

A black and white photograph showing a person's hand holding a probe connected to a vehicle's undercarriage. The probe is a long, thin metal rod with a flexible, braided hose attached to its handle. The hand is holding the handle, which has a black, textured grip. The probe is inserted into a small opening in the vehicle's undercarriage. The background is a plain, light-colored surface.

EGEA WG2 Meeting - Emissions 20th of April 2017, Brussels

A 3D map of Europe is shown in a light gray color. A dark blue banner with a lighter blue gradient is overlaid across the middle of the map. The banner contains the text "Initiatives on emissions at national level: round-up on state of affairs" in white. The map shows the outlines of the European countries, and the banner is positioned horizontally across the center.

Initiatives on emissions at national level: round-up on state of affairs

Situation In France

French

LA TRANSITION ÉNERGÉTIQUE pour la **CROISSANCE VERTE**

Loi Transition Energétique

Energetic cross over Law



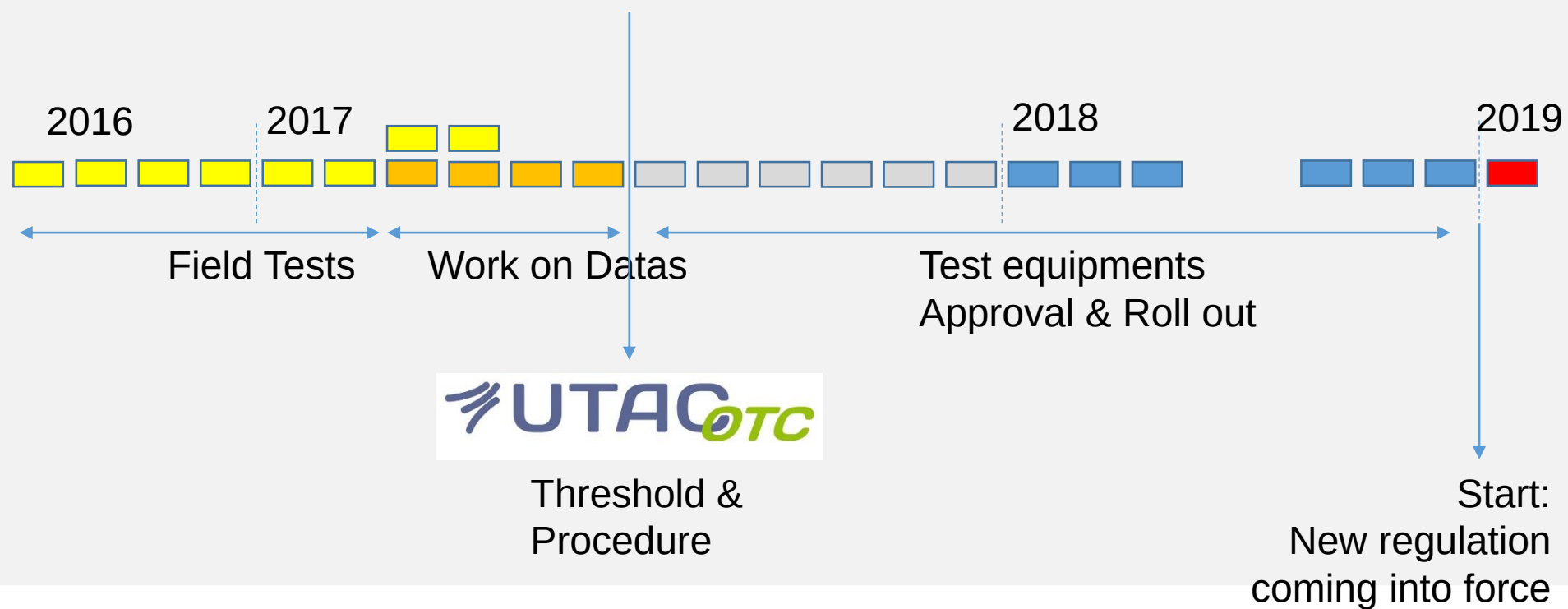
CO / CO₂ / O₂ / HC / λ /
Nox / Particulates
EOBD



