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(57) Abstract :
METHOD AND SYSTEM FOR MITIGATING AIR POLLUTION AND ITS IMPACT ON CLIMATE CHANGE A Method and System for Mitigating Air Pollution and Its Impact on Climate Change, which provides an integrated, scalable, and efficient solution to address air quality and global warming challenges. The system combines advanced pollutant capture technologies, such as metal-organic frameworks (MOFs) and graphene-based filters, with carbon sequestration methods, including bioengineering solutions like algae-based systems for CO_2 absorption and utilization. It integrates IoT-enabled sensors and AI-driven algorithms for real-time monitoring and dynamic optimization of emissions across industrial, transportation, and urban sectors. The system also promotes renewable energy adoption and smart urban infrastructure to reduce reliance on fossil fuels and improve resource efficiency. Designed for adaptability and cost-effectiveness, it ensures applicability in diverse environmental and economic contexts, including resource-constrained regions.

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