Kick-off meeting

"Stabilizyng GHG emissions from road transport through doubling of Global Vehicle Fuel Economy: regional implementation of the Global Fuel Economy Initiative"

Initial situation of fuel economy

10 December 2015, Skopje
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The aim of the fuel economy baseline

- To provide grounds for the establishment of national fuel economy objectives/ targets
- To establish past trends and guide the future monitoring of fuel economy
- To give the basis for introduction of suitable economic instruments

Process

- Data analysis of registered light vehicles in Macedonia (basis year 2005) using the methodology of the Global Fuel Economy Initiative (GFEI)
- Calculation of relevant emissions of CO_2 expressed in grams per kilometer (gCO_2/km) for the basis year and for at least two years (2008 and 2013).
- Determining the trend of fuel economy

Why the initial situation on fuel economy was prepared ?

- To examine how current policies and taxation on import of vehicles affected the consumer choice or:
  - To check whether used or new vehicles are imported.
  - To determine whether diesel or petrol engine vehicles are imported.
  - Which types of vehicles dominate the market.
- To determine the trend of the corresponding carbon dioxide emissions expressed in grams per kilometer (gCO_2/km) for the analyzed years as a basis for future policies.

Methodology

- A data base on registered vehicles for the period 2005-2013 was received from the Ministry of Interior Affairs
  - Filtering vehicles weighing less than 3,5 tons (passenger and commercial vehicles)
  - Segregation of the used / new vehicles according to the date of production and date of the first registration
  - Segregation according to the fuel type

Methodology

- Determined emission of carbon dioxide expressed in grams CO_2 of passed kilometer (gCO_2/km) for each type/ model of vehicle
  - Used web pages for setting the gCO_2/km emissions:
    - http://carfueldata.direct.gov.uk
    - http://www.carfolio.com/specifications/.
    - http://www.revueautomobile.ch)
  - Used approximations from IEA/ETSAP information sheet for the vehicles that are using LPG as a fuel and for which there were no data in the internet bases

Methodology

- CO_2 emission is determined according to

  Producer, model, type, fuel and engine size (cc)
- 15% of the vehicles in the bases of registered vehicles in Macedonia do not have any data on the model and type and around 30% from the data of the model and type are incomplete
- Due to the lack of relevant data, CO_2 emission is related to the engine size or

  Producer/fuel/engine size

Pivot tables

Data from internet data bases are processed with Pivot tables and average values of CO_2 emissions are determined

			Average of CO2
Manufacturer	Fuel type	Engine size (cc)	Total
FIAT	Diesel	1248	129
		1560	191
		1598	126
		1910	158
		1997	196
		2198	193
		2287	195
	Diesel Total		162
	Petrol	1108	135
		1242	132
		1368	154
		1586	173
		1596	204
	Petrol Total		151
FIAT Total			157

Methodology

- For the vehicles for which there is no data in the internet bases, (relatively old), the highest value for emission from the table is used or 310 gCO_2/km