Particulates
CO / CO₂ / O₂ / HC /
Nox /EOBD

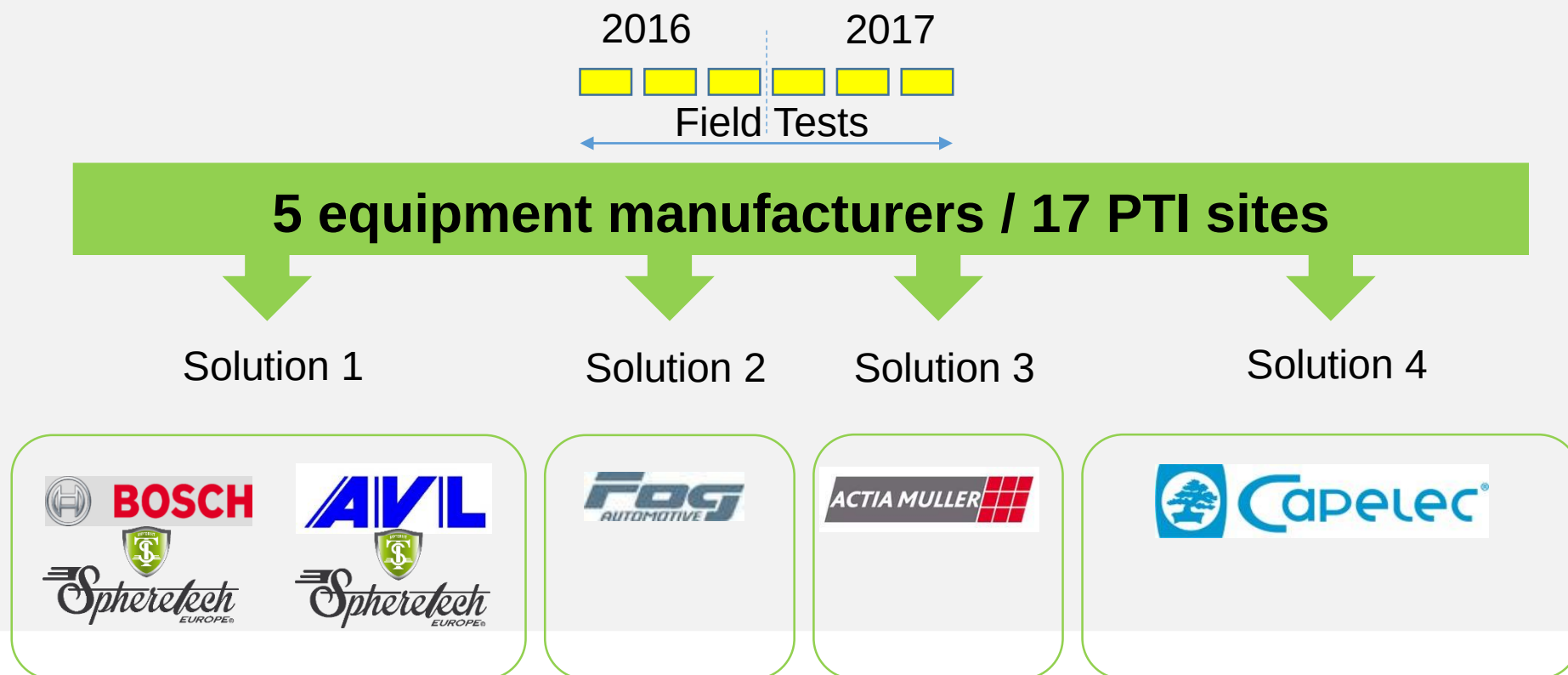
French

LA TRANSITION ÉNERGÉTIQUE pour la CROISSANCE VERTE



French

LA TRANSITION ÉNERGÉTIQUE pour la CROISSANCE VERTE



French

LA TRANSITION ÉNERGÉTIQUE pour la CROISSANCE VERTE

Solution 1



Infra red: CO / CO₂ / O₂ / HC / λ /
Electrochemical: Nox
EOBD

Procedure based on O₂/CO₂ ratio

Solution 2



Electrochemical: Nox
EOBD

No procedure

Solution 3



Infra red: CO/CO₂/O₂/HC /λ
Electrochemical: Nox
EOBD

Procedure: ASM 5015/2525

Solution 4



Infra red: CO/CO₂/O₂/HC /λ
Zirconium: Nox
EOBD

Ultra opacimeter: Particulates

Procedure: Idle/Fast Idle

Procedure : free acceleration



Infra red: CO / CO₂ / O₂ / HC / λ /
Electrochemical: Nox
EOBD

Procedure based on O₂/CO₂ ratio



Infra red: CO/CO₂/O₂/HC /λ
Electrochemical: Nox
EOBD

Procedure: ASM 5015/2525

Zirconium: Nox
EOBD

Ultra opacimeter: Particulates

Procedure: EGR function test

Procedure : free acceleration

French

LA TRANSITION ÉNERGÉTIQUE pour la CROISSANCE VERTE

Solution 1



Solution 2



Solution 3

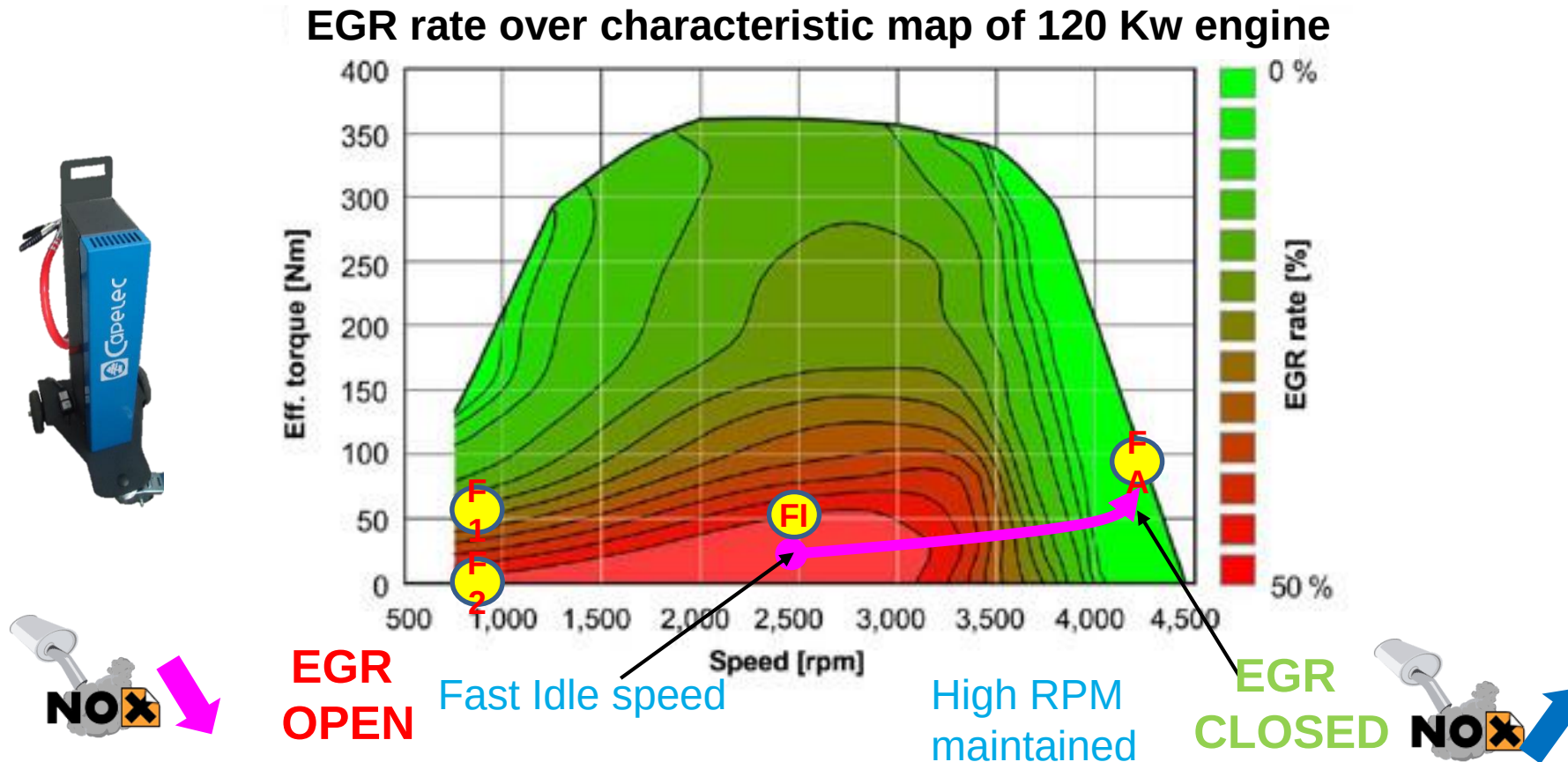


Solution 4





EGR VALVE: TEST CONDITION

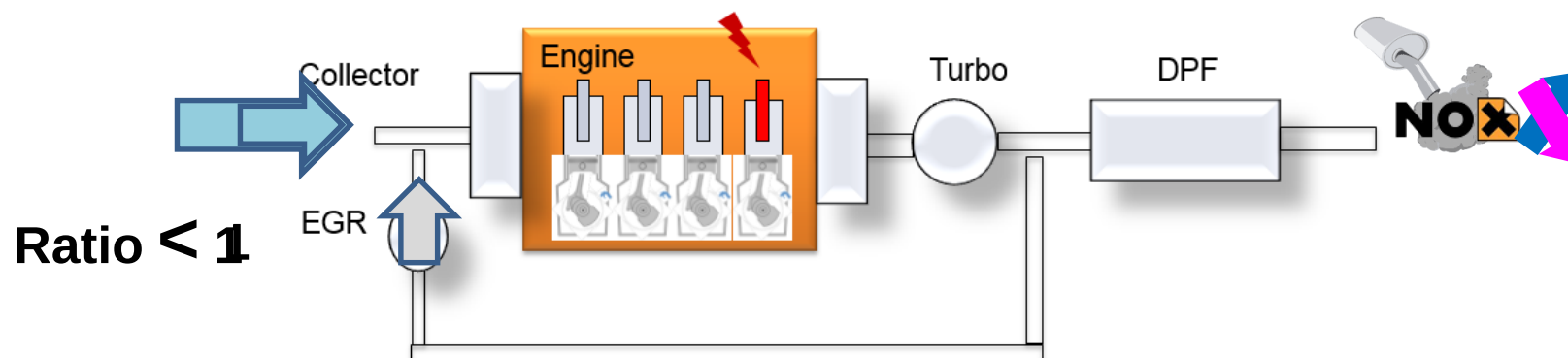
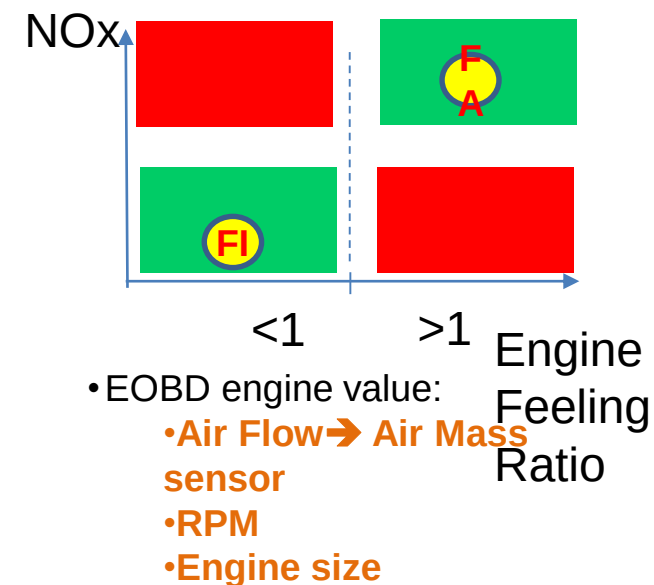
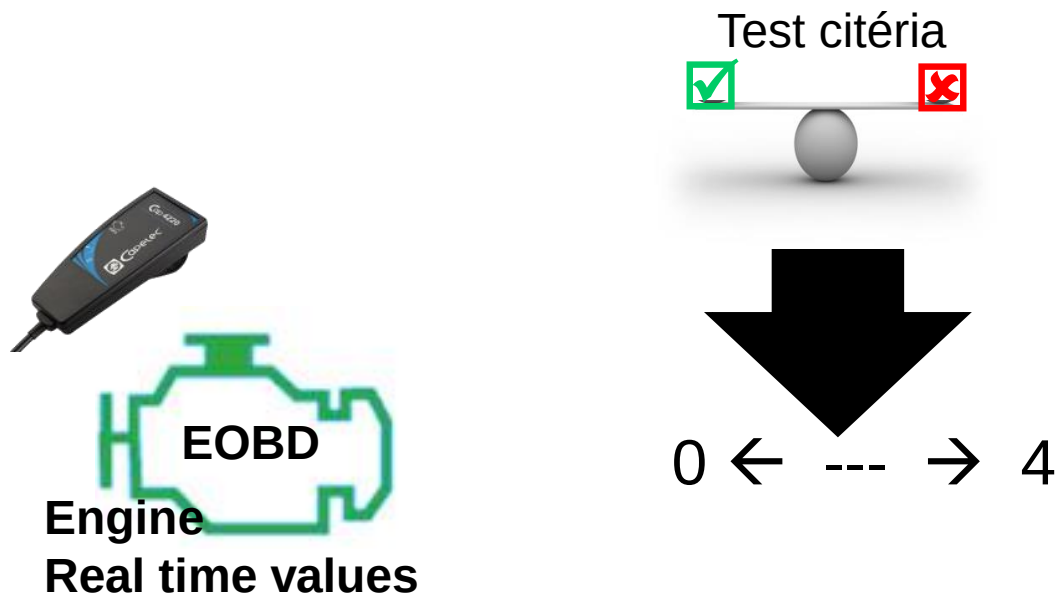


