reference to Heitz's report of 13 December 2024, that those vehicles are equipped with a manipulation device based on *post-heating.* The operation of the *post-heating* mechanism and its influence on the emission control system are described in Heitz's report. Stellantis et al. argued that it is impossible for them to verify the content of the *software files* on which Heitz based his findings. In doing so, Stellantis et al. failed to sufficiently substantiate their challenge to the existence and functioning of the *post-heating* mechanism described by Heitz. In this case, Stellantis should have
c.s. to provide insight into the calibrations used. It failed to do so. Stellantis c.s. argued that it had no insight into the details of the calibrations developed by Renault. In the opinion of the court, Stellantis et al. cannot invoke any lack of knowledge of the calibrations used, as it is responsible as a manufacturer for complying with the Emissions Regulation and it is therefore also its responsibility
to request the relevant information from Renault if necessary. The fact that it apparently failed to do so is its responsibility. It follows from the functioning of the *post-heating* mechanism described by the Foundations and Heitz that the calibrations in question reduce the effectiveness of the emission control system under normal operating conditions, so that this mechanism can also be regarded as a prohibited manipulation device.

7.61. The above means that it must be assumed that Euro 6b Opel commercial vehicles with a Renault engine are also equipped with one or more prohibited manipulation devices.

Conclusion on Euro 6b Opel vehicles

7.62. The conclusion is that all Euro 6b Opel diesel vehicles were equipped with prohibited manipulation devices at the time they were placed on the market. In vehicles that used SCR as an after-treatment strategy, these were in any case an EGR temperature window, an SCR temperature window and an EGR air pressure calibration. In vehicles that used LNT as an after-treatment strategy, these included at least an EGR temperature window, an EGR air pressure calibration and an LNT air pressure calibration.

Are there any other manipulation devices in Euro 6b Opel vehicles?

7.63. The Foundations have pointed out that the functioning of the emission control system in Euro 6b Opel vehicles is also influenced by other manipulation tools. Although they do not have full insight into the calibrations used, the Foundations say they have indications of at least two other unauthorised calibrations. In vehicles that use LNT technology, this calibration affects the regeneration that is required from time to time when the LNT catalytic converter is full and needs to be cleaned/emptied. According to the Foundations, these calibrations are designed to recognise tests in order to time the regenerations during and before the test so that the car performs optimally in the approval test. Outside the test, far fewer regenerations take place, which means that the performance of the LNT catalytic converter decreases accordingly, according to the Foundations. In vehicles that use SCR technology, the addition of AdBlue is limited from a certain fuel consumption level. When the system switches to this 'transient dosing mode', the SCR catalytic converter operates at a maximum of 20% of its capacity. As a result, NOx emissions increase, according to the Foundations.

7.64. The court finds that it can be left open whether there are other prohibited manipulation devices. In view of the above ruling, it has already been established that all Euro 6b Opel vehicles are equipped with prohibited manipulation devices. Therefore, there is no interest in investigating the existence of **any** other manipulation devices.

Euro 5 PCD vehicles

7.65. In support of their position that Euro 5 PCD vehicles are equipped with manipulation devices, the Foundations referred in particular to the Heitz report of 13 December 2024. In that report, Heitz describes his findings from his analysis of software versions from 34 different Peugeot and Citroën vehicles. According to the Foundations, Heitz found two manipulation devices, namely: 1) a *low intake air Jefeat clevice* and 2) a *split injection defeat device.*

7.66. Stellantis et al. dispute Heitz's findings. They refer to the reports by Lesueur dated 17 December 2024 and 15 January 2025.

7.67. The court will first discuss the two specific manipulation devices mentioned above by the Foundations *(low intake air defeat device* and *split injection defeat device).*

The alleged 'low intake air defeat device'

7.68. According to the Foundations, the EGR has different modes and does not function in the same way under the conditions of the NEDC test as it does outside those conditions. In his report of 13 December 2024, Heitz writes that, based on analysed software files, he has found a manipulation device (referred to by Heitz as *a low intake air defeat device)* that increases the EGR rate when NEDC test conditions occur, resulting in stronger EGR operation and lower NOx emissions. Under other conditions, the EGR rate is corrected. Various calibrations play a role here, including the air intake temperature, air pressure, torque and engine speed, according to Heitz's report.

7.69. Stellantis et al. refer to Lesueur's report of 15 January 2025 in support of their challenge. In that report, Lesueur disputes Heitz's findings and conclusions. Lesueur writes, among other things, that the EGR rate cannot be determined solely on the basis of the *air intake niaps* and that the EGR is not only active during the NEDC test but also under normal operating conditions. Under certain circumstances, limiting the operation of the EGR is necessary to prevent damage to the engine and dangerous situations, according to Stellantis et al.

7.70. The court considers that the debate between the parties on this point has been limited. During the oral proceedings, the parties also only briefly addressed this issue. Based on the information available, the court cannot determine exactly which calibrations were applied for the operation of the EGR in Euro 5 PCD vehicles. Although there appear to be different modes of the EGR and various variables that play a role in this, it is not clear what the calibrations for these different modes are. On the basis of the information currently available, it is therefore also not possible to determine whether the *low intake air* manipulation device alleged by the Foundations exists. What this means for the further assessment is discussed in 7.78-7.8 below.