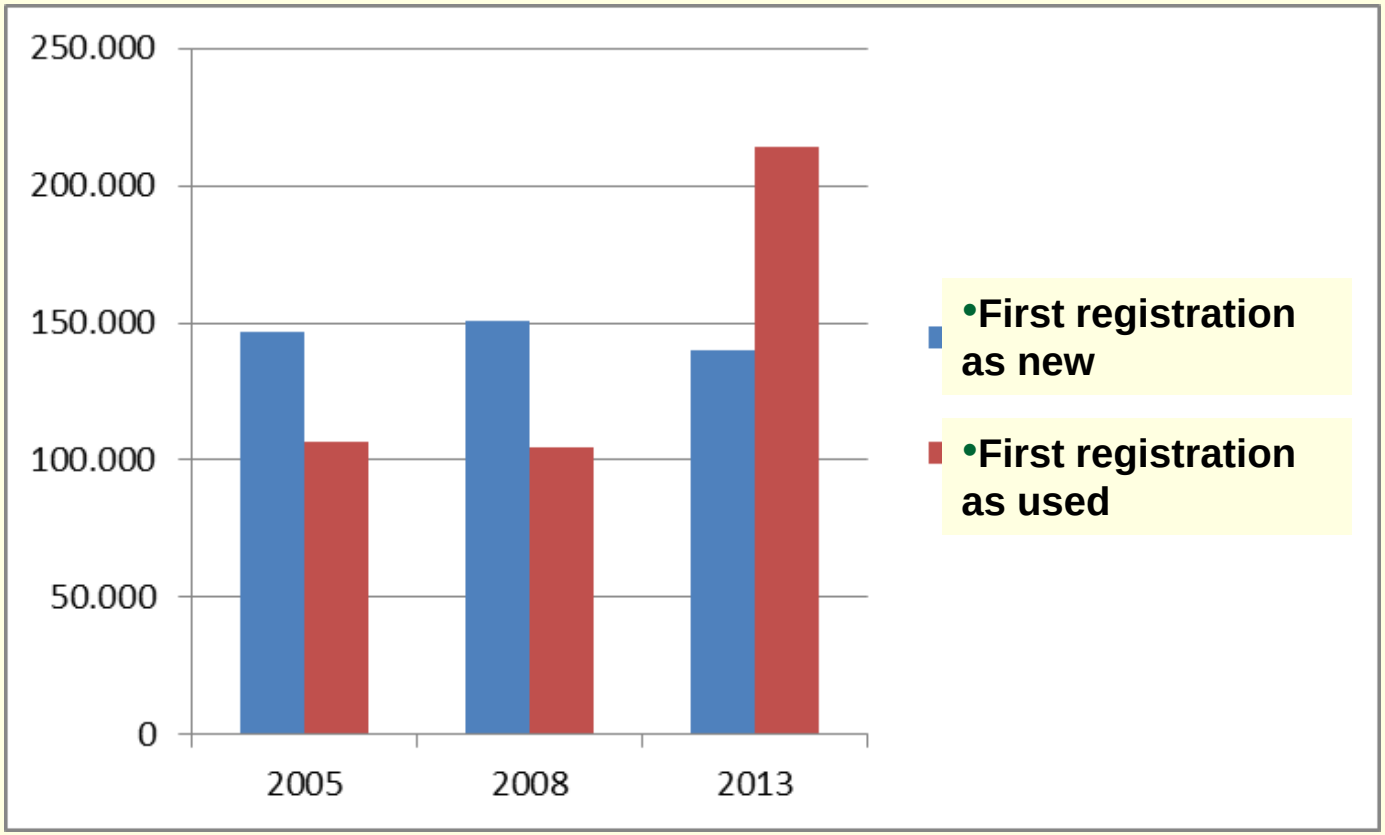
(Zastava, Lada, Yugo – manufactured until 1999)

Terminology

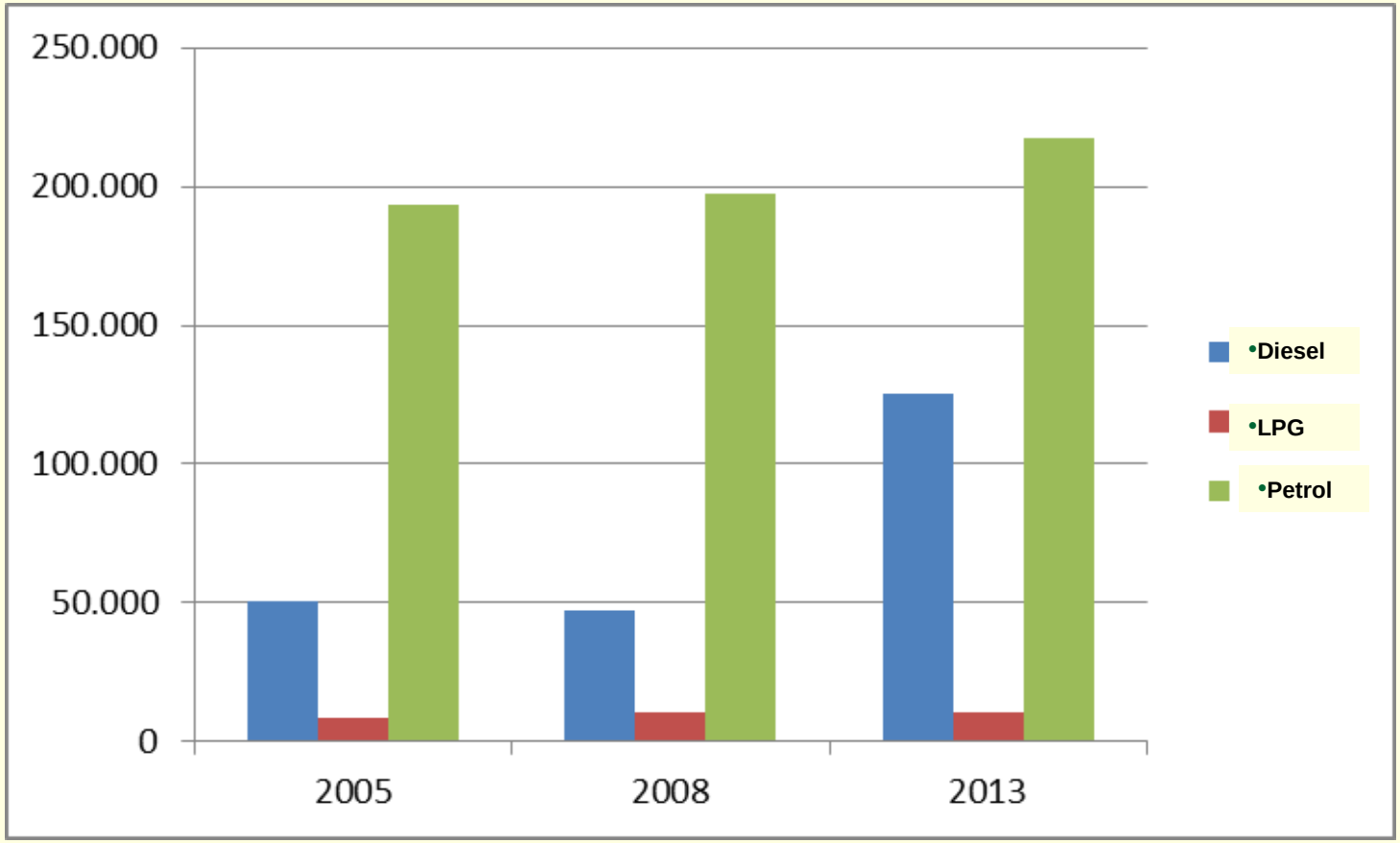
- Total registered vehicles – all vehicles registered in the given year
- Vehicles registered as new – vehicles to which the year of manufacture is the same as the year of the first registration
- Vehicles registered as used – vehicles to which the year of manufacture is less than the year of the first registration
- New registered vehicles – vehicles to which the year of the first registration is the same as the inspected year