Fast idle speed is about 2000/2500 RPM: **EGR OPEN** in order to drop Nox value

High RPM maintained is about 4000 RPM, with the load of the engine only
: **EGR CLOSED** in order to provide torque & power



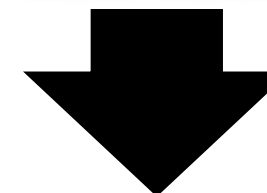
EGR VALVE/ENGINE BEHAVIOUR



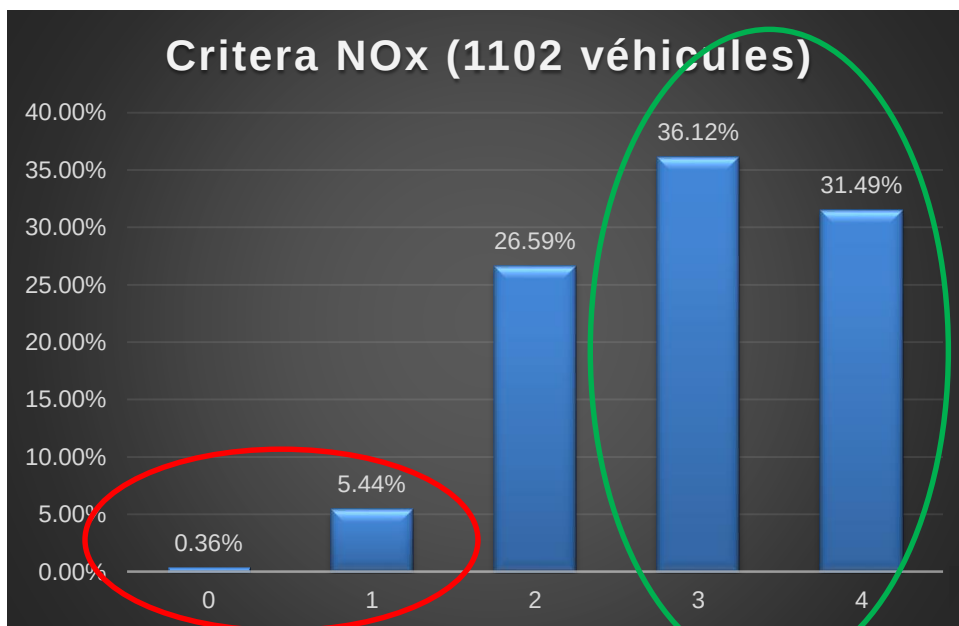


EGR VALVE/ENGINE BEHAVIOUR

Test critères

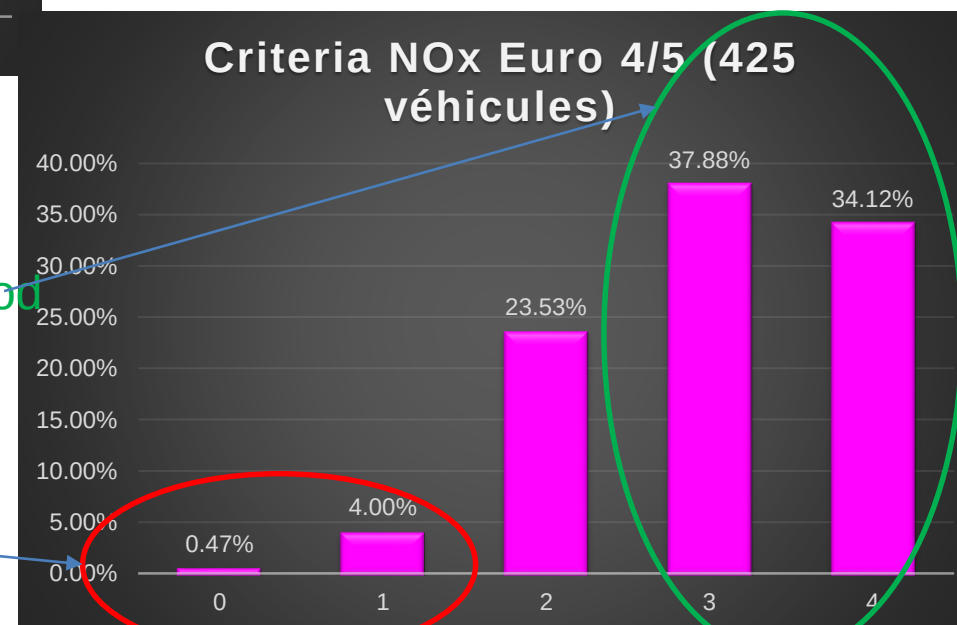


0 ← --- → 4



About 70% are Good/Fairly Good

About 6% are Faulty



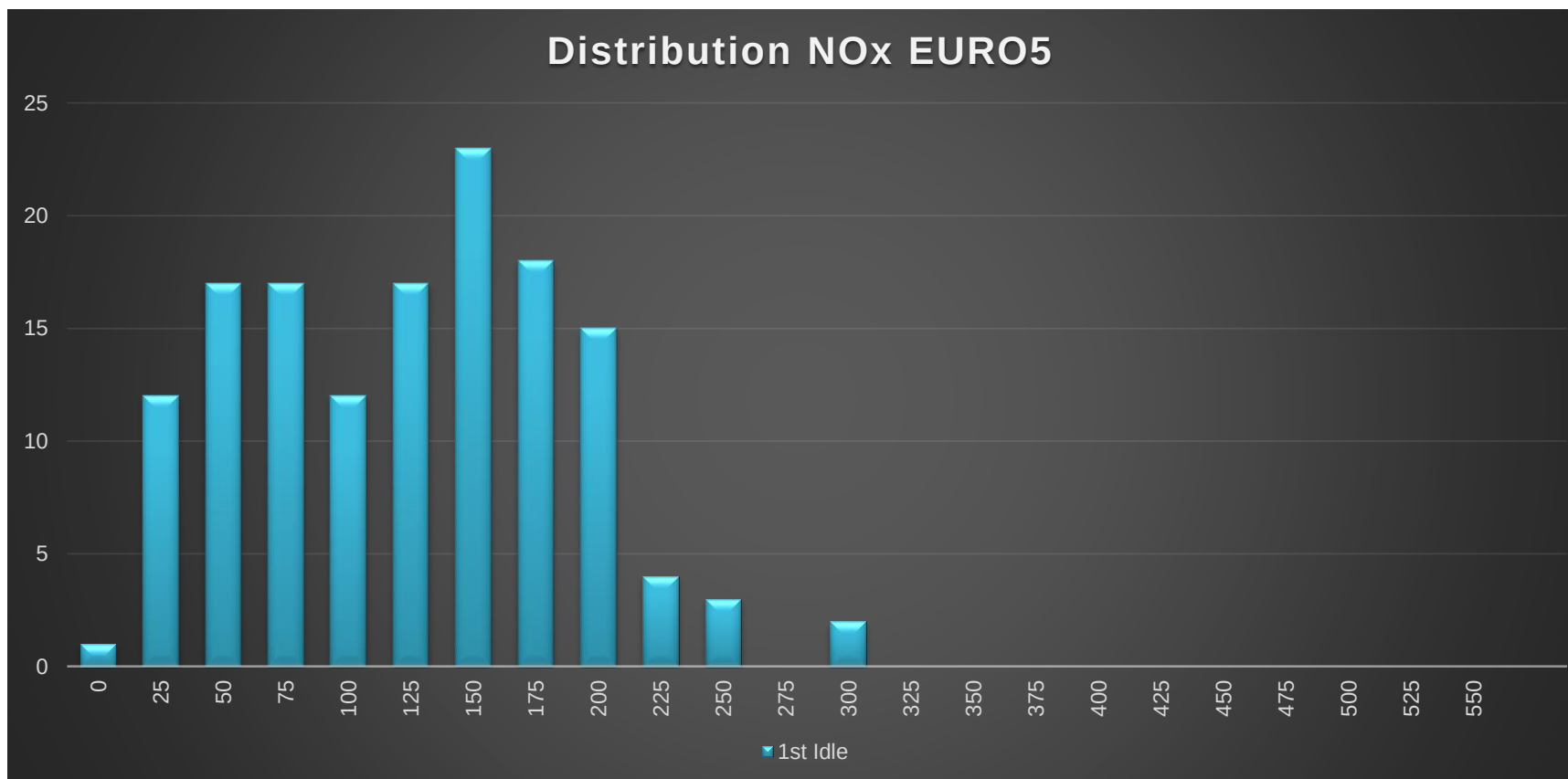
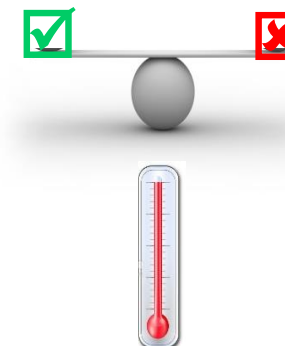