The 'split injection defeat device'

7.71. Referring to Heitz's findings, the Foundations have stated that the calibrations relating to *split* injection involve test detection and have put forward the following arguments in this regard. *Split injection* is a pulsed fuel injection that can be used to reduce NOx emissions. The software uses a number of extremely precise parameters that ensure that *split injection* is activated precisely during the phase of the NEDC test in which the vehicle is under the most stress and NOx production is at its highest, namely when the car accelerates from 76 km/h to 120 km/h. A range of other settings in the software prevent the *split injection* from being activated during normal driving. As a result, *split injection* is virtually only active during the test. According to the case law of the ECJ, test detection is by definition a manipulation tool, even if the improvement also occurs sporadically under normal driving conditions, according to the Foundations.

7.72. With reference to Lesueur's reports, Stellantis et al. have put forward the following. The calibration relating to *split injection* and *non-split injection* has no, or at least no significant, impact on NOx emissions. They offer to substantiate this with test results. Furthermore, the calibration is not only active during the NEDC test but also outside of it. A number of the calibrations mentioned by Heitz are incorrect. Finally, the calibration was included in the test for certification of the vehicle type in which this calibration was applied. This satisfies the exception in Article 5(2)(c) of the Emissions Regulation, according to Stellantis et al.

7.73. The court finds that it has not been established that the calibrations for *split injection* can be regarded as a manipulation device within the meaning of Article 3(10) of the Emissions Regulation. The following reasons are given for this.

7.74. It is assumed that it is (solely) the EGR that regulates NOx emissions in Euro 5 PCD vehicles. It is not claimed that the calibrations for *split injection* have any influence on the functioning of the EGR or on any other component of the emission control system. To that extent, the

calibrations for *split injection* cannot be regarded as a component that affects the emission control system and reduces its effectiveness.

7.75. The question then remains whether (the calibrations for) *split* injection should be regarded as an independent (part of the) emission control system. In the opinion of the court, this cannot be determined. It has not been established that *split injection* is primarily aimed at reducing NOx emissions, while it is unclear whether *split injection* has a measurable and relevant effect on NOx emissions. The court explains this below.

7.76. *Split injection* is the splitting of a single injection of diesel into the combustion chamber into two or more injection pulses with a pause between the individual injections. *Split injection* is an exception to the single injection that takes place during each four-stroke cycle. Lesueur explained the purpose and operation of *split injection*, stating that this technique is mainly used during the warm-up phase of the engine and serves to reduce noise from the combustion process and reduce soot emissions. This is not contradicted in Heitz's report. Heitz and Lesueur also agree that *split injection* is very short-lived. Heitz estimates that it **lasts** 20 to 40 seconds**.** The court understands that with *split injection,* the peak temperature in the combustion chamber is slightly lower than with a single injection of diesel. At higher temperatures, under higher pressure and with a higher oxygen content, more NOx is produced during the combustion process. An additional effect of *split injection (*with a slightly lower peak temperature) may therefore be that less NOx is produced during the combustion process. However, given the short duration of *split injection,* Lesueur explained that *split injection* has no significant effect on NOx emissions. In view of the content of Lesueur's report, it was incumbent on the Foundations to explain why the (short-term) use of *split* injection results in significantly lower NOx emissions compared to not using *split injection.* The Foundations did not do so. Nor was this explained in Heitz's reports.

7.77. The above means that it remains unclear whether the calibrations applied in the software for *split injection* are aimed at test recognition, because it has not been established that the *split injection* mechanism in itself has a relevant influence on the performance of the emission control system for NOx reduction.

Verification of the absence of a manipulation device

7.78. For Euro 5 PCD vehicles, it cannot therefore be determined on the basis of the debate to date whether those vehicles are equipped with a manipulation device. Another factor is that the information on the precise functioning and calibrations of the emission control systems used is in the domain of Stellantis et al. and that Stellantis et al. has provided limited information on this for Euro 5 PCD vehicles.

7.79. However, based on studies conducted in various countries and by various authorities, particularly between 2015 and 2017 (see in particular 3.39 to 3.47), it appears that even Euro 5 PCD vehicles tested under road conditions emit significantly more NOx than permitted in most cases. These real-world emissions are therefore also significantly higher than those measured during the NEDC test. The vehicles concerned must comply with the emission limits not only under test conditions but also under normal driving conditions on the road. Although the exact conditions under which the vehicles were tested are not always specified, these numerous studies (carried out in various countries, by different researchers and under different conditions) reveal a convincing and undeniably consistent pattern, namely that the emission standards are exceeded when the vehicles concerned are used on the road.

countries, by different researchers and under varying conditions) reveal a convincing and undeniably consistent pattern, namely a pattern of exceeding emission standards when the vehicles in question are used on the road. Based on this pattern, the court therefore assumes that the Euro 5 PCD vehicles are equipped with one or more prohibited manipulation devices.

