

ECOLOGY AND ROAD TRANSPORT IN REPUBLIC OF KOSOVA

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ABSTRACT

Beside many amenities which offers and undisputed role in road transport of goods, passengers and special loads in the modern world a motor vehicle has negative influence that is difficult to see at the first view. In explanation, according to independent researches that had been organizing all over the world, a unique conclusion was built up that road transport is the biggest source of "conventional" pollutants (CO, C_xH_y, NO_x, CO₂). Considering trend of automotive industry development and industrialization of non-development countries in the same time, further increasing of pollutants emissions from the road transport is expected.

Image of current situation in the world according of pollutants emissions from the road transport is presented in this paper. Also, possibilities for reduction through many control and preventively based actions that could be recognized in decreasing growing trends of the road transport capacity, increasing of the fuel efficiency, etc. are presented too. Based on analysis, it is undeceived on disquieted situation of park vehicles in Kosova.

Keywords: road transport, ecology, pollutants emissions.

1. INTRODUCTION

The emissions pollutants of motor vehicles cause or contribute to host effects of adverse health. Previous studies have shown that these emissions may have been the cause of cancer, deaths for cause to disease of the organs of respiration, etc. As addition, the emission of pollutants from motor vehicles in order directly or indirectly a host affect of serious side effects that contribute to environmental pollution in local, regional as well as in global space.

Components in the exit gases of the motor vehicle that is considered as the main pollutant of environment are primarily monoxide carbon (CO), nitrogen oxides (NO_x), incombustible hydrocarbons (C_xH_y), particles (smoke) and dioxide carbon (CO₂) as the inevitable product of any combustion.

2. ANALYSIS OF EMISSION POLLUTS ACORDING SOURCE AND CATEGORIES OF MOTOR VEHICLE

From the source creating of pollutants in the atmosphere the partition will be performed in the transport sector, industry, power installations, commercial use, etc.

According to Figure 1, which presents analysis of pollutant components which are: CO, NO_x, C_xH_y and CO₂ according source of creation, it is evident that the world as a major source of pollution is considered the transport sector with 89 % CO, 44 % C_xH_y, 52 % NO_x and 29 % CO₂ emission from all sources.

Further degradation of the transport sector according type of motor vehicles, as shown in Figure 2, shows that the use of motor vehicles for passengers, primarily in urban areas and in the short distance

contributes to the majority of emission pollutant components CO (91 %), C_xH_y (77 %) and CO₂ (53 %), meantime motor vehicles for transport have greater participation in the emission of NO_x (56.5 %). The failure emission falls in the motorcycles as remaining category of motor vehicles since the last time being popularization, and which has been a little attention.

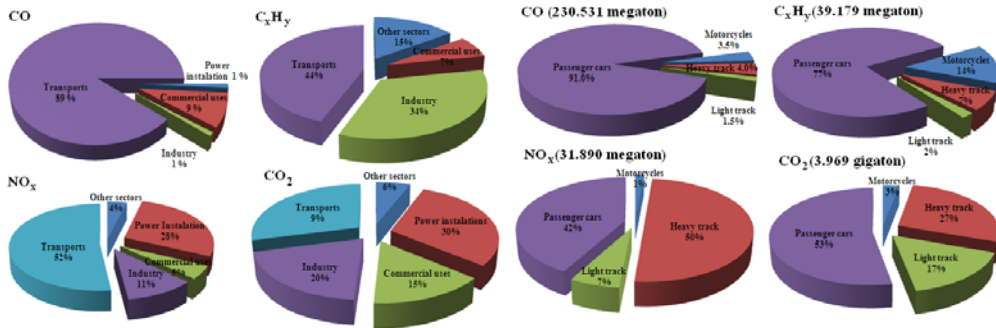


Figure 1. The emission of polluting components according source of pollution [1].

Figure 2. Pollution emission components according to categories of vehicles.