RESULTS

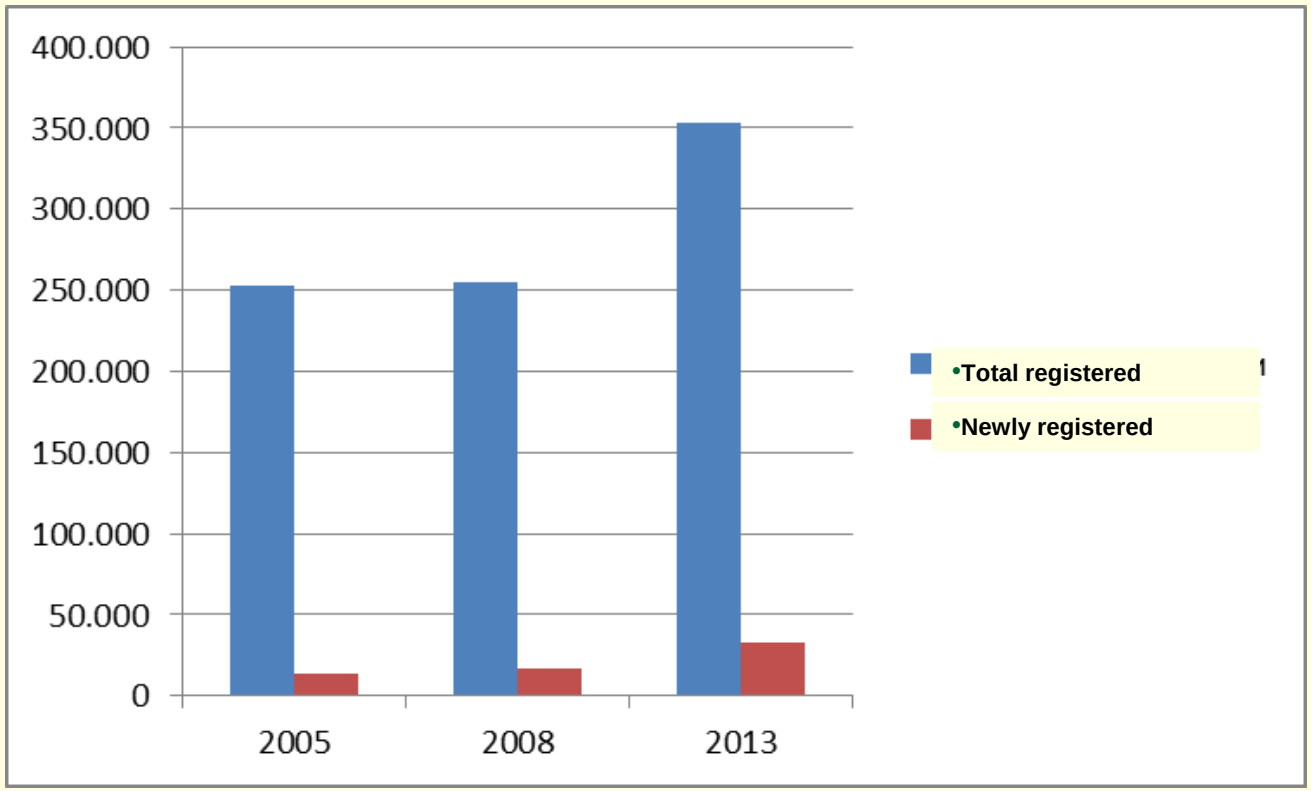
Dividing the total number of registered vehicles and new vehicles



