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IMPACT OF COVID-19 PANDEMIC ON AIR POLLUTION: THE CASE OF ATHENS, GREECE

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Abstract

Lockdown restrictions due to the COVID-19 pandemic led to air, road and marine traffic limitations as well as to limitations of economic activities causing thus considerable reductions of air pollutant emissions and air quality levels. This paper aims at studying the impact of these restrictions, due to pandemic, on air pollutant emissions and on atmospheric pollutant concentrations in the Greater Area of Athens, Greece. Air pollutant emission levels and emission reductions due to COVID-19 containment measures were calculated and related to air pollutant concentrations from six air quality monitoring stations. Findings showed significant road, marine and air traffic emission reductions, ranging from 20 to 90%. In the analysis conducted, the relation between air pollutant levels and the corresponding emissions was identified showing that the most important contributor to high air pollutant levels is road traffic. The conclusions drawn on air quality levels may provide policy makers with useful insights in order to plan and apply more efficient measures to reduce air pollution and comply with air quality standards and European Directives.

Key words: air pollutant emissions, air pollutant levels, COVID-19, nitrogen oxides, PM10

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