



## Air Quality Management in the Emirate of Dubai

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The rapid economic development of the Emirate of Dubai for the past two (2) decades has accelerated its industrialization to a level that is unprecedented on its history. Along with this are the environmental consequences of its development, which includes air pollution brought by the increase in road transportation and industrial activities. These concerns were behind the enactment of several relevant legislations, which started on 1991 with Dubai's Local Order No. 61, followed by UAE's Federal Law No. 24 of 1999, and recently with the issuance of Federal Law No. 12 of 2006. The said legislations provided the mandate of Dubai Municipality - Environment Department (DM-ED) to manage the air quality within Dubai.

While there are obvious reasons (e.g. health, safety and climate change issues) to address the associated impacts of air pollution, only few realizes the laborious task of managing this environmental concern. Unlike other management approach, air quality management (AQM) requires multifaceted efforts directed towards various sectors that play a role either as part of a regulatory entity, a source of pollution, or just an ordinary consumer. The responsibility of DM-ED is wide-ranging but takes precedence on regulating air emissions from mobile and stationary sources, the latter are industry and energy sectors, and in monitoring the ambient air quality throughout the Emirate.

Ambient Air Quality Monitoring (AAQM) is another aspect of AQM that is equally important as this determines the quality of air that surrounds for its beneficial use in the air environment, as well as to protect the health of the population. The information it provides is also indispensable, particularly to an environmental conscious

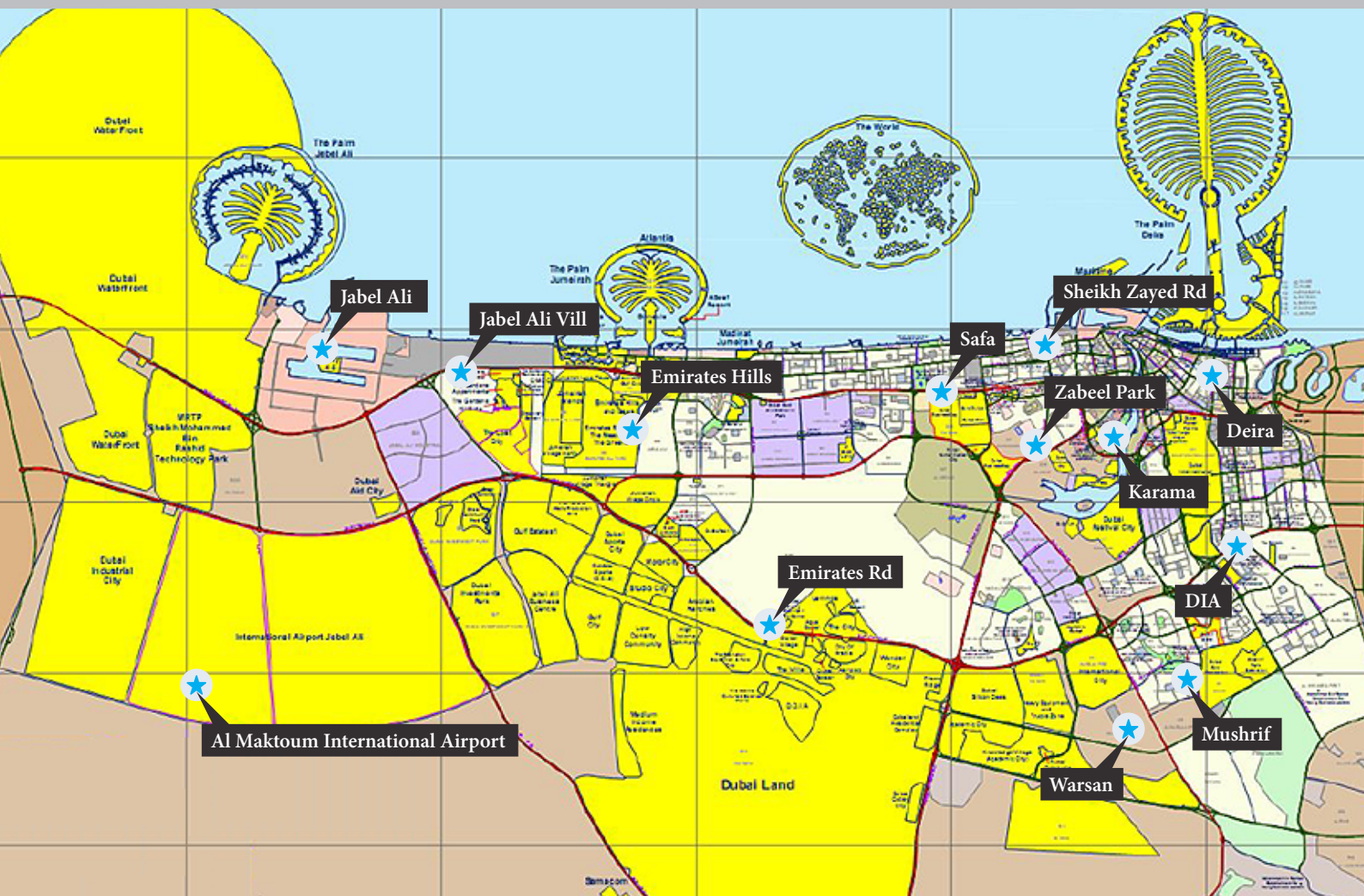


Figure 1: Dubai's Air Quality Monitoring Network (Hatta is not shown)

★ Air Quality Monitoring Stations

population that depends on reliable and updated data for their protection, and to the development of a practicable and economically viable Air Quality Management Plan (AQMP) for the DM-ED. In 1994, the AAQM was started with six (6) monitoring stations distributed to its urban and industrial areas. In line with Dubai's AQMP for 2009-2014 and in response also to its continuous industrial growth, the monitoring network was recently expanded to fourteen (14) monitoring stations with use of technologically advanced equipment as shown in Figure 1. This has made the AAQM more effective considering the vast area covered by the network, which provides more representative data that will sufficiently serve its purpose.

The AAQM network continuously monitored the criteria pollutants such as Carbon Monoxide (CO), Particulate Matter (PM<sub>10</sub>/PM<sub>2.5</sub>), Sulfur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>2</sub>) and Ozone (O<sub>3</sub>) and results are evaluated based on air quality standards and objectives. The results

are being interpreted in a manner that is easily understood by the general public using air quality index such as clean air, light, significant and heavy pollution and high dust with reference to general health effects and safety warnings. Ever since DM-ED started its AAQM, Dubai generally experience clear air days with exception of occasional high ozone and dust days during the summer season mainly due to intense sunlight and the natural dusty environment in the region. With the exclusion of dust, DM-ED likewise consistently achieved its annual target of clean air days for the past years.

DM-ED is never been inactive on effective management of Dubai's air quality than what it is right now. It is more engaging as it evolves through time to a more pro-active and responsive agency. The Environmental Planning and Studies Section (EPSS)-Air Quality Group of DM-ED is at the forefront of this endeavor and will continue to exert relentless efforts to ensure a comfortable and sustainable living environment throughout the Emirate.