EGR VALVE/ENGINE BEHAVIOUR

1st Idle

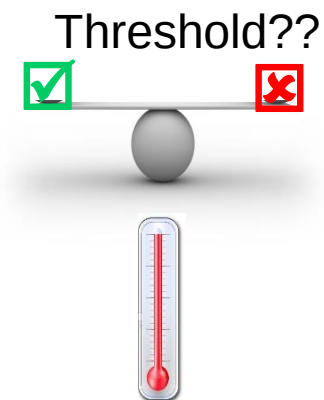


Threshold??

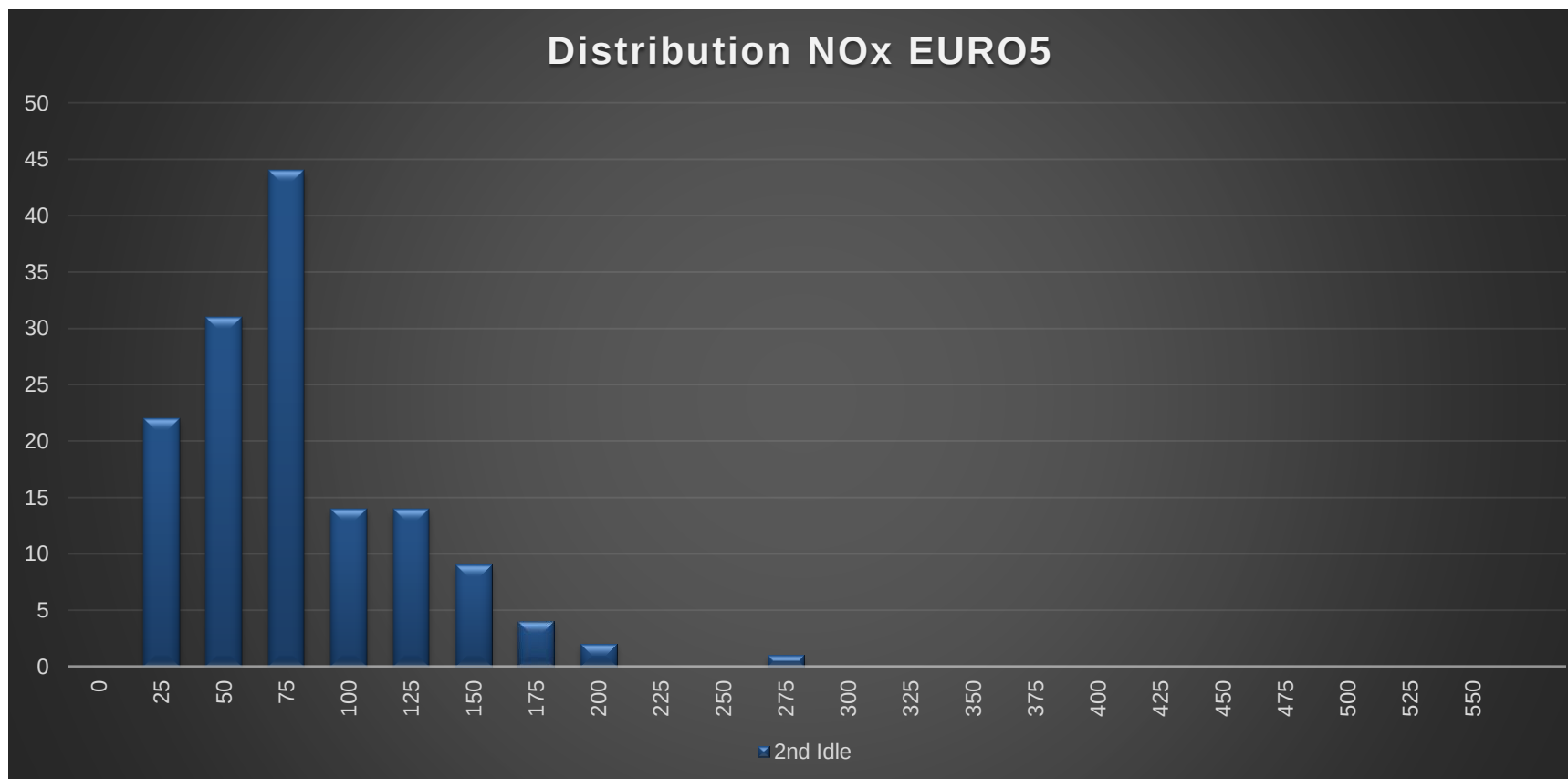




EGR VALVE/ENGINE BEHAVIOUR



2nd Idle 



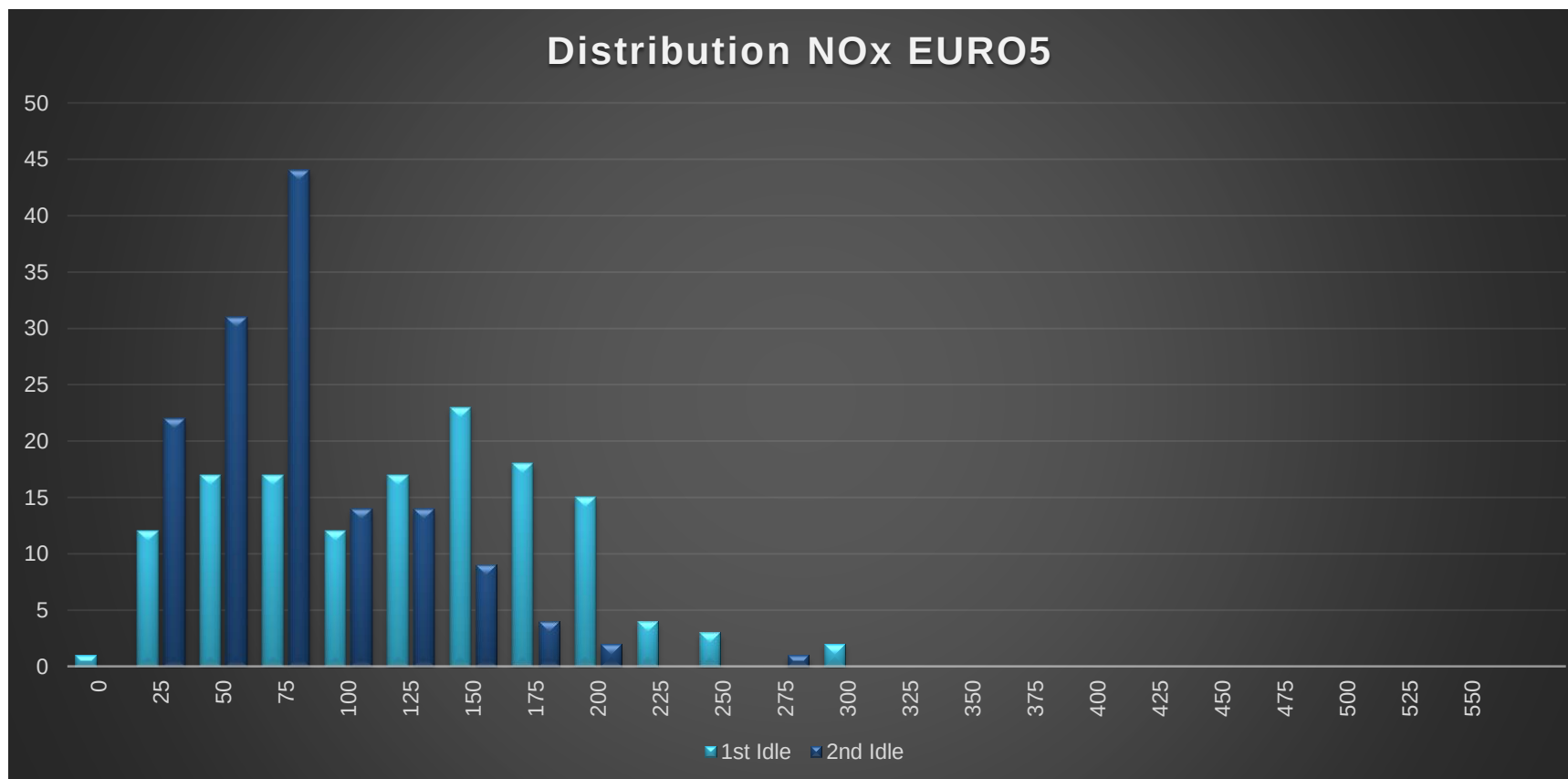
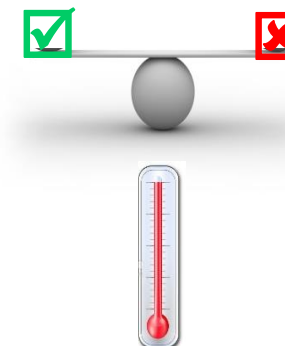


EGR VALVE/ENGINE BEHAVIOUR

1st Idle

2nd Idle

Threshold??

