

Introduction

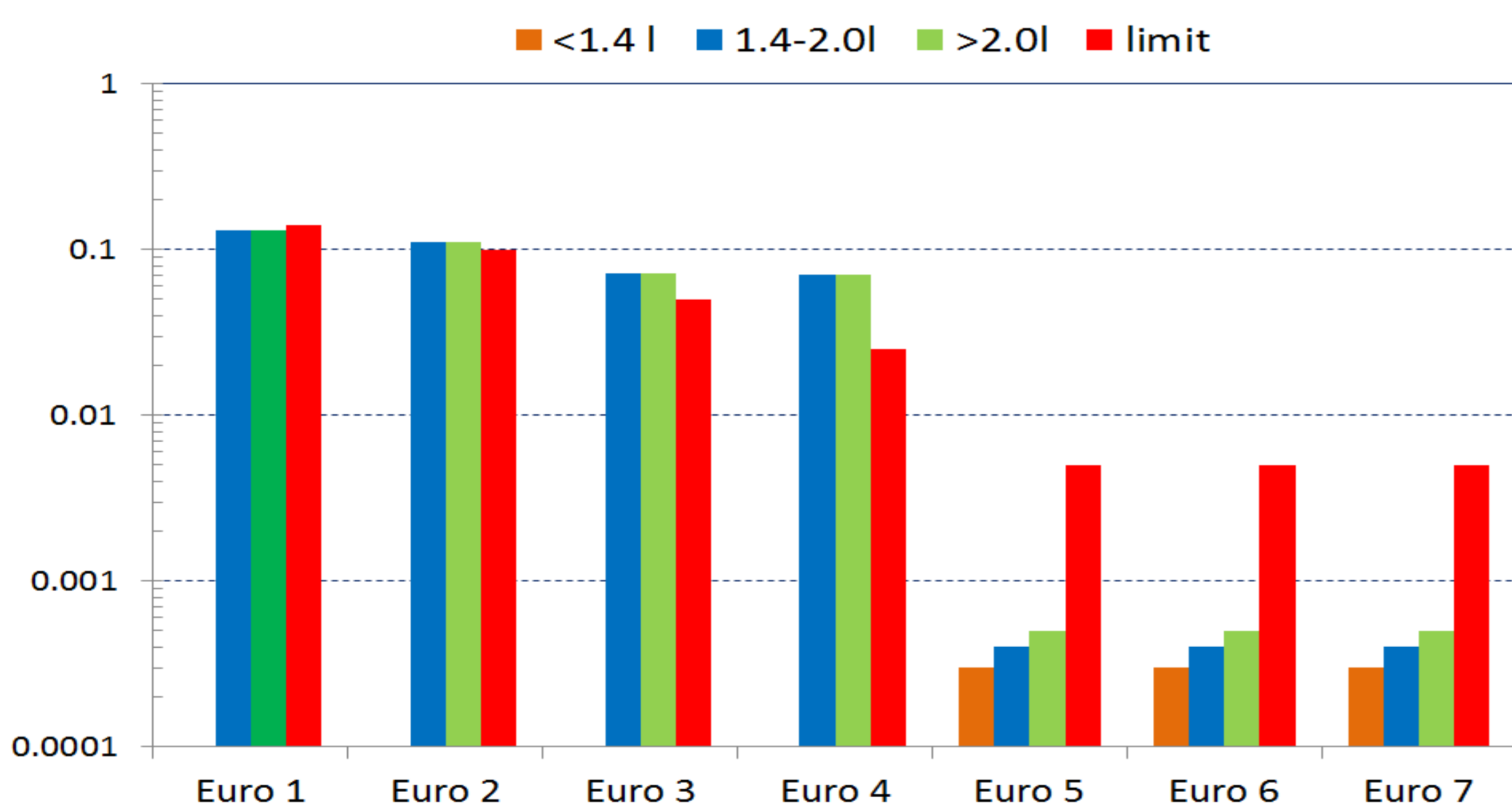
- Improvement, determination and harmonization of road transport exhaust PM emission factors (EF). A number of other compounds is included (34 compounds in total).
- Vehicles/Technologies: all vehicles / all technologies (pro-Euro – Euro 7).

