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Impact of Civil Engineering and Economic Growth in the Sustainability of the Environment: Case of Albania

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Abstract : Nowadays, the environment is a critical goal for civil engineers, human activity, construction projects, economic growth, and whole national development. Regarding the development of Albania's economy, people's living standards are increasing, and the requirements for the living environment are also increasing. Under these circumstances, environmental protection and sustainability this is the critical issue. The rising industrialization, urbanization, and energy demand affect the environment by emission of carbon dioxide gas (CO2), a significant parameter known to impact air pollution directly. Consequently, many governments and international organizations conducted policies and regulations to address environmental degradation in the pursuit of economic development, for instance in Albania, the CO2 emission calculated in metric tons per capita has increased by 23% in the last 20 years. This paper analyzes the importance of civil engineering and economic growth in the sustainability of the environment focusing on CO2 emission. The analyzed data are time series 2001 - 2020 (with annual frequency), based on official publications of the World Bank. The statistical approach with vector error correction model and time series forecasting model are used to perform the parameter's estimations and long-run equilibrium. The research in this paper adds a new perspective to the evaluation of a sustainable environment in the context of carbon emission reduction. Also, it provides reference and technical support for the government toward green and sustainable environmental policies. In the context of low-carbon development, effectively improving carbon emission efficiency is an inevitable requirement for achieving sustainable economic and environmental protection. Also, the study reveals that civil engineering development projects impact greatly the environment in the long run, especially in areas of flooding, noise pollution, water pollution, erosion, ecological disorder, natural hazards, etc. The potential for reducing industrial carbon emissions in recent years indicates that reduction is becoming more difficult, it needs another economic growth policy and more civil engineering development, by improving the level of industrialization and promoting technological innovation in industrial low-carbonization.

Keywords : CO_2 emission, civil engineering, economic growth, environmental sustainability
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