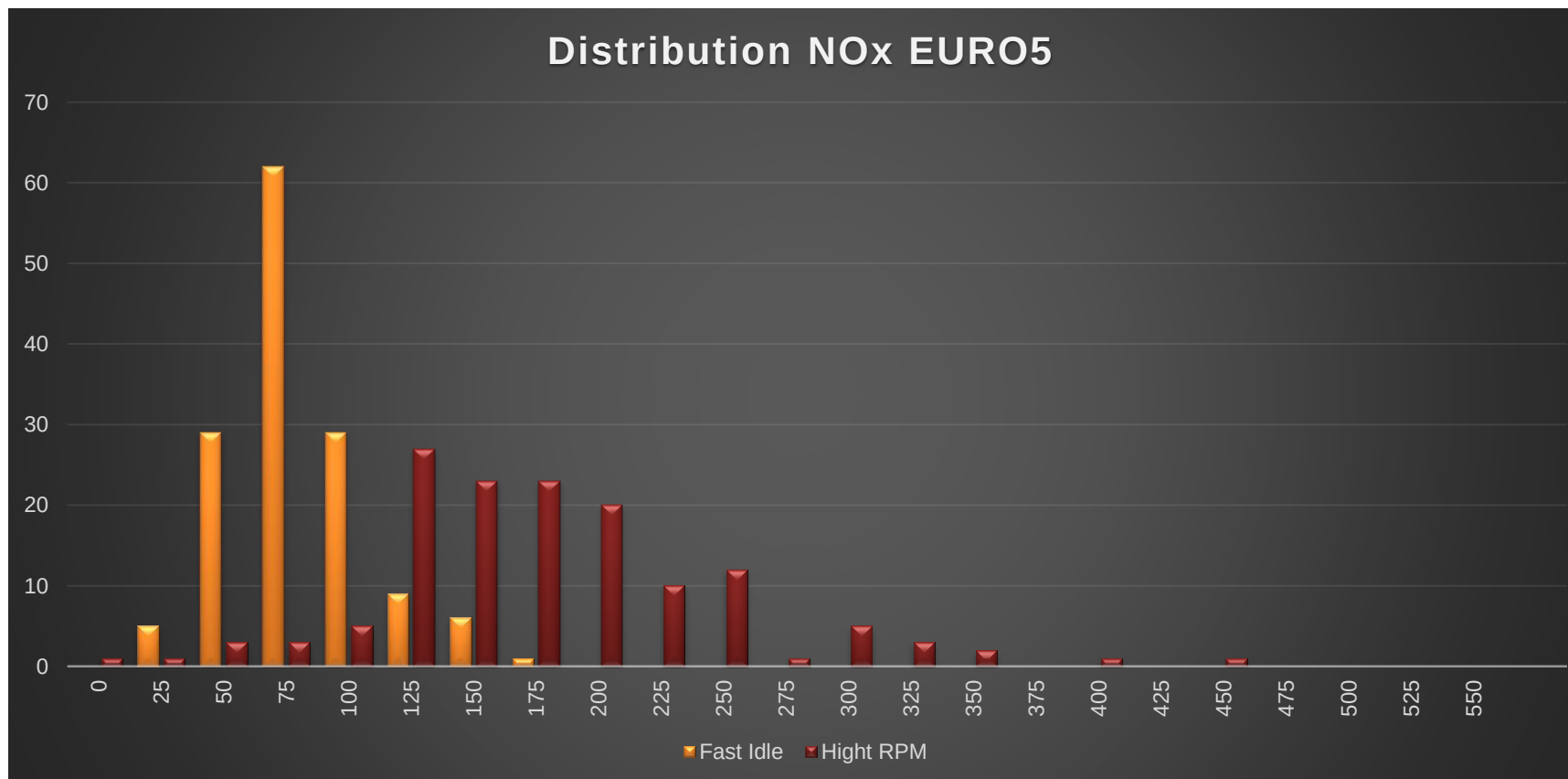
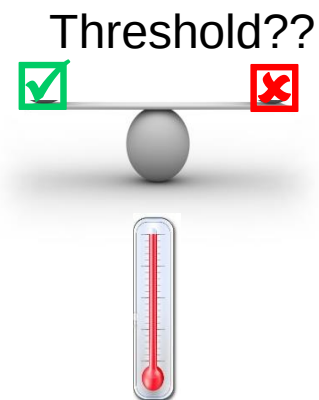




EGR VALVE/ENGINE BEHAVIOUR

Fast Idle 

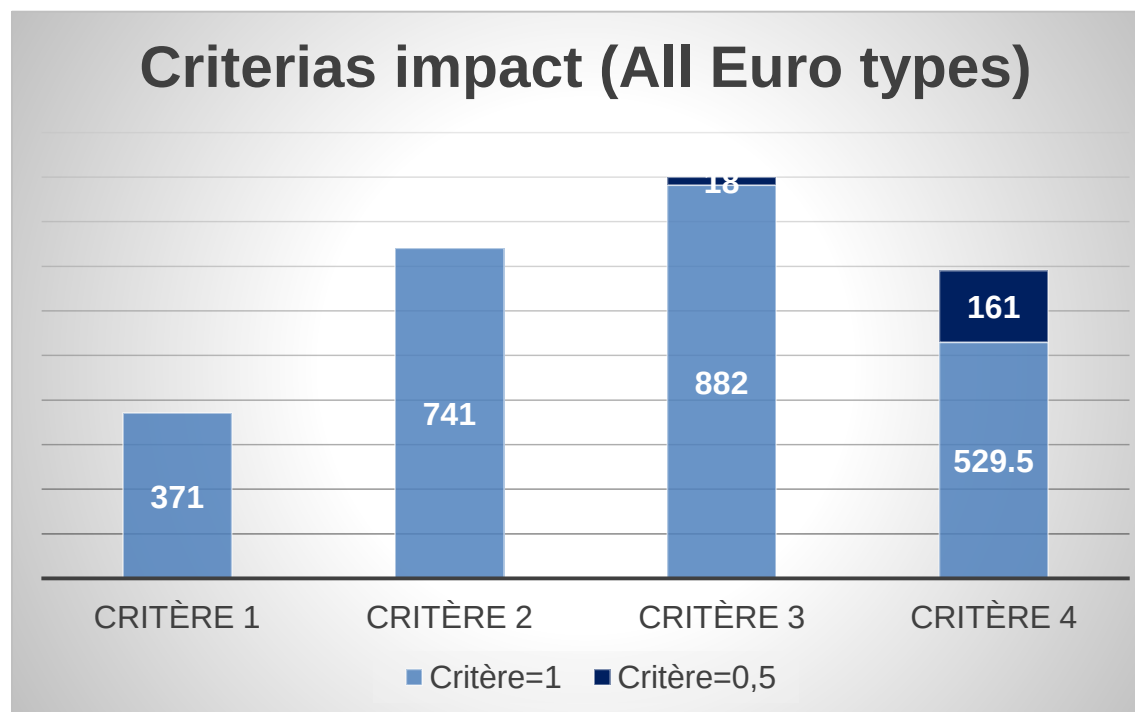
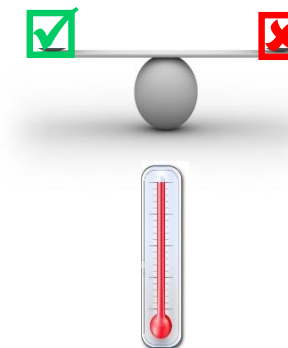
High RPM 