Method

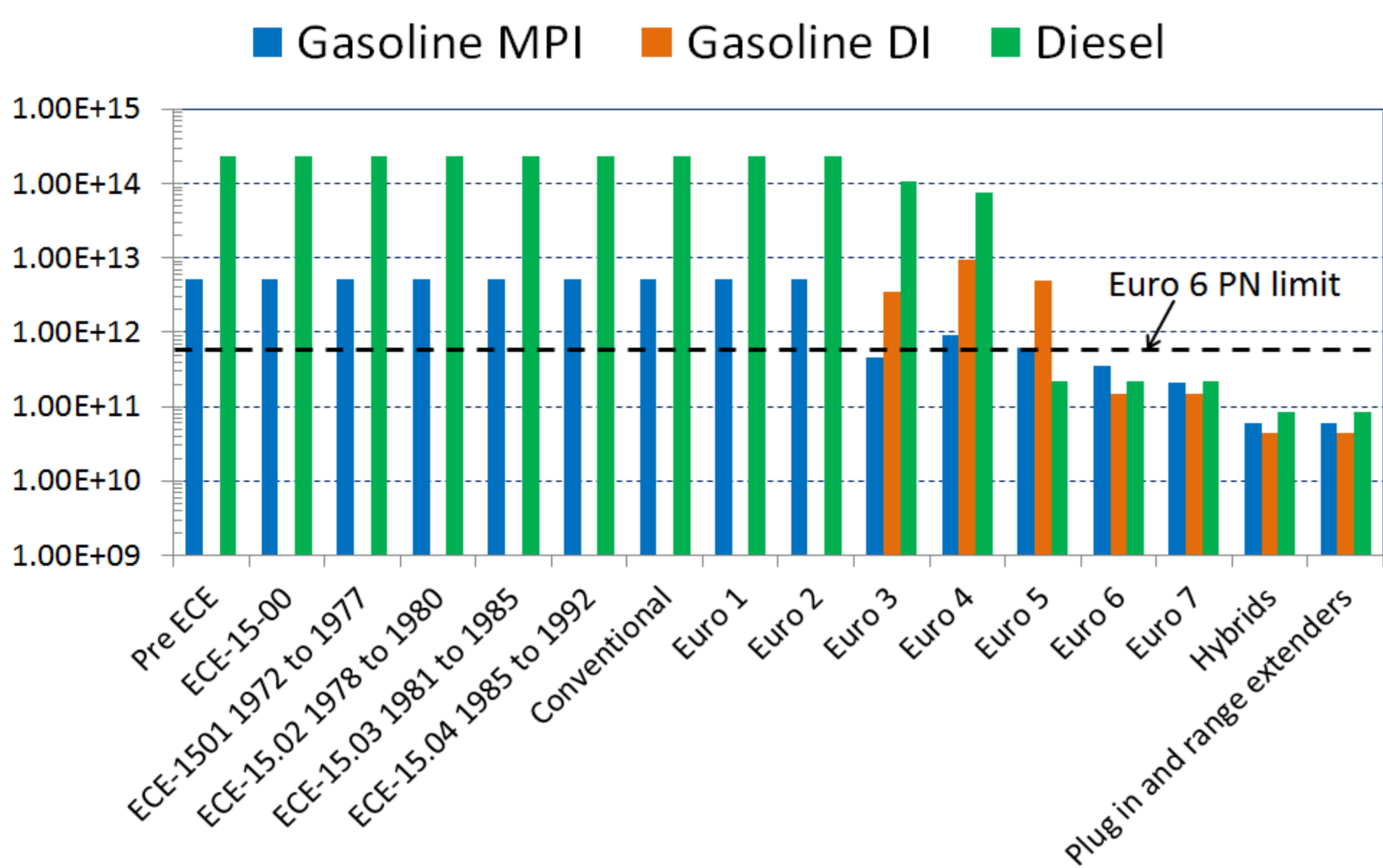
- ❖ COPERT 4 and a combined methodology (literature review plus COPERT 4)
- ❖ EFs correspond to urban, rural and highway conditions. For pro Euro - Euro 5 technologies two different urban conditions (peak and off-peak).
- ❖ For technologies pro-Euro and Euro1 – Euro 4 (PCs and LDVs), Euro I – Euro IV (HDVs, Buses and Coaches) and Euro 1 – Euro 2 (Mopeds and Motorcycles), the database includes EFs for the EU-27 and for each country member separately.
- ❖ For newest technologies, only one EF for each pollutant for all EU-27 countries (it does not take into account the share of vehicles cars in different countries, the driving conditions or climatic conditions).