7.80. This suspicion is further supported by the fact that the French type-approval authority (CNRV) announced recalls for Euro 5 PCD vehicles in the autumn of 2019. According to information provided by the CNRV to the Foundations, these recalls are related to excessive NOx emissions. Stellantis et al. have offered software updates for those vehicles. These recalls are also listed in the RDW's recall register. The fact that, according to Stellantis et al., this is not a mandatory recall (within the meaning of Article 3(16) and (17) of EC Regulation 2019/1020) but a voluntary measure is, in the opinion of the court, of secondary importance. This does not alter the finding that the measure was prompted by excessive NOx emissions.

7.81. Based on the above circumstances, the court therefore provisionally finds that the Euro 5 PCD vehicles are equipped with one or more prohibited manipulation devices. The defendants will be given the opportunity to provide evidence to the contrary (see further 8.1).

Euro 6b PCD vehicles

7.82. The Foundations take the position that PCD vehicles belonging to the Euro 6 emission generation are equipped with two manipulation devices: one device related to the operation of the EGR and one device related to the operation of the SCR. In support of this, the Foundations refer to the report by Domke dated
March 2023 and the report by Heitz of 13 December 2024.

7.83. Stellantis et al. dispute that there are any (prohibited) manipulation devices and contest the conclusions of Domke and Heitz. In doing so, Stellantis et al. refer to the reports by Lesueur dated 17 December 2024 and 15 January 2025.

7.84. In response to Lesueur's reports, the Foundations submitted a report by Domke dated 29 January 2025 and a report by Heitz dated 31 January 2025. In its assessment, the court disregards these two latter reports insofar as they contain new information to which Stellantis et al. were unable to respond or were unable to respond sufficiently during the oral hearing (see also 7.14).

7.85. The court will first summarise the positions of the parties. This will be followed by the assessment.

The position of the Foundations on the alleged nianf'pulaiie instruments

7.86. The Foundations have put forward the following arguments regarding the EGR-related manipulation instrument.

7.86.1. In 2023, Domke examined two vehicles, a 2016 Peugeot 308 and a 2017 Peugeot 5008. Domke read the software from the ECU of both vehicles and

Domke also drove one of the two vehicles and read out the data. The software read out from both vehicles contains a test recognition mechanism that ensures that the vehicle's emission control system functions optimally during the NEDC test. Outside of this, the EGR is largely disabled in most cases. There are two modes that control the functioning of the engine and the EGR: an active or environmentally friendly mode (indicated in the software as Base Map l) and a less active or polluting mode (indicated in the software as Base Map 2). Lesueur's report of 17 December 2024 also states that one of the two modes is aimed at optimally reducing NOx and that the other mode is aimed at optimally reducing CO.

7.86.2. The software ensures that the active mode is activated during the NEDC test. In this active mode, the EGR operates and NOx emissions are limited. Outside the test situation, Map l is only active if all three of the following conditions are met: l) the outside temperature is between 7 and 30 degrees Celsius, 2) the speed of the car is less than 60 km/h and 3) the car is at an altitude of less than 600 metres. These conditions mean that the polluting mode is often activated during normal driving conditions on the road.
Furthermore, in most circumstances, the software does not check whether the SCR catalytic converter is ready for use before switching from active EGR mode (Map l) to polluting mode (Map 2). In this respect, the SCR does not complement the EGR function.

7.87. The Foundations have made the following arguments regarding the SCR-related manipulation device they allege.

7.87.1. **The SCR** only uses sufficient AdBlue to function properly within the NEDC test. Outside the test situation, the **SCR** is adjusted so that it only uses a fraction of the AdBlue required to function properly. This has to do with the two modes that the SCR has and the calibrations used for them. These two modes are:
- Mode l: Sufficient AdBlue is injected. Mode l is activated on the basis of precisely defined characteristics that correspond to the conditions of the NEDC test.
These functions are so specific and tailored to the NEDC test that it is practically impossible for the Ad Blue optimal mode to be activated outside the test.
- Mode 2: The amount of AdBlue injected is insufficient to reduce NOx. The amount of AdBlue to be injected is reduced to 0.33 litres per 1,000 km, whereas two litres per 1,000 km are required under normal use. This polluting mode is therefore always activated, except during testing.

7.88. In 2024, Heitz examined 45 of the most common software versions in Euro 6 Peugeot and Citroën diesel vehicles. In its report of 13 December 2024, Heitz confirmed Domke's findings and concluded that the same manipulation tools are active in all software versions, both for EGR and SCR. There are only minor, insignificant differences in calibration.

The statement by Stellantis et al. on these alleged manipulation tools

7.89. In general terms, Stellantis et al. have made the following arguments regarding the investigations conducted by Domke and Heitz.

7.89.1. The conclusions in Domke's March 2023 report are based on an analysis of the software in the vehicles in question. Domke did not perform a functional analysis, i.e. he did not subject the vehicles to testing. For that reason alone,

no valid conclusions can be drawn about the functioning of the emission control systems in the vehicles in practice and their effects on the NOx emissions of the vehicles. After all, test results are by definition also required to draw such conclusions. Although Domke states that he also tested the vehicles, his report does not contain any test results or information about how those tests were carried out.