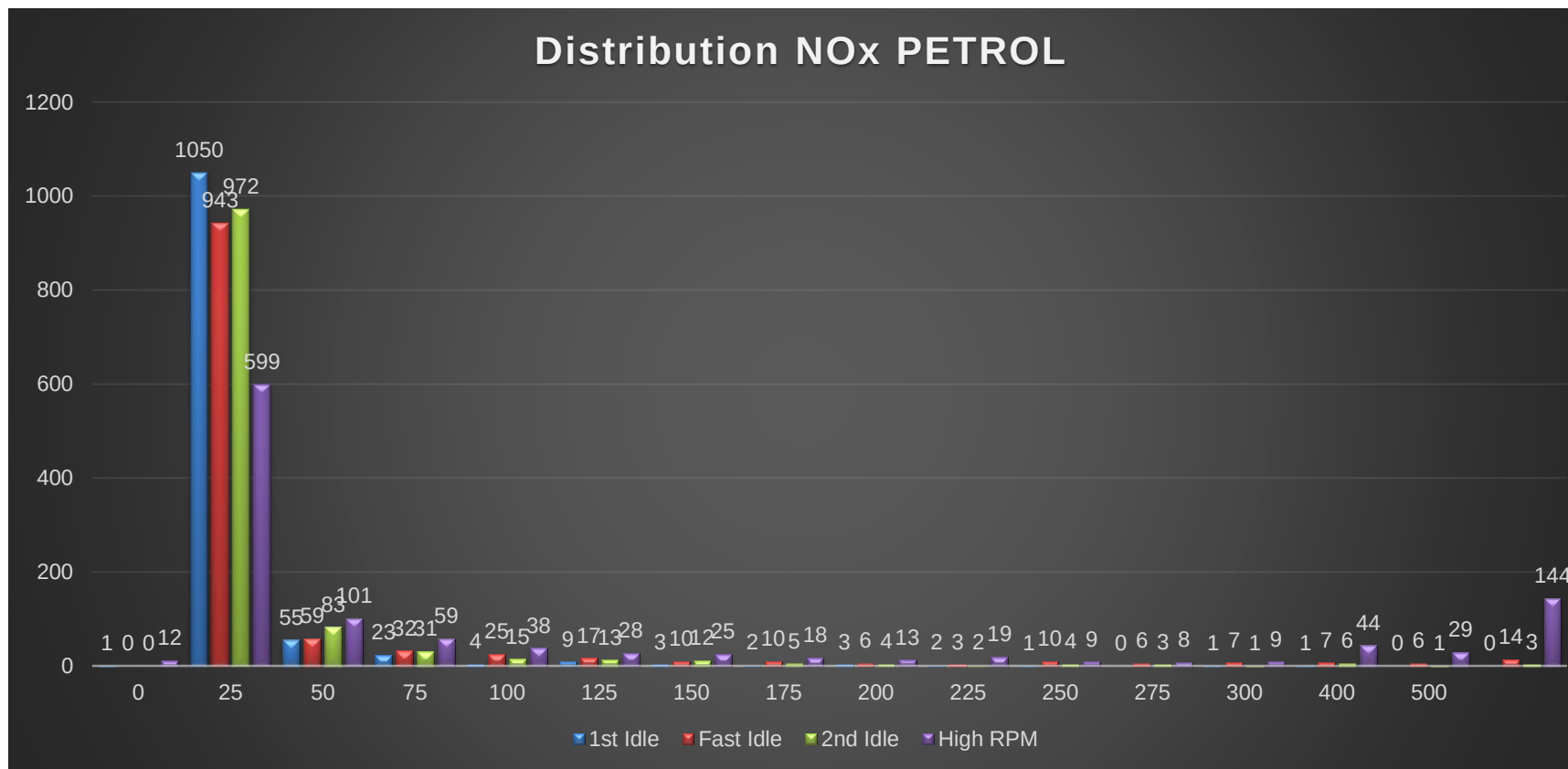
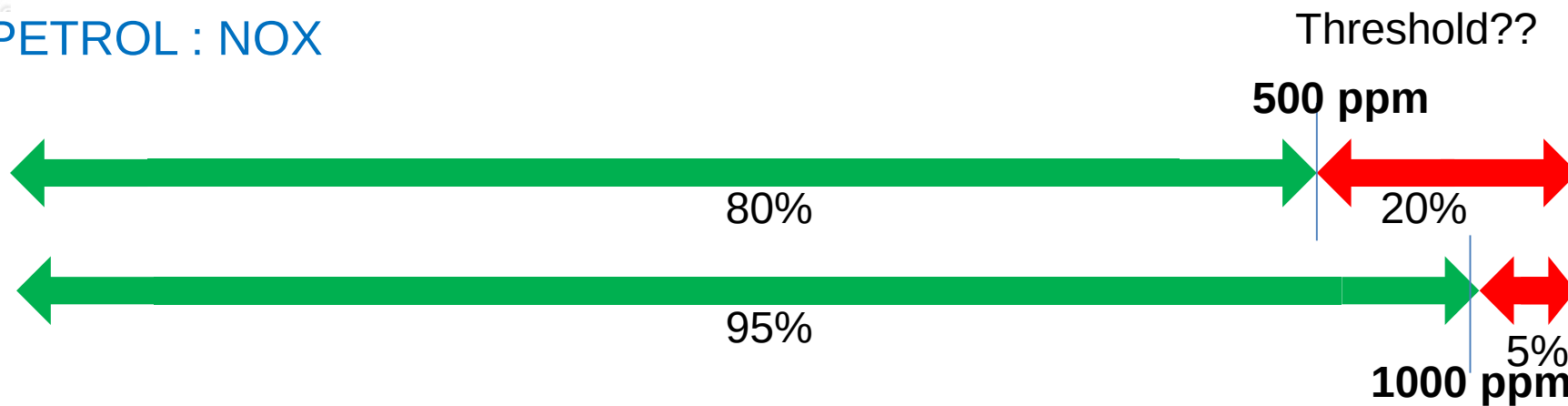
CITERIAS :

- Criteria **1**: Filling ratio at fast Idle
- Criteria **2**: Filling ratio at High RPM
- Criteria **3**: Nox vs EGR valve action
- Criteria **4**: Nox vs 2 idle steps





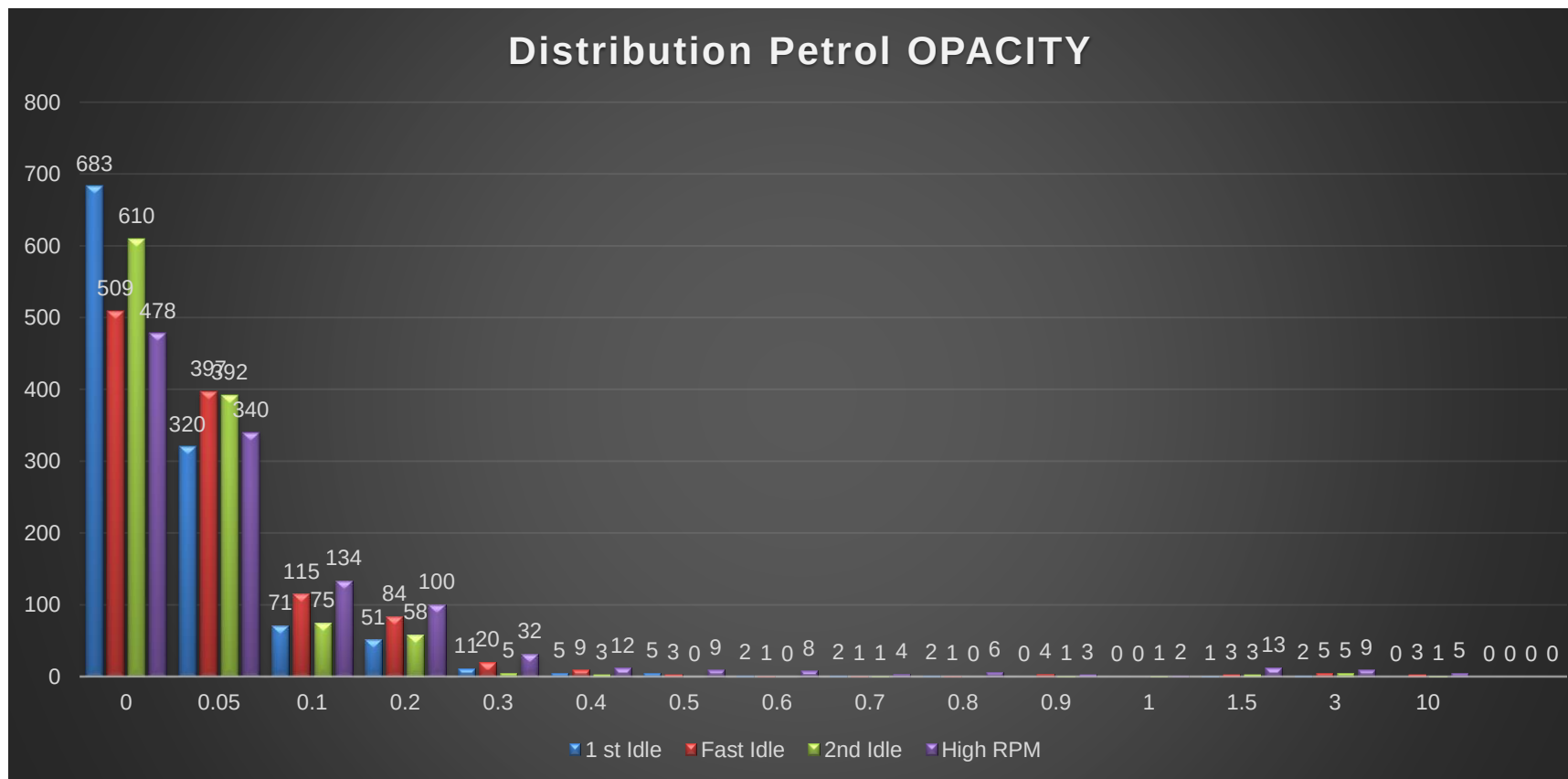
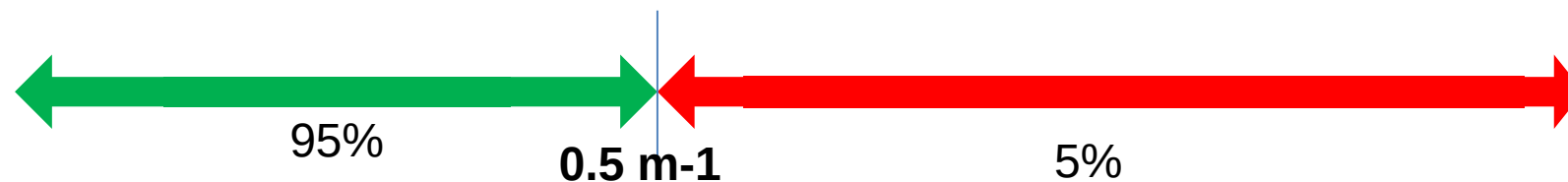
PETROL : NOX