Results

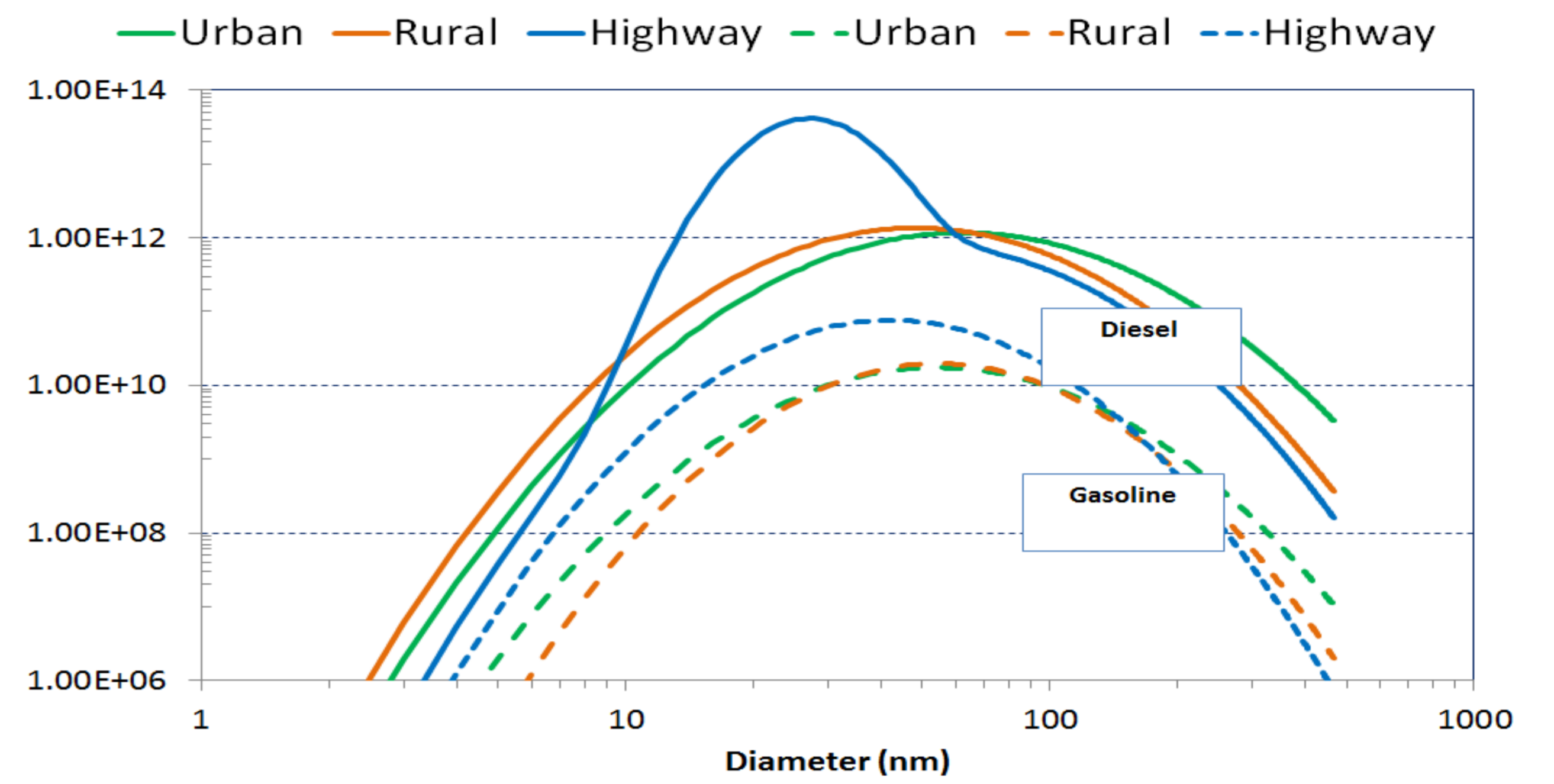
Passenger Cars and Light Duty Vehicles



Evolution of diesel PC PM limit and corresponding EFs (g/km) (Urban driving)