3. INDICATORS FOR THE ASSESSMENT OF EMISSION MATTER IN FUTURE POLLUTANT

Vehicle motor for cause of his flexibility represent the most popular vehicle for individual transport of people, material resources for general consumption, special loads, etc.

With increasing urbanization and geographic expansion of residential areas in the world, then the improvement of infrastructure and economic development, motor vehicles for transport of passengers and goods in any form with the flexibility of self takes first place in the sector of general transportation (70 % of all transport).

Until the past is evidenced in the growth rate of the large number of motor vehicles in countries with high economic development (North America and Western Europe) in the future is quite large increase of motor vehicles in countries that are not members of OECD [1], with forecasts that nearly 50 % from the total number of motor vehicles will be registered in those states. Increasing the average in total number of motor vehicles provided to be in 3 %.

Increasing number of motor vehicles in every aspect will contribute in apparent increase components of the pollutant emission. Studies conducted by the OECD, with project MOVE (Motor Vehicle Emissions) confirm the possibility of reaching positive effects in terms of emission of polluting components of exhaust exit gases from motor vehicle with the help of two scenarios of which one provides the application of step on stricter and broader control of pollutant emission and that will fall to the reduction of fuel consumption by fossils. The second scenario is based on control and first and foremost on reducing growth of transport from 3 % in real value that can be realized from 2 %.

4. SITUATION IN THE REPUBLIC OF KOSOVA

The Republic of Kosovo as a new state has not yet fully organized institutions which are in a unique way to monitor all events related to transportation that developed with the assistance of road traffic, principally thought of emission components pollutants to the level of all state. According to records that are leading up to 2009 the number of vehicles registered in the Republic of Kosovo was 379,273 vehicles. In Figure 3 it's shown the participation percentage of special categories of vehicles in the total number of vehicles in period from 2005 until 2009.

Notes for the number of registered vehicles after the war authors were limited only for vehicles which manages the Kosova government. Participation in specific categories in the total number of registered motor vehicles is shown in Figure 4. From the figure it's seen increased participation of passenger cars.

Looking park of vehicles of the Republic of Kosovo for the purpose of transporting material goods and passengers in urban and inter traffic, come to the conclusion that their average age is more than 16

years. Presentation illustrated the average age of special categories of vehicles in the Republic of Kosovo is given in Figure 5.

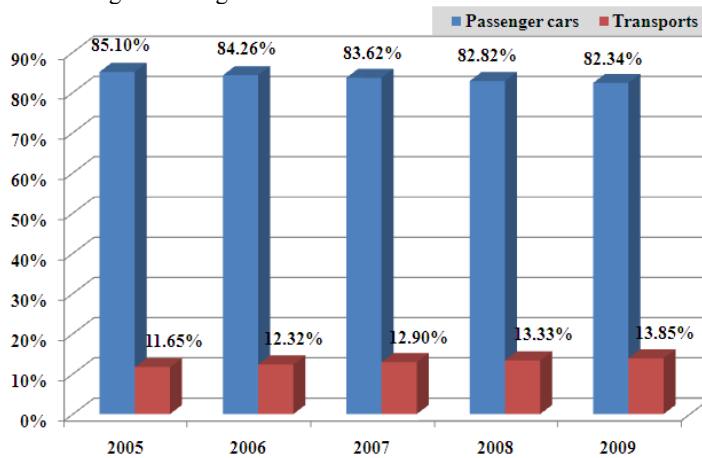


Figure 3. Participation percentage of motor vehicles for passenger and transport in the total number of vehicles registered in the Republic of Kosovo in period from 2005 until 2009 [2]