7.89.2. In his report dated 13 December 2024, Heitz relied on software files that he purchased from an unauthorised website. For this reason, Stellantis et al. dispute that these are the authentic software files used in PCD vehicles. No conclusions can be drawn from the tests mentioned by Heitz in his report dated 31 January 2025. The report does not contain any emission results from the road test that Heitz claims to have carried out. Furthermore, the tests carried out by Heitz on the roller bench contain irregularities. For example, the correct parameters for the Peugeot 308 tested were not applied, which meant that the vehicle was subjected to a heavier load than during an official NEDC test. In addition, there are indications that the vehicle was not functioning properly.

7.90. Stellantis et al. have made the following arguments regarding the alleged EGR-related manipulation device.

7.90.1. The calibrations discussed by Domke do not (only) relate to the operation of the EGR, but to the combustion modes of the engine. Calibrating different combustion modes is permissible in itself and does not constitute a manipulation tool, as long as the exhaust emissions are adequately controlled. The EGR rate is the same in both modes: the EGR functions in Map 2 in much the same way as in Map 1. Map 2 is primarily aimed at reducing carbon dioxide emissions, but NOx emissions are also adequately controlled in Map 2. The functioning of the EGR and the SCR cannot be assessed in isolation, but must be considered in conjunction with each other. Where, for example, the functioning of the EGR is temporarily reduced under certain conditions, this is compensated for by the SCR, so that the NOx emissions of the vehicle remain approximately the same on balance. A transition from Map 1 to Map 2 will not take place until the SCR system is sufficiently ready.
There is no prohibited test recognition. Furthermore, both Map 1 and Map 2 are active during the NEDC test.

7.91. Regarding the alleged SCR-related manipulation device, Stellantis et al. have argued as follows.

7.9 l.l . The SCR system in the vehicles under investigation operates in two modes as a result of calibration: a controlled consumption mode and an uncontrolled consumption mode.
The controlled consumption mode is calibrated to consume an average of 0.55 litres of AdBlue per 1,000 km. This corresponds to an (after)treatment of 288 mg NOx/km. In the uncontrolled consumption mode, an additional amount of AdBlue can be injected so that the maximum amount of NOx permitted by the SCR catalytic converter can be treated, if necessary. The following must be taken into account:
- The uncontrolled consumption mode is required for the regulatory test of the SCR system's performance, including OBD conditions, and to cool the AdBlue injector. The uncontrolled consumption mode is not only active during the extra-urban part of the NEDC test, but also under other conditions, as described in paragraph 136 of the Lesueur report of 17 December 2024.

"Conditions for the on-board diagnostic system (OBD: *on-board diagnostics).*

- The conditions under which the SCR system switches to uncontrolled consumption mode during the NEDC test (the *"favourable SCR diagnostic conditions")* are justified by the fact that the SCR system must be monitored during mandatory OBD certification. In order to comply with these mandatory OBD conditions during vehicle certification, full efficiency of the SCR system, and thus the non-controlled consumption mode, must be enforced by calibration.
- The average AdBlue consumption of the entire fleet of Euro 6b PCD vehicles for NOx treatment during an NEDC test is less than the calibrated 0.55 litres per 1,000 km. In addition, the average AdBlue consumption of Euro 6b PCD vehicles on the road rises to 0.75 litres of AdBlue per 1,000 km due to the activation of the uncontrolled consumption mode in the context of detecting **a possible** defect (diagnosis) in the SCR system.
- Euro 6b PCD vehicles consume more AdBlue on the road than during the NEDC test. The vehicles tested by Domke consume more than twice as much AdBlue on the road as during the NEDC test.

7.91.2. Stellantis et al. dispute that 2 litres of AdBlue per 1,000 km are necessary. Not all NOx emissions need to be limited. Heitz says that the system can handle 1.4 litres of AdBlue per 1,000 km, but Lesueur's report shows that AdBlue leads to urea crystallisation, which can block the AdBlue's operation and result in higher NOx emissions. In any case, the uncontrolled consumption mode, which is activated during an NEDC test as part of OBD requirements, poses quality risks. This mode, in which the SCR system is operating at maximum efficiency, places a strain on the system. For this reason, this mode cannot be active continuously and is limited to the duration of the OBD certification.

7.92. Finally, Stellantis et al. made the following general argument.
The calibrations of the software and their effects on emissions were included in the NEDC test that the Euro 6 PCD vehicles underwent and for which type approval was obtained. The calibration of the combustion modes and the SCR calibration strategy were shared with the French type-approval authority in the form of detailed BES/AES documentation. The French approval authority approved these strategies, and these calibration strategies were also shared with market surveillance authorities.

Assessment by the court

7.93. It must be assessed whether the software calibrations used for the operation of the EGR and SCR result in a reduction in the effectiveness of the emission control system under conditions that can be expected during normal vehicle use. Since NOx emissions in Euro 6b diesel vehicles are limited by (a combination of) the operation of the EGR and the SCR, both systems must be taken into account. This means that the two manipulation devices identified by the Foundations cannot be assessed entirely independently of each other.

