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GHG Emissions from Road Transport: Economic and Environmental Challenges in Montenegro

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ABSTRACT

Within the transport sector, road traffic contributes the most to air pollution and global warming. It is estimated that daily traffic is responsible for up to 30% of PM particle emissions in European cities. In Montenegro, the current situation in this area is not at a satisfactory level. The existing regulations prescribe criteria for ensuring data quality for air quality assessment, minimum data availability, temporal coverage, and measurement methods. At the same time, there is a need in Montenegro for more detailed research that would include specific local factors such as demographic growth, vehicle structure, and the characteristics of urban traffic. This research is crucial for creating sustainable emission reduction policies and improving air quality in Montenegrin cities. The aim of this study is to use Cost-Benefit Analysis to estimate the costs of emissions from road traffic in Montenegro, based on health problems caused by pollution (diseases, loss of productivity, healthcare), environmental costs (related to environmental degradation and the need for remediation), as well as economic costs (due to reduced labor productivity and losses in tourism). At the same time, the study evaluates the economic benefits of emission reduction by monetizing the benefits of reduced emissions through lower healthcare costs, increased productivity, improved quality of life, and ecosystem preservation. For the purposes of this analysis, data from available official national sources will be used, including pollutant emissions, number of vehicles, fuel types, traffic statistics, and healthcare costs. Finally, the study suggests the development of emission reduction scenarios, with an assessment of the economic viability of each scenario. The calculation of exhaust emissions from road traffic will be carried out using the COPERT software for a minimum of three years.

Keywords: Copert software, Cost-Benefit analysis, economic benefits, economic costs, global warming