

EU Normal operating conditions background

- section 6.1.2.4 of Directive 2001/27/EC contains provisions on ***test conditions under which the engine must meet the emissions standards***
- These provisions are subject to ***review by the Commission.***
- ***The temperature / altitude distribution in the EU*** has been analysed through a collaboration between ***ACEA and the Aristoteles University in Tessalonniki*** to further evaluate the EURO3 current provisions concerning those normal operating conditions.

File name

EU Normal operating conditions selected criterion

- ***Normal Operating Conditions consist of***
 - *minimum ambient temperature*
 - *maximum ambient temperature*
 - *maximum altitude.*
- ***The selection criterion for applying normal operating conditions was selected so that***
more than 90% of the vehicle kilometres within the EU would be driven within the 3 given conditions

File name

EU Normal operating conditions source of information

- **All the EU 15 countries have been divided into administrative regions according to the Nomenclature of Territorial Units for Statistics (NUTS) In order to take into account the differences between North and South, the Scandinavian countries and Spain have been further divided.**
- **Altitude : <http://www.calle.com/world/index.html>.**
- **Temperature: <http://www.weatherbase.com>**
- **Annual vehicle kilometres driven by each HDV class are taken from TRENDS for reference year 1995**

file name

EU Normal operating conditions distribution analysis

EU veh.km / temperature / altitude distribution

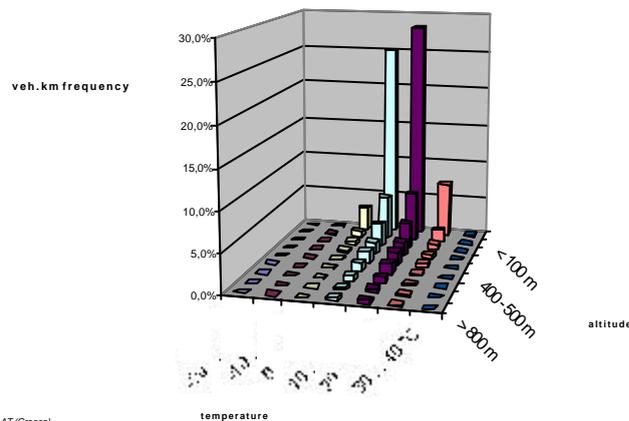
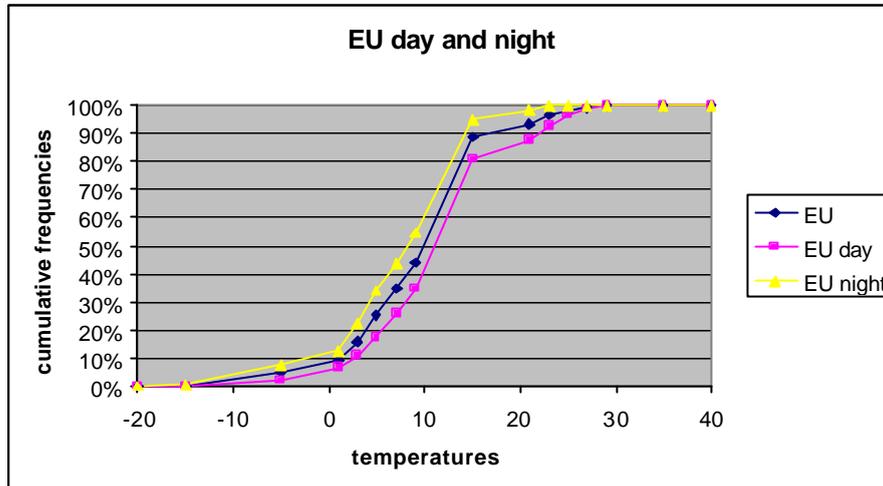


chart developed on data originating from LAT (Greece)

EU Normal operating conditions cumulative frequencies



EU Normal operating conditions results of the analysis

- **Maximum altitude:**
agreement with the current proposal
- **Maximum temperature:**
less than 1% (3% in day time) of the vehicle kilometres are driven above 25°C.
- **Minimum temperature:**
about 10% (7% in day time) of the vehicle kilometres are driven under 2°C.

EU Normal operating conditions Manufacturers proposal

	EURO3	EURO4	EURO5
Altitude	<1000m	<1000m	<1000m
Temperature	10-30	6-30	2-30

Filename