7.94. It is not disputed that the software for Euro 6b PCD vehicles has two basic modes for engine operation: 'Base Map l' and 'Base Map 2'. Each of these modes refers to its own set of parameters that partly determine the operation of the emission control systems. According to the software, there are at least two sets of conditions that lead to the application of Base Map 1. The first set of conditions can be simplified as follows:

1. the ambient temperature is between 19 and 30 degrees Celsius and
2. the air pressure is at least 940 m Bar and

3. the oil temperature is a maximum of 60 degrees Celsius.

These conditions are in line with the (regulations for the) conditions under which the NEDC test takes place and thus ensure that Base Map l applies at the start of the NEDC test.

In addition, according to the software, Base Map l also applies if the following conditions are met (indicated in the software as 'Urban'):

1. the ambient temperature is between 7 and 32 degrees Celsius and
2. the speed of the car does not exceed 60 km/h and
3. The air pressure is at least 930/940 m Bar.

7.95. In Base Map 1, only the EGR works to limit NOx emissions. The SCR is (usually) not active in Base Map 1. This is because the SCR catalytic converter needs to reach a certain temperature to work properly, and this temperature is often not reached under the conditions in which Base Map 1 is used.

* Is there reduced EGR performance in Base Map 2?

7.96. It is not disputed that the operation of (only) the EGR in Base Map l, according to the calibrations in the software, is such that NOx emissions are sufficiently controlled and that the applicable emission limit value is therefore complied with. However, the parties disagree on how the EGR functions in Base Map 2. According to the Foundations, the EGR in Base Map 2 operates at a lower level than in Base Map 1, while Stellantis et al. take the view that the EGR rate is the same in both modes and that the EGR in Base Map 2 functions (virtually) the same as in Base Map 1.

7.97. The court finds that Stellantis et al. have insufficiently substantiated their position in response to the well-reasoned arguments put forward by the Foundations, so that it must be assumed that the operation of the EGR in Base Map 1 differs (significantly) from the operation of the EGR in Base Map 2. The following reasons support this conclusion.

7.97.1. In his report of March 2023, Domke analysed the software of the two cars he examined and, on the basis of the calibrations contained therein, found that there is a difference between each of the two sets of parameters used for further calculations. Based on this difference, Domke concluded that the EGR in Base Map l operates more aggressively and that the operation of the EGR in Base Map 2 is limited. Domke illustrated this difference in the two sets of parameters (in Base Map l, the factor used is between l and 5; in Base Map 2, the factor used is between l and 3) on page 9 of his report with the following graph:

For one such parameter map, the so-called “Base Map”, the differences between the version selected in “Map 1” and “Map 2” mode are set out in figure 2 below

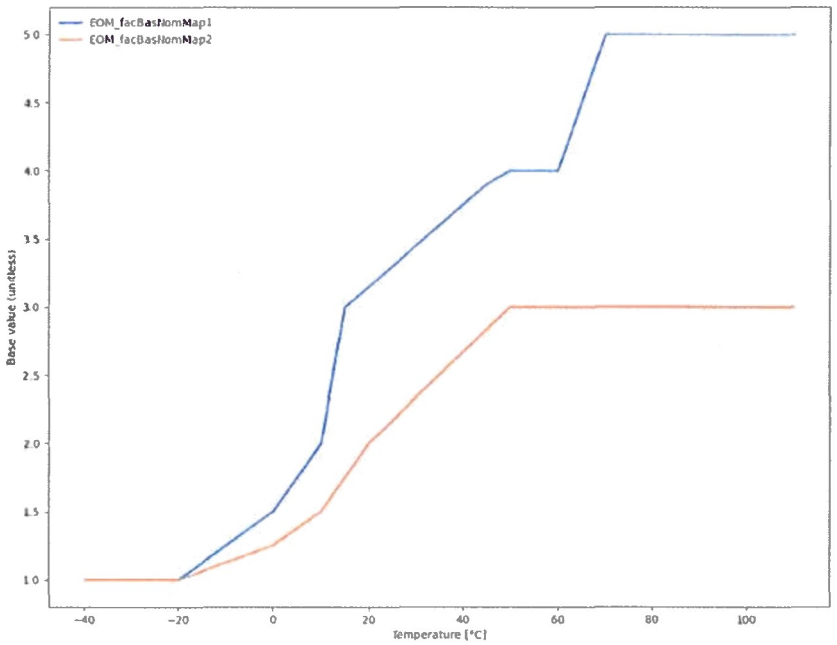

Figure 2 Explanation of a difference between ‘Map1’ [Blue] and ‘Map 2’ (Orange) mode. The X axis *is Oil temperature; the Y axis is an intermediate Colne.*

Based on the selected mode ("Map 1" vs. "Map 2"), different Engine Operation Modes (EOM) and setpoints are selected at otherwise identical operating environments.