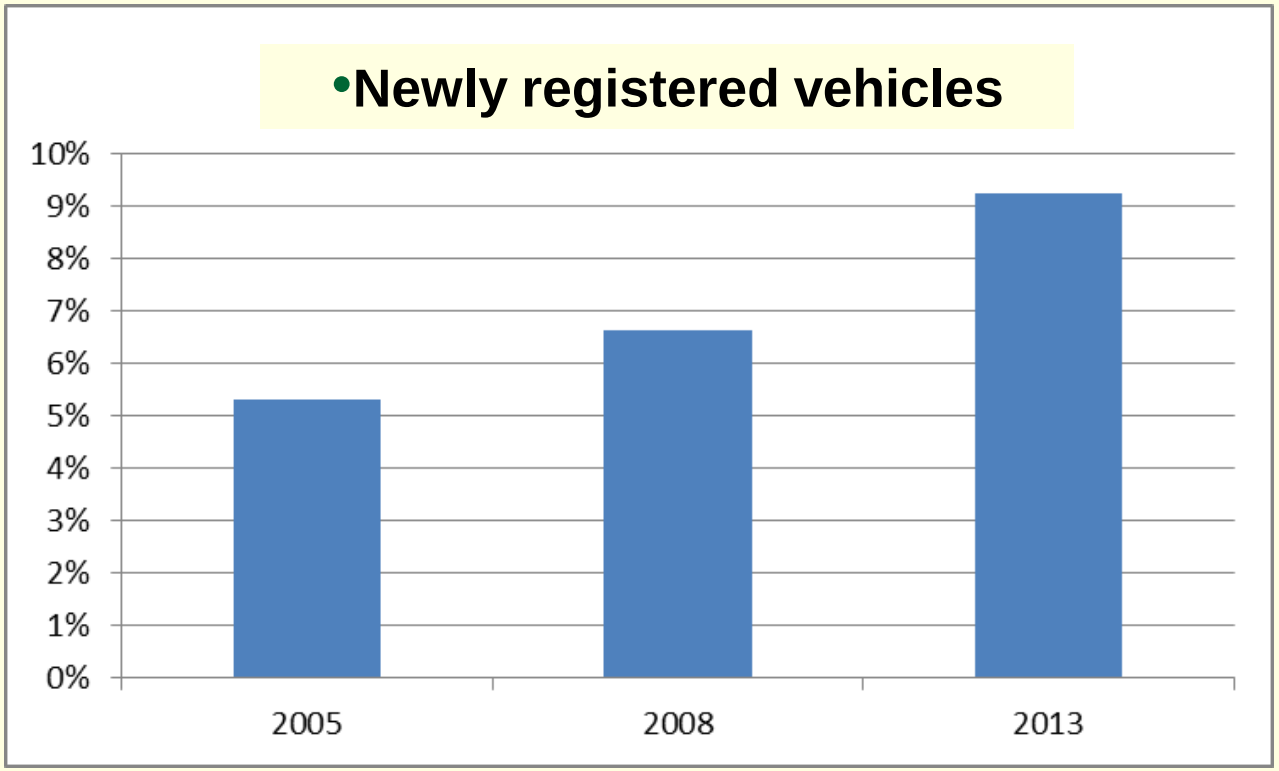
Dividing the total number of registered vehicles by fuel type



