

# **"normal" Ambient temperature "normal" Altitude in Europe**

ACEA proposal

Submitted to the European Commission on 11 November 2002

## EU Normal operating conditions background

- Directive 2001/27/EC contains provisions on ***test conditions under which the engine must meet the emissions standards***
- These provisions have been 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 propose normal operating conditions.

## 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***

## 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***

# EU Normal operating conditions distribution analysis

EU veh.km / temperature / altitude distribution

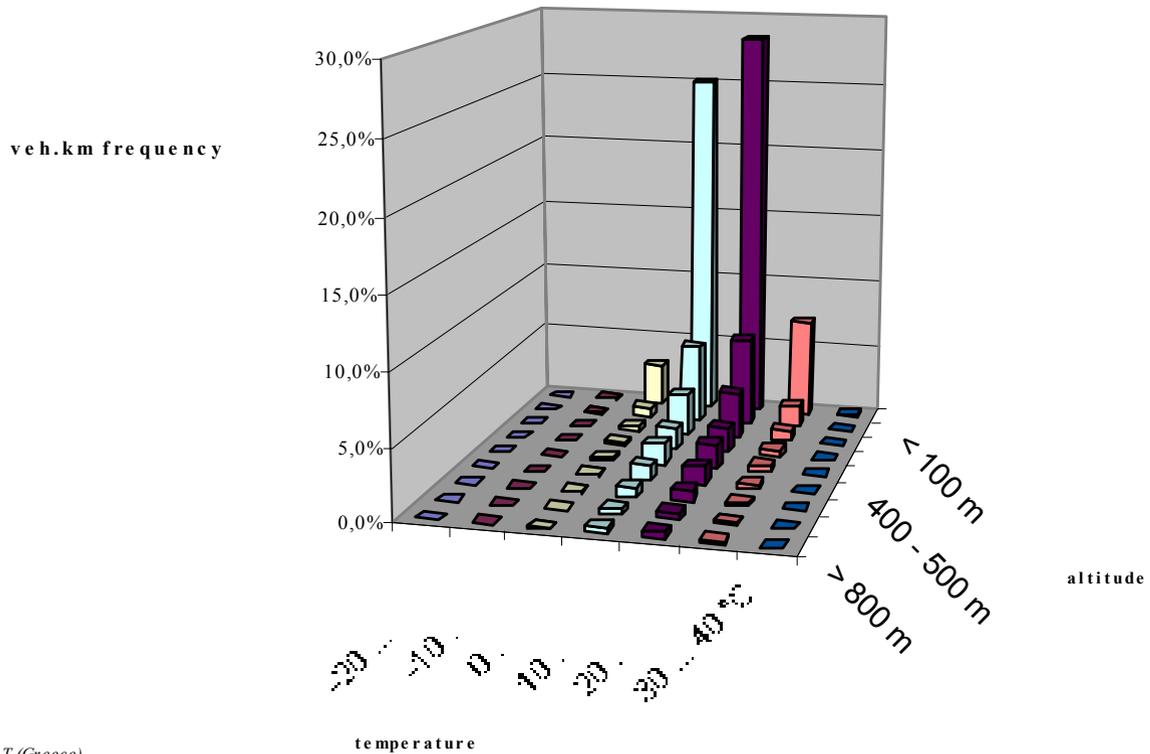


chart developed on data originating from LAT (Greece)

# EU Normal operating conditions cumulative frequencies