7.97.2. In his report dated 13 December 2024, Heitz confirmed Domke's findings on this point. Heitz based his findings on (other) software files that he analysed. Heitz found that the two Base Maps use different factors for EGR based on coolant temperature. In Base Map 1, the factor for EGR varies from 1 to 5, and in Base Map 2 from 1 to 3. Heitz illustrated this difference in calibration on the basis of the software readout on pages 16 and 17 of his report as follows:

(25x25)-Map:
EOM_facBasNomMap1_M: facteur de baseline brut dans le mapping 1 []
25 Rows: EOM_tAirFil: Temperature d'air filtree [degC]
25 Cols: EOM_tCoMesFil: Temperature d'eau filtree [degC]

cooling temp	EGR factor
15	3
20	3.1
25	3.3
45	3.90
SS	

(25x25)-Map:
EOM_facBasNomMap2_M: facteur de baseline brut dans le mapping 2 []
25 Rows: EOM_tAirFil: Temperature d air filtree [degC]
25 Cols: EOM_tCoMesFil: Temperature d eau filtree [degC]

cooling temp	EGR factor
15	1.75
25	2.17
45	2.83
55	3
ysia	

7.97.3. A comparison between these two calibrations shows, for example, that at a coolant temperature of 10 degrees Celsius, the EGR in Base Map l operates according to a factor of 2, while at the same temperature, the EGR in Base Map 2 operates according to a factor of 1.5. A difference in factor is also visible at all other temperatures between 0 and 110 degrees Celsius.

7.97.4. With these reports by Domke and Heitz, the Foundations have sufficiently substantiated the difference in the operation of the EGR between Base Map l and Base Map 2. Stellantis et al. have not provided sufficient counterarguments and have not specifically addressed the points raised above from the reports by Domke and Heitz. In the report of 17 December 2024, Lesueur merely noted that Domke had not substantiated his assertion that the EGR works differently in both modes with calibration data. However, calibration data was subsequently provided by Heitz (see the tables in 7 .97.2). Stellantis et al. argued that it cannot be verified whether the software files used by Heitz are authentic and that the accuracy of the calibration data is disputed. However, Stellantis et al. did not provide any insight into the calibrations used for the operation of the EGR in Base Map l and Base Map 2, even though this would have been appropriate in order to substantiate their position. Therefore, Stellantis et al.'s objection is rejected as insufficiently substantiated.

* Interim conclusion

7.98. The interim conclusion is that the EGR in Base Map 2 functions at a lower level than in Base Map 1. This does not necessarily mean that it is a manipulation device, because the effectiveness of the emission control system in Base Map 2 must also take into account the functioning of the SCR. This brings us to the dispute about the functioning of the SCR. The two main arguments put forward by the Foundations in this regard are:
- that when switching to Base Map 2, the system does not check whether the SCR is ready for use;
- that in the controlled consumption mode of the SCR (0.55 litres of AdBlue per 1,000 km), NOx emissions are not sufficiently reduced.

* When switching to Base Map 2, is a check performed to ensure that the SCR is ready for use?

7.99. The Foundations argue that in most circumstances, the software does not check whether the SCR catalytic converter is ready for use before the car switches from Base Map 1 to Base Map 2. This is only checked during the NEDC test, but not in any other circumstances. In practice, the SCR does not then complement the EGR, according to the Foundations.

7.100. In support of this position, the Foundations referred to Domke's report of 29 January 2025. Paragraph 3.3 of that report states, insofar as relevant here (and omitting the footnotes):

> "(...) only the restrictive set of conditions *[the first set of conditions based on Base Map I is activated, -ie r.o. ".* 94, *addition by the court .. .)* are taking the physical state of the SCR system into account (...).
> (...) if the software detects the wider set of conditions (temperature range 7 °C to 30 °C), the readiness (and effectiveness) of the SCR system is not a requirement for the engine to switch to Mapping mode 2 (...). Only vague, indirect values (such as vehicle speed), which are not a sufficient condition for SCR readiness, are used.
> This results in the vehicle operating in a fuel-efficiency optimised mode, at the cost of higher NOx emissions, in many scenarios without the SCR system being able to compensate for the higher emissions. However, if the narrower temperature range of l9°C to 30°C, together with a cold start, is detected – conditions that (...) are very closely aligned with regulatory testing conditions – the switch to the more fuel-efficient mode is delayed until the SCR system is ready. In those circumstances, due to the test recognition mechanism relating to the SCR, the SCR also operates at full efficiency.

7.101. The court finds that the Foundations only raised the argument that the software does not check whether the SCR is ready for use in most circumstances for the first time during the hearing on 1 February 2025. This is a new aspect that has not been raised before, nor has it been mentioned in the (earlier) reports by Domke of March 2023 and Heitz of 13 December 2024. As a result, Lesueur was unable to address this in his reports of 17 December 2024 and 15 January 2025. As this is a factual and highly technical issue, Stellantis et al. were unable to respond to it at the hearing on 1 February 2025. However, in the opinion of the court, this issue can be left open in view of the other issue to be discussed below.

* How the SCR works in controlled consumption mode

7.102. It has been established that when the SCR is active, it can operate in two different modes: a controlled consumption mode and an uncontrolled consumption mode. The system can switch between these two modes while driving.