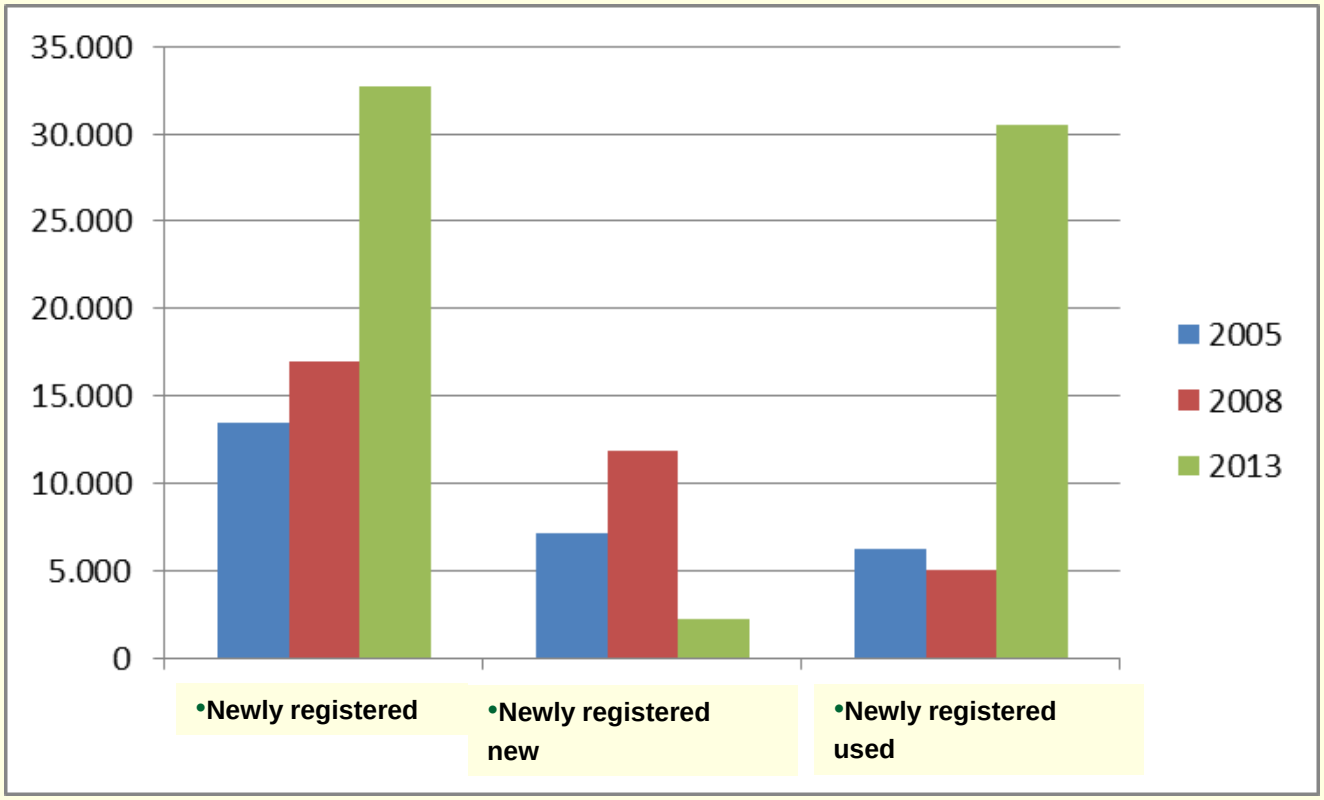
Total number of registered vehicles for 2005, 2008 and 2013 and vehicles which are registered for the first time in that year



