



Green Economy And Its Role In Preventing Air Pollution In Major Cities

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Summary: Air pollution is one of the most pressing and pressing problems of our time, which requires immediate solutions [1,2]. According to the World Health Organization (WHO), air pollution is responsible for more than 7 million deaths per year, as well as many chronic diseases such as asthma, bronchitis, lung cancer and cardiovascular diseases[3,4]. Most air pollution occurs in large cities, where more than half the world's population lives. In these cities, concentrations of particulate matter (PM 2.5) and ozone (O₃) exceed safe levels recommended by WHO. This poses a serious threat to the health of residents, as well as the economy and the environment. Therefore, it is necessary to develop and implement effective strategies to combat air pollution that take into account not only the technical, but also the social, political and cultural aspects of the problem [5,6,7].

Key words: *the green economy, air pollution, renewable energy.*

Зеленая Экономика И Ее Роль В Предотвращении Загрязнения Воздуха Крупных Городов

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Резюме: Загрязнение воздуха - одна из наиболее актуальных и острых проблем современности, которая требует немедленного решения [1,2]. По данным Всемирной организации здравоохранения (ВОЗ), загрязнение воздуха является причиной более 7 миллионов смертей в год, а также множества хронических заболеваний, таких как астма, бронхит, рак легких и сердечно-сосудистые заболевания[3,4]. Большая часть загрязнения воздуха происходит в крупных городах, где живет более половины населения планеты. В этих городах концентрация твердых частиц (PM 2.5) и озона (O3) превышает безопасные уровни, рекомендованные ВОЗ. Это создает серьезную угрозу для здоровья жителей, а также для экономики и окружающей среды. Поэтому необходимо разработать и реализовать эффективные стратегии для борьбы с загрязнением воздуха, которые будут учитывать не только технические, но и социальные, политические и культурные аспекты проблемы [5,6,7].

Ключевые слова: __зеленая экономика, загрязнение воздуха, возобновляемые источники энергии.

Relevance: Air pollution in Tashkent and Uzbekistan is a serious problem threatening the health and lives of millions of people. According to the World Bank, in 2019, 89 out of 100,000 people died in Uzbekistan due to the impact of polluted air, which is the highest rate in Central Asia. The main sources of air pollution in Tashkent are coal-fired power plants, automotive transportation, and illegal tree felling. According to IQAir, a global air quality monitoring organization, on January 19, the level of air pollution in Tashkent was 15.8 times higher than the World Health Organization's recommended limit. This means



that the air in the capital of Uzbekistan is hazardous to health, especially for sensitive groups such as children, the elderly, and people with chronic lung and heart diseases. To combat air pollution, the Uzbekistan Ministry of Environment proposed banning the use of coal for industrial purposes in the Tashkent region, as well as banning low-quality fuel and all old vehicles manufactured before 2010. Additionally, the ministry called on the government to increase subsidies to promote electric vehicles, which do not emit harmful substances into the atmosphere. These measures can help improve air quality in Tashkent and Uzbekistan, as well as reduce the risk of developing diseases associated with air pollution, such as asthma, cancer, heart problems, and others.

ne such strategy is transitioning to a green economy, which represents a new development model based on principles of sustainability, fairness, and inclusivity. The green economy recognizes the value of natural resources and ecosystem services for human well-being and economic growth, as well as the need to reduce anthropogenic impacts on the environment. The green economy aims to ensure high levels of employment, social protection, and quality of life for all segments of the population, while reducing greenhouse gas emissions and other pollutants, conserving natural resources, and enhancing resilience to climate change. The green economy involves reorienting production and consumption towards more environmentally friendly and efficient alternatives, as well as active participation by the state, business, and society in the transformation process [8,9,10].

Research Goal: To analyze the opportunities and advantages of transitioning to a green economy as a strategy to combat air pollution in major cities. To achieve this, the study will examine the theoretical foundations and international experience of the green economy, as well as assess the current state and prospects of green economy development.

Materials and Methods: The study surveyed 500 representatives from businesses, government agencies, and civil society organizations from 10 countries with different levels of green economy. To achieve the research goal, a comprehensive approach was used, including analysis of scientific literature,



statistical data, documents, and reports from international organizations, as well as conducting comparative analysis of green economy indicators in different countries. The main criteria for selecting countries for comparison were the level of air pollution, the level of green economy development, and the presence of political will to transition to it.

Results and Discussion: The study showed that there is a significant difference in the level of green economy development between countries. The highest indicators of the green economy are observed in Northern European countries such as Denmark, Sweden, and Finland, which have low levels of air pollution (less than $10 \mu\text{g}/\text{m}^3$ of $\text{PM}_{2.5}$), a high share of renewable energy sources in their energy balance (over 50%), and actively support environmental initiatives at national and international levels. At the opposite pole are countries in Asia and Africa, such as China, India, and Nigeria, which suffer from high levels of air pollution (over $100 \mu\text{g}/\text{m}^3$ of $\text{PM}_{2.5}$), low energy efficiency (less than 0.5 kWh per GDP dollar), and a lack of effective green economy policies. Among countries with transitional economies, Chile, Costa Rica, and Estonia stand out, demonstrating positive dynamics in green economy development through improving environmental quality (reducing air pollution by 20% over the last 10 years), increasing investments in green technologies (more than 1% of GDP), and strengthening intersectoral cooperation (having a national green economy strategy).

Conclusions: The study showed that there is a direct link between the level of air pollution and interest in the green economy. Countries with high levels of air pollution have a greater motivation to transition to a green economy than countries with low levels of air pollution. This means that to increase interest in the green economy, it is necessary to take into account the specific characteristics of each region and apply various stimulating tools, such as economic, legal, social, and educational measures. Further research is also needed to study other factors influencing the transition to a green economy, such as political stability, cultural characteristics, and the level of scientific and technological development.



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