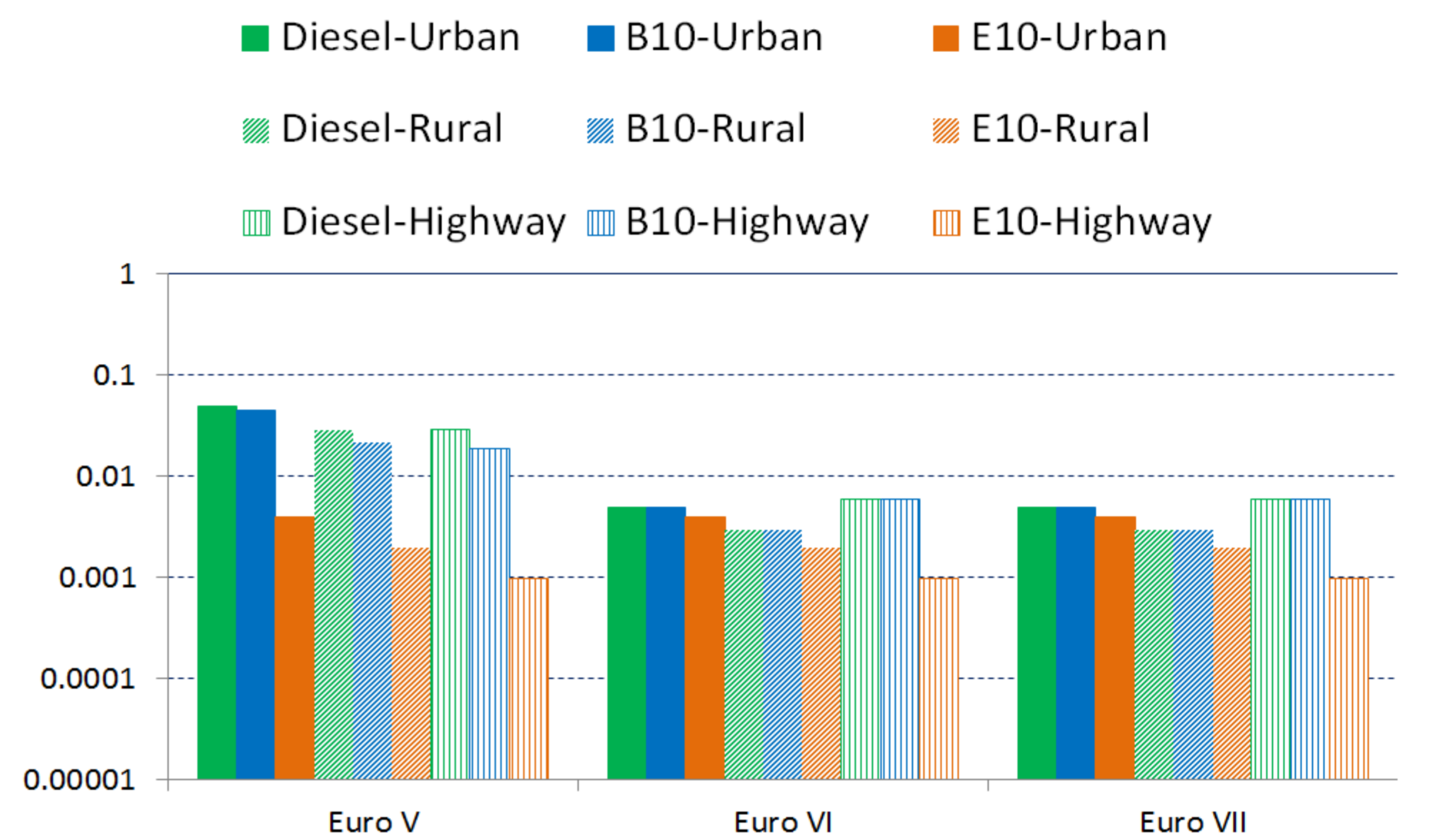


Evolution of PN EFs (particles/km) of PCs (1.4 l - 2.0 l) from pre ECE to Euro 7 (Urban driving)