7.103. The SCR system calculates the optimum amount of AdBlue based on the current NOx content in the exhaust gas. In controlled consumption mode, a correction factor is applied to this calculated amount and, taking into account previous AdBlue consumption, an average amount of AdBlue (0.55 litres per 1,000 kilometres) is maintained. The uncontrolled consumption mode does not have these limitations, allowing the SCR system to operate at maximum efficiency in this mode.

7.104. The software calibrations determine the mode in which the SCR operates. The controlled consumption mode is the so-called *default* mode: this applies unless the conditions for applying the uncontrolled consumption mode included in the software are met.

7.105. The fact that the SCR has a controlled consumption mode means that there is a component that measures certain parameters in order to modulate the SCR (as part of the emission control system), as referred to in Article 3(10) of the Emission Regulation. It must be assessed whether this reduces the effectiveness of the emission control system under conditions that can be expected during normal use of the vehicle. The existence of the controlled consumption mode, which imposes restrictions on the amount of AdBlue administered, justifies the presumption that this reduces the effectiveness of the emission control system under conditions that can be expected during normal use of the vehicle. It is then up to Stellantis et al. to refute that presumption.

7.106. According to the software calibrations, the uncontrolled consumption mode is activated if a combination of a number of very specific parameters is met, which, given their detail and combination, essentially only occur during the NEDC test. Domke (in his report of March 2023) and Heitz (in his report of 13 December 2024) have described this set of parameters. That set of parameters can be summarised as follows:

- When the engine is started, the air temperature is between 18 and 30 degrees Celsius.
- as soon as the vehicle reaches a speed of 60 km/h, a timer starts running;
- for more than 50 seconds but no more than 70 seconds after the timer starts, the vehicle drives at a speed between 65 and 75 km/h;
- immediately afterwards, the vehicle shall travel for more than 40 seconds but not more than 80 seconds at a speed between 45 and 55 km/h.
- After the vehicle leaves the second speed window, uncontrolled consumption mode is activated.

7.107. These parameters correspond to the extra-urban driving cycle during the NEDC test. This prescribed driving cycle means that the vehicle accelerates to more than 60 km/h for the first time approximately 833 seconds after the start of the NEDC test, then maintains a speed between 65 and 75 km/h for more than 55 seconds, then returns to a speed between 45 and 55 km/h and finally, approximately 970 seconds after the start of the NEDC test, accelerates again to (ultimately) almost 120 km/h. It is not disputed that the application of the calibrations used (see 7.106) results in the uncontrolled consumption mode being activated during the last phase of the extra-urban driving cycle (from 970 seconds to the end of the NEDC test at 1180 seconds), when the engine is under maximum load.

7.108. Stellantis et al. did not dispute that the software of the Euro 6b PCD vehicles contains the calibrations described by Domke and Heitz. However, Stellantis et al. argued that there are many other situations in which the uncontrolled consumption mode is activated. According to Stellantis et al., the uncontrolled consumption mode is therefore active not only during the NEDC test but also under normal operating conditions. In this regard, Stellantis et al. referred to paragraph 136 of Lesueur's report of 17 December 2024, which states the following:

136. The conditions for switching from the “AdBlue* consumption control mode” to the “non-controlled consumption mode” are the following:

a. At the beginning of a trip if the average AdBlue* consumption of the previous trip is below 0.SS litre/1000 km, and as long as the average AdBlue^ consumption is not above the threshold of
0.55 litres/1000 km on the current trip;
For example: low load trips including NEDC, WLTC 123 (Low, Mid, High) trips
b. If the average AdBlue* consumption is below the threshold of 0.S5 litre/1000 km on the ongoing trip and if the target of ammonia storage has been reached;
For example: low load trips including NEDC, WLTC 123 (Low, Mid, High) trips
c. If SCR diagnostic conditions are reached and if average AdBlue consumption is below the threshold of 0.66 litres/1000 km for all previous trips;
Conditions demonstrated by IUPR results
d. If favourable SCR diagnostic conditions are reached (the conditions Mr Domke has seen during his software analysis); or
e. If adaptation (scatter mode) conditions are reached.

7.109. Based on this list, it is not possible to determine without further explanation, which is lacking, whether the uncontrolled consumption mode is active under normal operating conditions. Stellantis et al. have not provided insight into all the calibrations used, while the controlled consumption mode is also the *default* mode. From the fact that there is a separate and extremely specific set of calibrations tailored to the NEDC test (referred to by Lesueur under d. as 'favourable SCR diagnostic conditions'), it can be inferred that the uncontrolled consumption mode is not active under all normal operating conditions. After all, the extra-urban driving cycle in the NEDC test also falls within normal conditions of use, so it is not clear why a separate set of calibrations is necessary to ensure that the uncontrolled consumption mode is activated during the extra-urban part of the NEDC test. If, as Stellantis et al. argue, the existence of that separate set of calibrations is related to the performance of SCR diagnoses on the basis of OBD regulations, it is unclear why the calibrations referred to in paragraph 136 of the NEDC test were not sufficient in this respect.
calibrations is related to the performance of SCR diagnostics under OBD regulations, it is unclear why the conditions described by Lesueur in paragraph 136(c) would not have b e e n sufficient in this respect.