PETROL : PARTICULATES / OPACITY

Threshold??



New NFR 10025: RPM trig and monitoring

- Oil temperature (LV only)
- RPM trigger + monitoring (1st acceleration is the reference)
- Rising time and rising slope
 - LV: $P \geq 2000 \text{ tr/mm/s}$ (min 2.5s)
 - HV: $P \geq 750 \text{ tr/mm/s}$ (min 4s)
- Execution for real
 - Smoke temperature monitoring (35 degrees min)
 - (3m heated probe for HV)

APPROVAL IN
PROGRESS

New documents in relation with 2014/45EU evolution

- Regulations:
 - UTAC/OTC: <http://www.utac-otc.com/>
 - SRV, Arrêté & Décreté: <https://www.legifrance.gouv.fr>
- Standards
 - AFNOR : <http://www.afnor.org/>

Europe regulation :
2009/40/EC



*Europe regulation :
2014/48/EC*

Arrêté

Futur Arrêté

SRV List

Futur SRV List

Equipement specification
Procedure description

Equipement specification

Report
layout

*Futur
Report
layout*

Equipment specification Procedure description

SRV 03: LV Roller brake tester

SRV 03P: HV Roller brake tester

SRV P05: HV Identification

SRV 008: LV CHASSIS

SRV P17: HV CHASSIS

SRV 25: organisation of testing

SRV 027: brakedown vehicle

SRV 028: Ambulance

SRV 030: TAXI

SRV 31: LV public transport

SRV 33: HV public transport

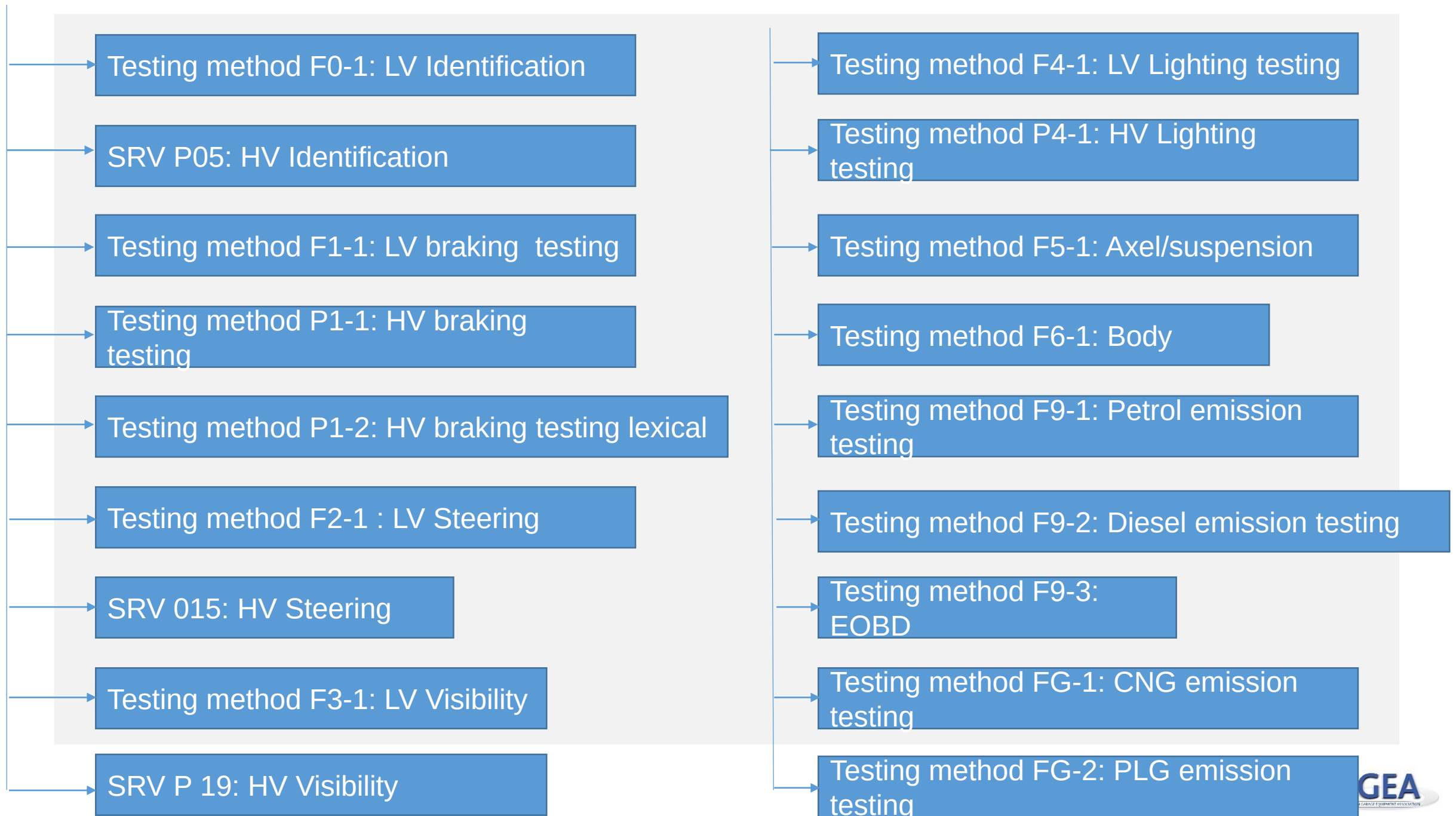
SRV 36:
DECELEROMETE
R

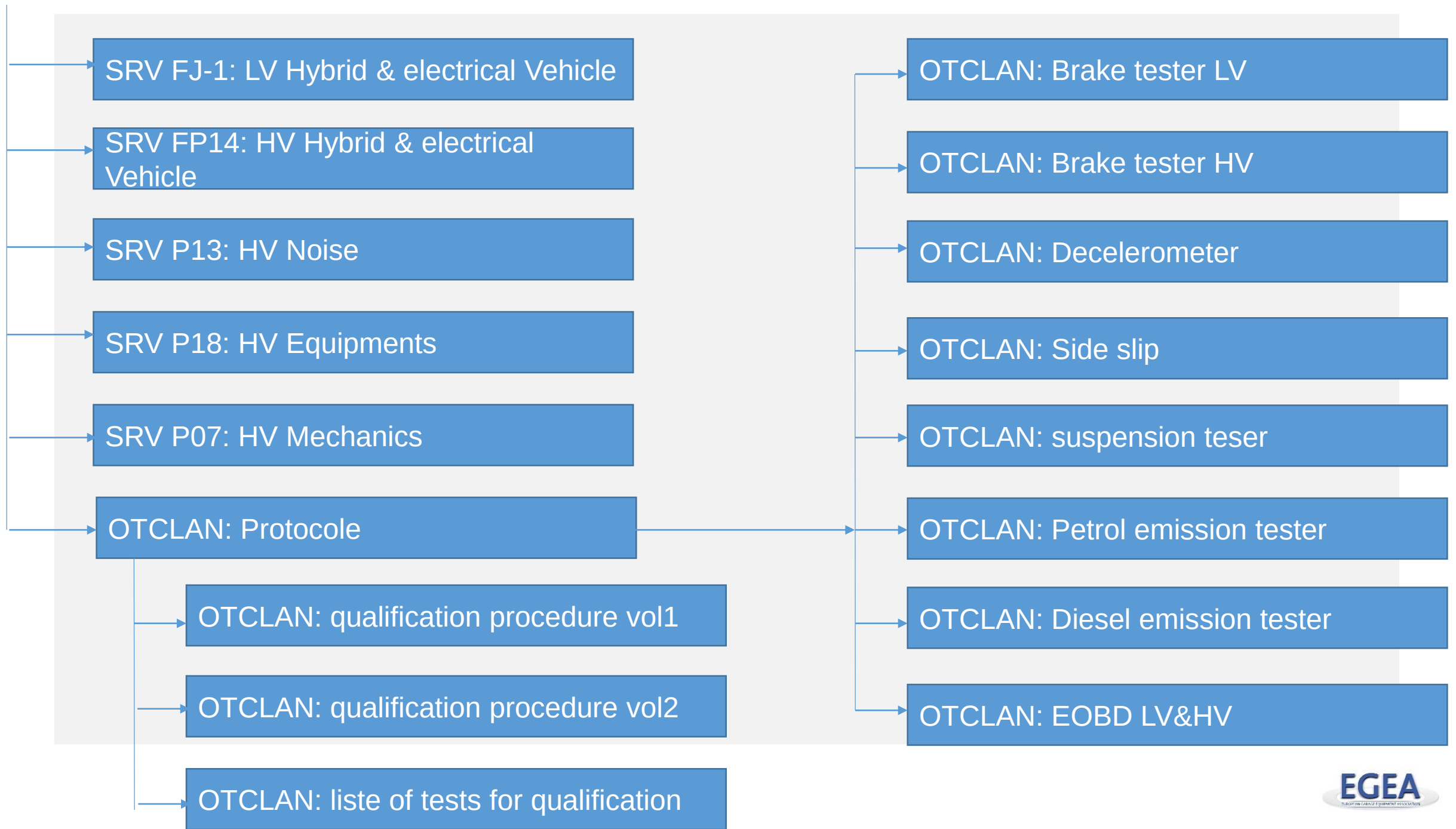
SRV 37:
EOBD

SRV 41: HEADLIGHTBEAM
TESTER

SRV 42: HEADLIGHTBEAM TESTER / Test
Zone

Testing method 23: Retesting





Situation In Germany

1. Reinstatement of tailpipe testing as part of emission testing : Leitfaden 5.01
2. DAKKS : ISO 17025 : maintenance & calibration

Situation In Spain

Introduction of Diesel test with plate value and NOx emission test campaign:
Some up dates have been done

Situation In Italy

Discussion during last 2 years do not brought any final conclusions up to now.

Situation In NL

TNO last investigation seems to target PM measurement introduction

CITA SET II Study

- Lab test are almost completed
- Test equipment roll out on the field is completed.
- Test campaign had started
- Intermediate report will be commented during next CITA congress (June)

A photograph of several European Union flags waving in front of a modern glass and steel building. The flags are blue with yellow stars. The building has a grid-like facade with many windows. A dark blue semi-transparent banner is overlaid on the left side of the image, containing the text 'Updated news from Brussels'.

Updated news from Brussels

EGEA road Map about EU Emission Testing



2017
2020
2025

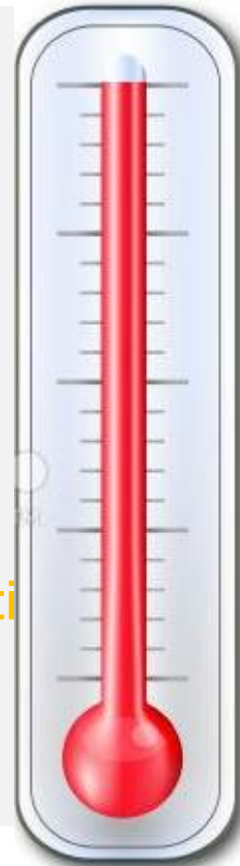
