



Proceedings of the International Conference «European Green Dimensions: Fundamental, Applied, and Industrial Aspects», June 5–7, 2025





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The Proceedings covers such questions: European Green deal; Climate change; Energy efficiency, renewable energy; Conservation of biodiversity; Water resources management; Water quality, wastewater treatment; Protection of atmospheric air, environmental control and monitoring systems; Industrial and household waste management; Sustainable development and education for sustainable development.



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FOREWORD

Dear colleagues!

This collection of abstracts represents the culmination of the International Conference "European Green Dimensions: Fundamental, Applied, and Industrial Aspects," held on June 5–7, 2025, at Petro Mohyla Black Sea National University in Mykolaiv, Ukraine.

In an era where the planet's vital signs are flashing red, the International Conference isn't just timely – it's a critical intervention. We're operating in a complex system, where the European Green Dimensions represents a bold attempt to recalibrate humanity's relationship with Earth. This isn't solely about policy; it's a call to reimagine our industrial DNA, redefine energy itself, and resuscitate ecosystems gasping for breath.

From the thermodynamics of climate change to the intricate web of biodiversity, and from the chemistry of wastewater to the physics of renewable energy, the conference's scope mirrors the interconnectedness of the challenges. It's a recognition that sustainability isn't a niche concern—it's the operating system upgrade our civilization desperately needs. This isn't an academic exercise; it's a solution-focused sprint. The urgency is palpable, and the stakes couldn't be higher.

The Proceedings covers such questions: European Green deal; Climate change; Energy efficiency, renewable energy; Conservation of biodiversity; Water resources management; Water quality, wastewater treatment; Protection of atmospheric air, environmental control and monitoring systems; Industrial and household waste management; Sustainable development and education for sustainable development. The issues of ecology and sustainable development are of paramount importance and growing urgency for the future of humanity, demanding innovative solutions and collaborative efforts.

The International Conference attracted participants from a wide geographical distribution, fostering a rich exchange of ideas and perspectives. The contributions herein reflect the diverse approaches and innovative solutions being explored across various contexts.

It is our hope that the ideas presented within these pages will spark inspiration for further research, and facilitate the building of bridges for future collaboration and partnerships among scientists and practitioners.

We extend our sincere gratitude to the Erasmus+JM Programme, whose funding made this important event and this publication possible.

Prof. Olena Mitrysova

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Impact of Air Pollution on the Disease of The Population of Ukraine

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The most common harmful gaseous pollutants of the atmosphere are SO_2 , SO_3 , H_2S , NH_3 , CO , CO_2 , nitrogen oxides, benzopyrene, chlorine and fluorine compounds, and hydrocarbons. Among industrial aerosols, coal dust, ash, sulfates and sulfides of metals (iron (Fe), lead (Pb), copper (Cu), Zinc (Zn) etc.), silica, chlorides, compounds of Calcium (Ca), Sodium (Na), Phosphorus (P). The emissions also contain vapors of basic acids (HCl , H_2SO_4 , HNO_3), mercury, and phenols. Protection of atmospheric air is one of the most urgent problems in modern technological society, since scientific and technological progress and expansion of production are associated with an increase in negative anthropogenic impacts on the atmosphere [1].

Harmful substances enter the human body through the respiratory system, digestive system, skin and mucous membranes. The entry of pollution through the digestive system, skin and mucous membranes can be controlled, while pollution into the body through the respiratory system is difficult to control.

When studying the structure of morbidity in the population of Ukraine, it is noteworthy that the most common disease is respiratory diseases (chronic bronchitis, occupational bronchitis, bronchial asthma, pneumoconiosis, allergic rhinitis, etc.), which affect about 11 million Ukrainians (Fig. 1) [2].

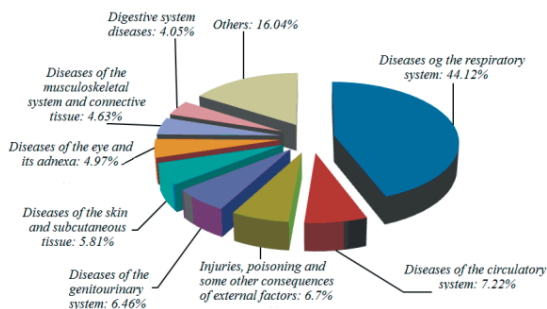


Fig. 1. Structure of primary morbidity among the entire population of Ukraine in 2017, %.

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2. Comparative data on respiratory diseases and medical care for patients with pulmonological and allergic diseases in Ukraine for 2011–2018.

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