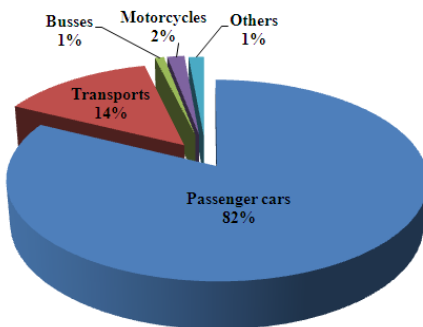


Figure 4. Percentage participation of specific categories of vehicles in the total number of vehicles registered in the Republic of Kosova [2]

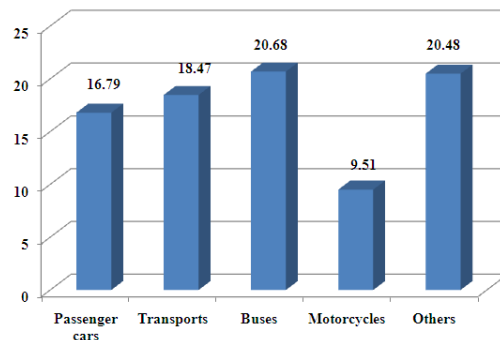


Figure 5. The average age of park of vehicles in the Republic of Kosovo in year 2009 [2]

As a result of the old park of vehicles and review of pollutant emission from output exhaust gas of motor vehicle is also quite overwhelming (bad). Comparing the park of vehicles of the Republic of Kosova with those of Western Europe can be concluded that the Republic of Kosova in terms of emission of pollutants in the European level is the last 2003 years. The figure of participation in the transport sector's total pollutant emission is even less favorable because are not active at all other sectors (industry, power installation, etc.).

5. POTENTIAL MEASURES FOR REDUCTION POLLUTANT EMISSION

To be able to define the measures that will contribute to reducing the emission of pollutants from the transport sector should be observed in the parameters that can be treated. Besides the possibility of managing the transport in terms of restricting of use the special categories of motor vehicles in the city center and generally with better organization, there are potential technical - technological application of which will enable reduction the visible emission of pollutants. As a control parameter to enable determination of measures to reduce emission of pollutants in this country will emphasize:

- Emission of output gas,
- Contain of fuel,
- Emission the evaporation,
- Improving the efficiency of usage of fuel,

- Using of alternative fuels and
- Managing of Transport.

With premeditated action in some controller parameters with the introduction of stricter legal regulations in terms of pollutants, or the same time stimulating economic measures try to reduce pollution in the environment.

In the Republic of Kosova as the first step in preventing pollution of the human environment by motor vehicles should be reflected in the continued worsening of regulatory law. There are initiatives by the representatives of producing vehicles that age limit of imported vehicles. This legal measure can be viewed as a transitional solution until the unique application of homologation of vehicles and spare parts based on international standards and regulations.

For cause of the large number of technical and technological innovations in the field of automotive industry in recent years appears permanent education of existing staff but also next to in the field of transport that will represent the basis for improvements in terms of problem solving protection of human environment and transport sector in general.

6. CONCUSION

In this paper are given the analysis of the existent state of environmental pollution by motor vehicles, as well as in the world and in the Republic of Kosova. On the basis of specific trends for the number of vehicles, number of pasted kilometers, control of emissions of certain pollutants, etc., are given the assessments the image (mirror) ecological in world from motor vehicles. Based on this analysis can be completed:

- In the emission of pollutants components transport is in the leading place,
- In the world are working intensively to reduce the emission of polluting from road vehicles with using of technical solutions, legal regulations, economic measures and training of participants in road transport,
- State of park vehicle in Republic of Kosova is enough worst and having very bad statement of ecological consequences. In relation to the developed part of the World in every aspect there is a delay over eight years,
- In the Republic of Kosova there isn't provision of regulated or organized to improve the environmental review of road vehicle, but is almost completely leaves peoples.
- to reduce the emission of pollutants from vehicles components to be carried by side:
 - law rules,
 - Economic stimulate,
 - Training of participants in transportation and
 - Homologation application of vehicles and components, which will improve the technical level of the park vehicle.

7. REFERENCES

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