7.110. Furthermore, Stellantis et al. take the position that the controlled consumption mode is calibrated in such a way that an average of 0.55 litres of AdBlue is consumed per 1,000 kilometres. According to Stellantis et al., this is sufficient to limit NOx emissions to such an extent that the applicable emission limit value is complied with.

7.111. The court considers that it is up to Stellantis et al. to provide sufficient substantiation for this position (see also the considerations in 7.105). It has failed to do so in response to the reasoned position taken by the Foundations. Domke explained in its report of March 2023 that 2 litres of AdBlue per 1,000 kilometres are required for fully efficient exhaust gas treatment. Domke explained that this amount is related to the amount of diesel consumed by the vehicle and that the amount of AdBlue also depends on the functioning of the EGR and any other systems present to limit emissions. Even taking into account that NOx emissions do not have to be reduced to zero and that the (scaled-down) EGR also limits the formation of NOx, Stellantis et al. have not sufficiently substantiated that a quantity of 0.55 litres of AdBlue per 1,000 kilometres is sufficient. Lesueur did not explain in his reports on what basis he arrived at this figure.

quantity is sufficient. However, Lesueur did refer to the results of the tests carried out by the Royal Commission. However, Lesueur fails to recognise that a conformity factor of 5 cannot be used (see 6.10) and that, if that conformity factor is not applied, (almost) all vehicles tested exceeded the emission limit value of 80 mg/km (see 3.42-3.44). These test results therefore indicate that the average amount of AdBlue calibrated by Stellantis et al. is insufficient to comply with the NOx emission standard. This means that it has not been established that the calibration of an average of 0.55 litres of AdBlue per 1,000 kilometres applied in the controlled consumption mode is sufficient to comply with the applicable emission limit value.

Conclusion and final considerations regarding Euro db PCD vehicles

7.112. The conclusion is that the calibrations used limit the effectiveness of the emission control system under normal conditions of use. This means that Euro 6b PCD vehicles are equipped with a manipulation device as referred to in the Emissions Regulation.

7.113. The argument of Stellantis et al. that the calibration strategy was shared with the French type-approval authorities is of no avail to them. Whether type approval was granted and what information was provided in that regard is not decisive. In these proceedings, the court must assess independently whether there is a manipulation tool.

7.114. Insofar as Stellantis et al. invoke the exception provided for in Article 5(2)(a) of the Emissions Regulation, that plea must be rejected. Stellantis et al. have not put forward any specific facts or circumstances showing that the SCR calibrations they applied are necessary to protect the engine from damage or accidents and to ensure the safe operation of the vehicle.

7.115. This leads to the conclusion that the Euro 6b PCD diesel vehicles are equipped with a prohibited manipulation device.

8. Conclusion and continuation of the proceedings

8.1. The conclusion is that it has been established that all Opel vehicles of both the Euro 5 and Euro 6b generations are equipped with prohibited manipulation devices. This also applies to PCD vehicles of the Euro 6b generation.

8.2. Euro 5 PCD vehicles must be presumed to be equipped with one or more prohibited manipulation devices. With regard to Euro 5 PCD vehicles, defendants are given the opportunity to provide evidence to refute this presumption. If defendants wish to make use of this opportunity, the nature of the case requires that they provide full disclosure of the original operation and the original calibrations applied in the software of the emission control system of Euro 5 PCD vehicles. It is obvious that this should be done on the basis of written evidence. These documents must be submitted both on paper and digitally (on USB). If desired, the car dealers may align themselves with the position of Stellantis et al. or with the documents submitted by Stellantis et al., without the need for repeated submission.

8.3. If the defendants fail to respond to the opportunity to submit their defence, the Foundations will, in response to the above-mentioned means of defence, in turn attempt to substantiate their position by imposing further conditions of their own. After the submission of the response, , it is intended that the court will reach a final decision on whether or not the Foundations are liable for the use of one or more prohibited manipulation instruments in Euro SPCD transactions.

8.4. After the beu ice delivery and the beooi deliii3 thereof, in el k «eval i oor for the Euro 5 eli Etiro 6b Opel vehicles as well as for the Euro 6b PCD vehicles and iBogelij k also for Euro 5 PC D vehicles. Depending on the riitkoiiist of the besvijsleveriii* - in the final phase of this procedure, it must still be assessed whether the presence of prohibited
for the orders of the Foundations. An oral hearing will be held in due course to decide on this mainly procedural question.

8.5. Pending the decision of the court, the court reserves the right to make any further decisions .

9. The decision

of the court

9. l . allow Ste llantis c.s. and the Car Dealers to deliver both engines on condition that all Euro 5 PC D engines are equipped with one or more prohibited immobilisation devices.

9.2. decides that the case will be put back on the docket for **27 August 202a** for a decision by Stellantis et al. and the car dealers on whether and how they intend to deliver the ice.

9. Decides that Stellantis et al. and the car dealers, if they wish to comply, must submit (written) statements of compliance **to** the court **on** 8 **October 2020**.

9.4. reserves any further decision.

This judgment was rendered by J.T. Kruis, N.C.H. Blankevoort and M. Wouters and pronounced in open court on 10 July 202s.