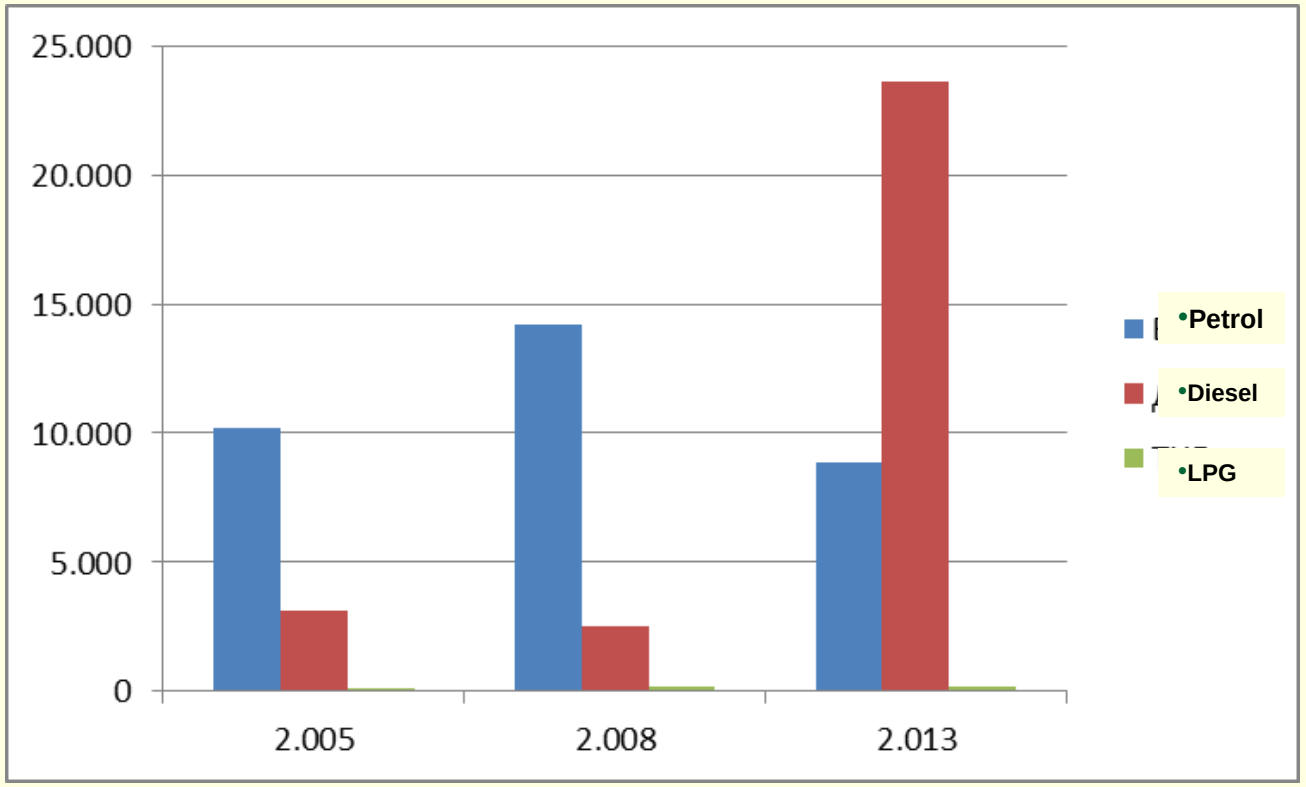
Percentage of newly registered vehicles for 2005, 2008 and 2013



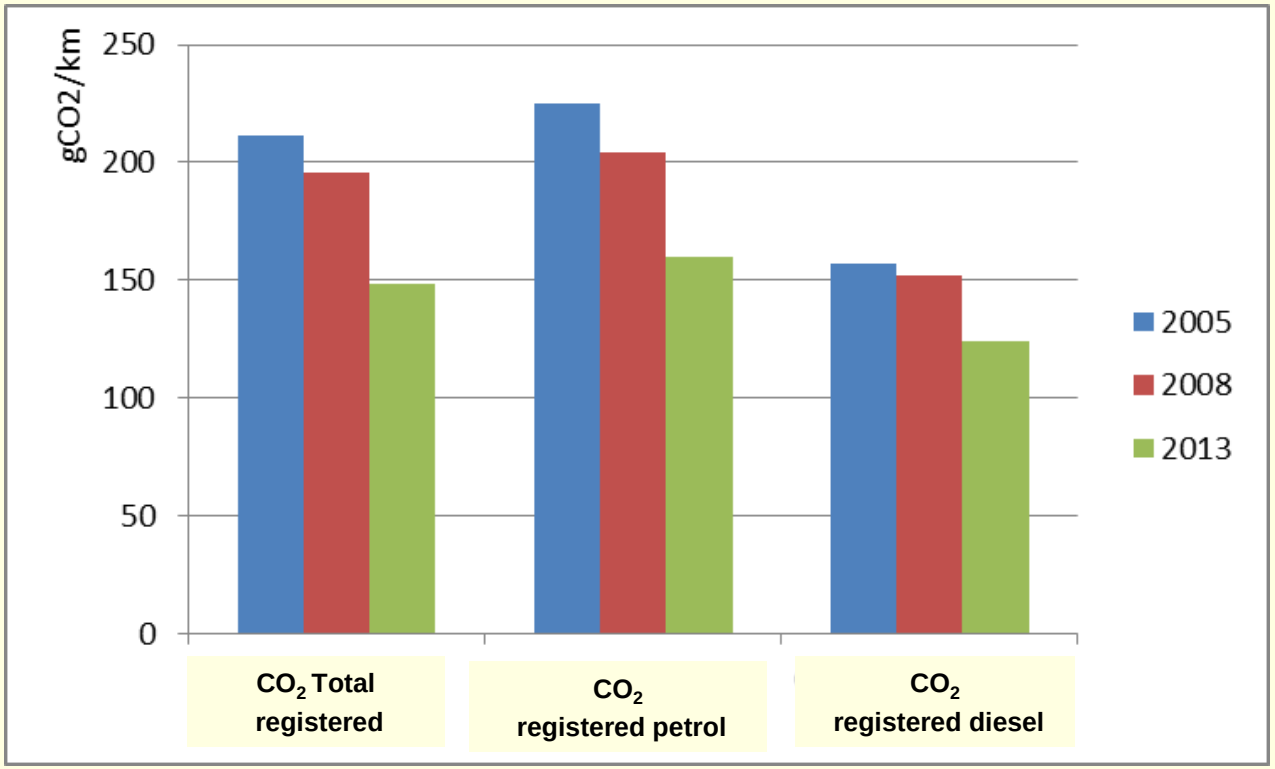
Dividing the newly registered vehicles on used and new vehicles



