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IoT Solutions for CO_2 Emission Reduction Optimization in Urban Smart City Networks

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Abstract:

The integration of Internet of Things (IoT) technologies within urban smart city frameworks has emerged as a pivotal strategy for optimizing CO_2 emission reductions. By deploying a network of interconnected sensors and devices, cities can monitor real-time data on energy consumption, traffic flow, and environmental conditions. This data-driven approach enables the implementation of adaptive systems, such as intelligent traffic management and energy-efficient building operations, which collectively contribute to significant reductions in greenhouse gas emissions. Moreover, IoT facilitates the seamless integration of renewable energy sources into the urban grid, enhancing sustainability efforts. The adoption of these technologies not only supports environmental objectives but also improves the quality of urban life by promoting cleaner air and more efficient resource utilization.

Keywords: Internet of Things, CO_2 Emission Reduction, Smart Cities, Urban Sustainability, Energy Efficiency, Environmental Monitoring

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