EMISSION TESTING: EUROPE ROAD MAP



CO Fast Idle

0.2% :
2010/48/EC

SET STUDY
0.1% : > Euro 4
CITA recommandati



Opacity

1.5m-1 :
2010/48/EC

SET STUDY

1m-1: Euro 4
CITA recommandati

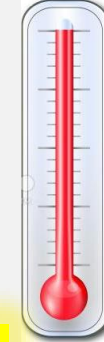
Default value

0.7m-1 : 2014/45/EU

SET STUDY

0.2m-1: > Euro 5 &
CITA recommandati

TEDDIE Study



Particulates



**NO/ NO2
ratio**



**French
Study**

**NOx
???**



Stage	Date	CO	HC	HC+NOx	NOx	PM	PN
		g/km					#/km
Compression Ignition (Diesel)							
Euro 1†	1992.07	2.72 (3.16)	–	0.97 (1.13)	–	0.14 (0.18)	–
Euro 2, IDI	1996.01	1.0	–	0.7	–	0.08	–
Euro 2, DI	1996.01 ^a	1.0	–	0.9	–	0.10	–
Euro 3	2000.01	0.64	–	0.56	0.50	0.05	–
Euro 4	2005.01	0.50	–	0.30	0.25	0.05 ^f	–
Euro 5a	2009.09 ^b	0.50	–	0.23	0.18	0.005 ^f	6.0×10 ¹¹
Euro 5b	2011.09 ^c	0.50	–	0.23	0.18	0.005 ^f	6.0×10 ¹¹
Euro 6	2014.09	0.50	–	0.17	0.08	0.005 ^f	6.0×10 ¹¹

Euro 6b	1^{er} septembre 2015	1^{er} septembre 2014
Euro 6c	1^{er} septembre 2018	1^{er} septembre 2017
Euro 6d-TEMP [‡]	1^{er} septembre 2019	1^{er} septembre 2017
Euro 6d [§]	1^{er} janvier 2021	1^{er} janvier 2020

Euro6 b threshold + WLTC + PEMS

x2,1 Nox
x1,5 Nox



Positive Ignition (Gasoline)

Euro 1†	1992.07	2.72 (3.16)	–	0.97 (1.13)	–	–	–
Euro 2	1996.01	2.2	–	0.5	–	–	–
Euro 3	2000.01	2.30	0.20	–	0.15	–	–
Euro 4	2005.01	1.0	0.10	–	0.08	–	–
Euro 5	2009.09 ^b	1.0	0.10 ^d	–	0.06	0.005 ^{e,f}	–
Euro 6	2014.09	1.0	0.10 ^d	–	0.06	0.005 ^{e,f}	–

Euro 6b	1^{er} septembre 2015	1^{er} septembre 2014
Euro 6c	1^{er} septembre 2018	1^{er} septembre 2017
Euro 6d-TEMP [‡]	1^{er} septembre 2019	1^{er} septembre 2017
Euro 6d [§]	1^{er} janvier 2021	1^{er} janvier 2020

6×10¹²
6×10¹¹

???



Other Emission business

- ISO17025: Calibration & maintenance (vs DUKKS...)
- New gas:
 - NH3: Passenger cars (**Euro 7**)
Trucks (**Euro 6b**)
 - SO2
- EOBD: Cal Id software monitoring and Diesel Gate recall software tracking
- Workers conditions: PTI & Workshop air ambient quality
- Off road vehicles emissions controls:
 - Forklift
 - Construction machine,
 - Mine & excavation machine
 - Airplane
 - Boat

Other Emission business

???



- ISO17025: Calibration & maintenance (vs DUKKS)
- 1234uF Gas: due to potential danger impact of leak (Vehicle test)
- 1234uF Gas: due to potential danger impact of leak (Re load A/C machine)
- Hydrogen : (Vehicle test)
- Hydrogen : (Re load station)
- Hydrogen : (maintenance & workshop)
- ADblue: fraud
- DPF: fraud
- EGR: Fraud
- PPF: Fraud

Other Emission business

- Brake pad particulates
- Noise emission: warning noise of electrical vehicle

???