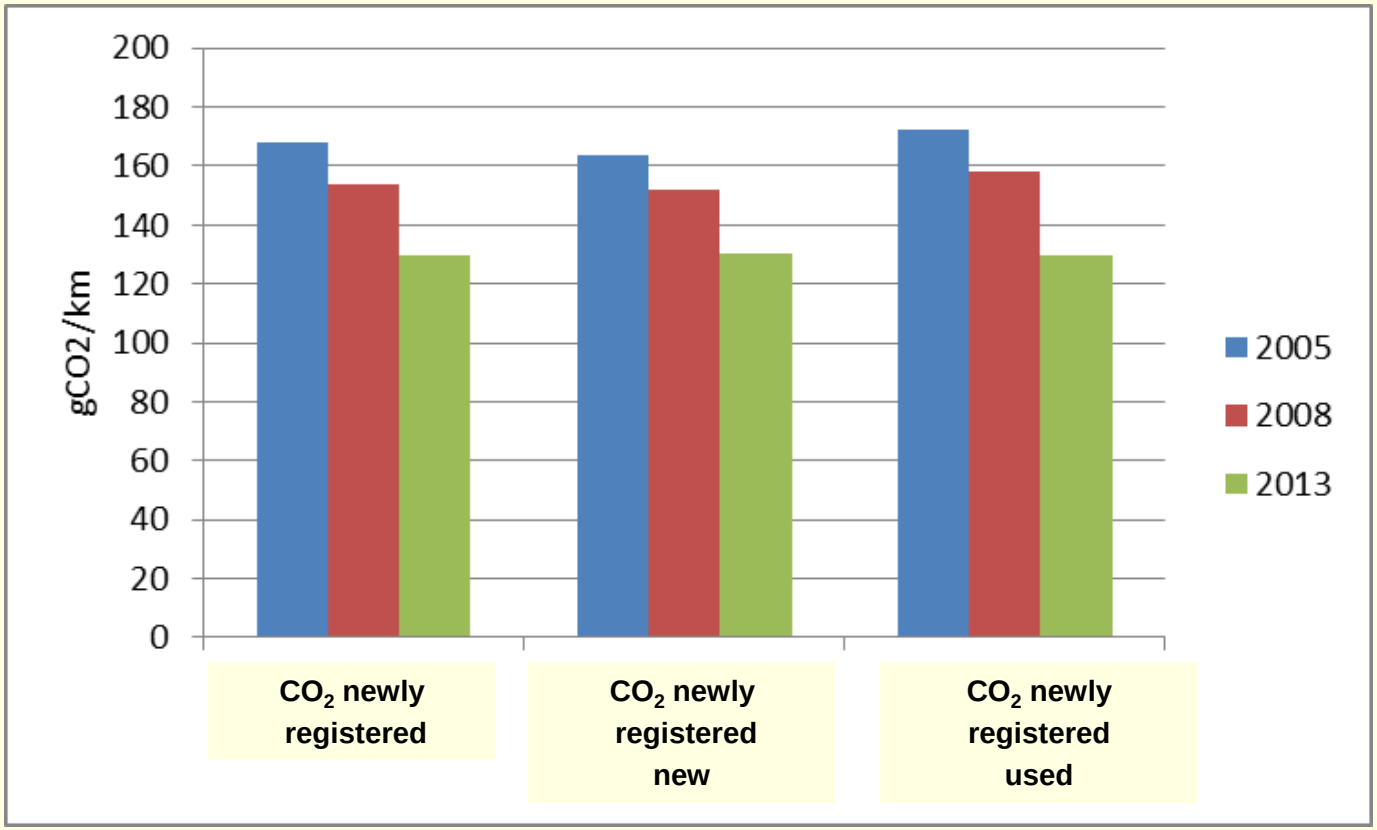
Dividing the newly registered vehicles by types of fuel