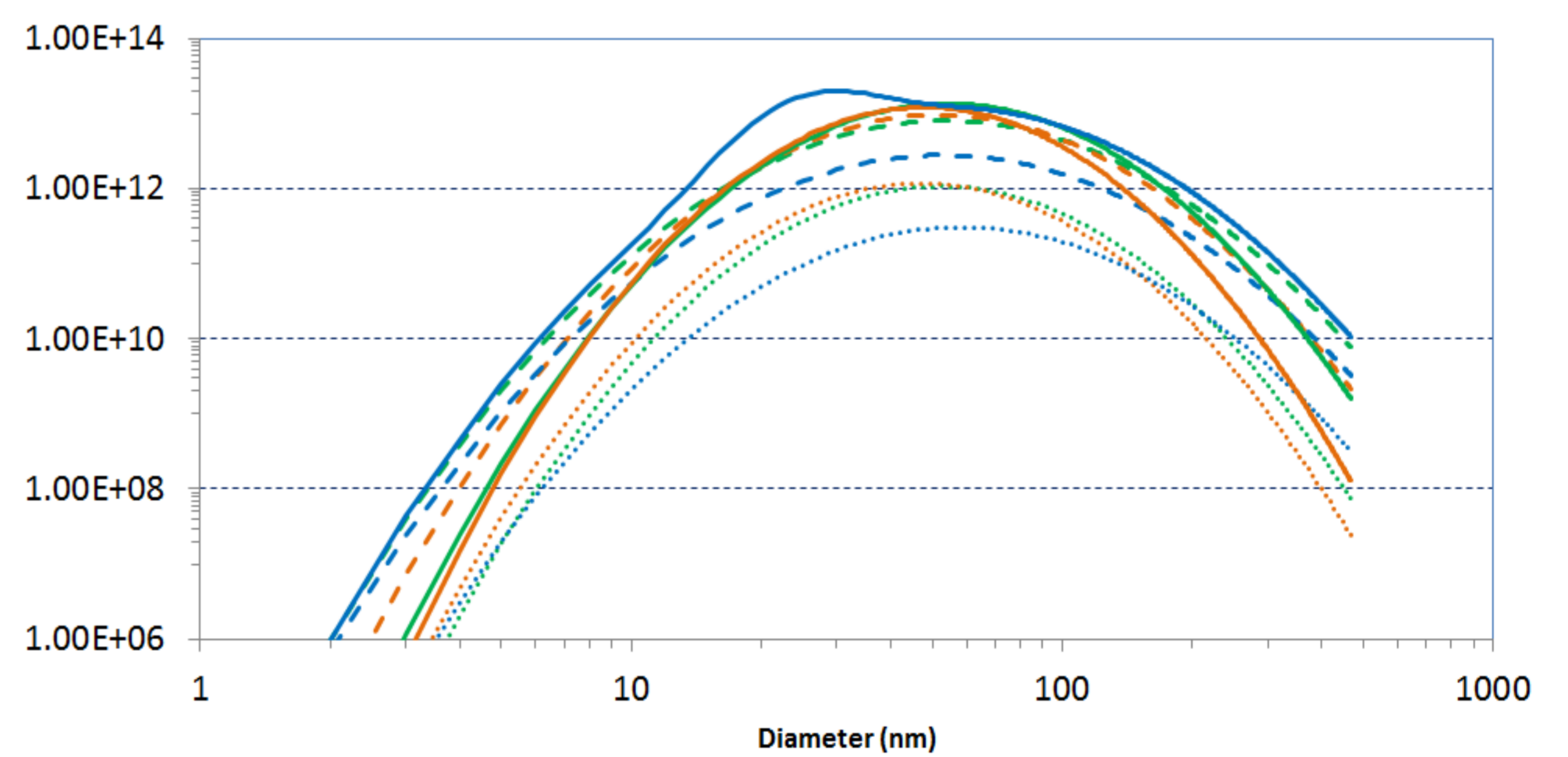


PSDs of diesel and gasoline PCs (Euro 4, 1.4 l - 2.0 l)

Heavy Duty Vehicles, Buses and Coaches



PM EFs (g/km) for HDVs (Articulate 14-60 t) running in different fuels



PSDs of various HDVs

Conclusions

- ❖ A database of road transport EFs was developed based on COPERT 4 and on a detailed survey of the available literature.
- ❖ Although increased accuracy may be achieved by a more detailed procedure with COPERT (when the appropriate information and data be available), significant differences are not expected given the evolution of vehicle, fuel, aftertreatment, etc, technology.

* Contact cesamara@auth.gr