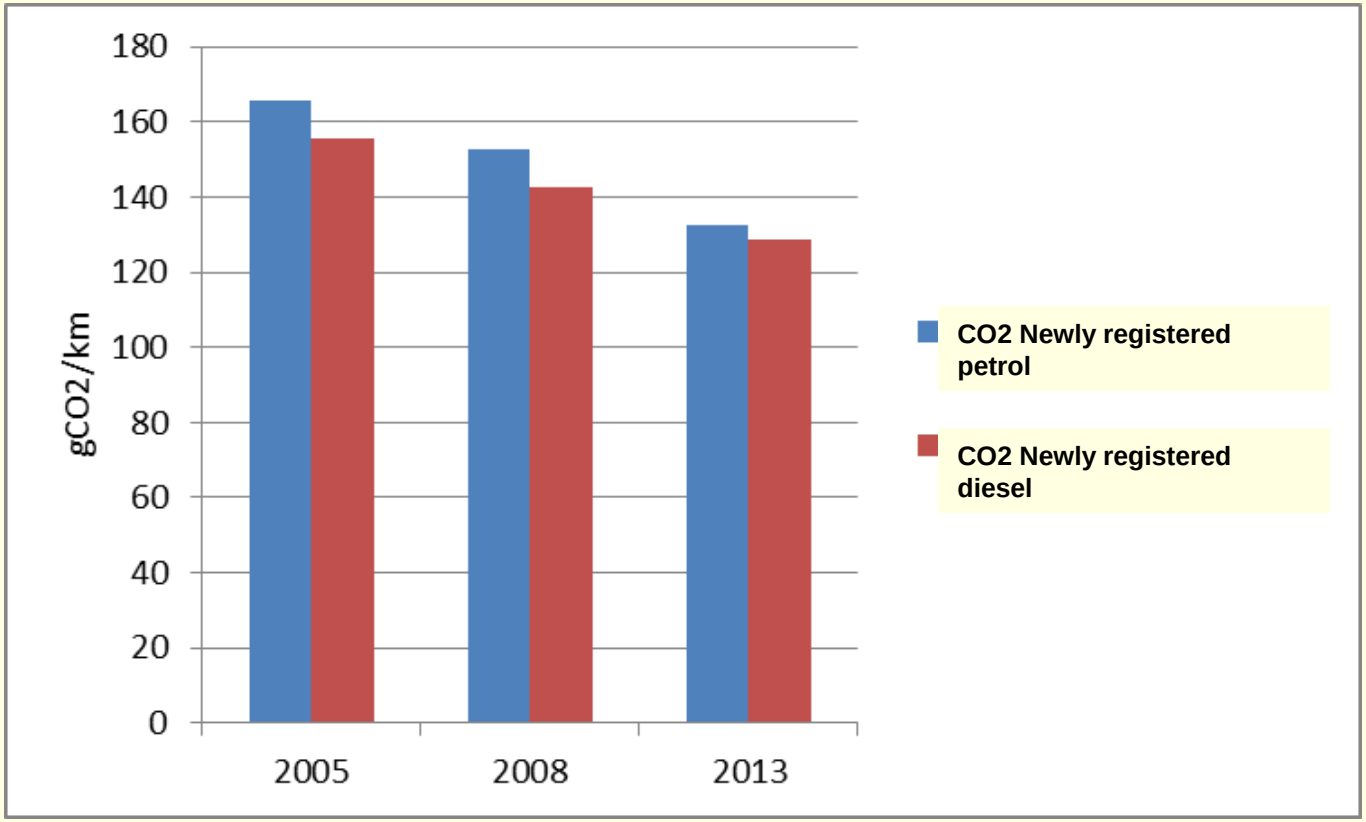
Emission trend of gCO_2/km for the total number of registered vehicles



Emission trend of gCO_2/km for vehicles registered for the first time (in 2005, 2008 and 2013) dividing the used and new vehicles



Emissions trend of gCO_2/km for the vehicles registered for the first time (in 2005, 2008 and 2013) divided by type of fuel



Results comment

- Existing policies for import and taxation of vehicles affected the consumer choice, or:
  - Bigger import on used vehicles
  - Imported vehicles are with diesel motor
- The percentage of newly registered vehicles is increasing
- CO_2 emission is decreasing
- Petrol motors have bigger CO_2 emission from the diesel motors

- Thank you for your attention!