



AND COMMUNITIES

DUBAI **Clean Air** Environmen Program







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Air quality impact





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Exposure to air pollution increases the risks of respiratory and cardiovascular diseases

Sensitive and vulnerable population, such as the children, elderly and pregnant women, are more susceptible to air pollution-related diseases

Air pollution results in significant environmental effects





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Air quality commitmen



C40 CITIES

C40 Clean Air Cities Accelerator

2019

Vision:

Meeting WHO Air Quality Guidelines by 2030

Commitment:

To clean the air our citizens breathe and help meet the goals of the Paris Agreement by

- setting ambitious reduction targets
- implementing new substantive air quality policies and programmes by 2025
- publicly report progress on achieving these goals



UAE General Environmental Policy

2021 One of the priorities: Improving air quality

Policy statement:

The UAE is committed to ensuring the right of generations to have clean air, and seeks to improve air quality levels to protect society from the health effects

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Air Environment Monitoring

Dubai operates the Air Environment Monitoring Network which is composed of fixed monitoring stations strategically located to provide continuous and real-time Air Quality, Noise, Electromagnetic Field and Odor monitoring.

Mobile Air Environnent

First of its kind in the region, the environment-friendly mobile station provides real-time data on air pollution allowing immediate preventative and corrective actions to be taken. It is equipped with a state-of-the-art analytical equipment supported by artificial intelliger systems

Smart Environmental

The smart environmental survey vehicle is equipped with monitoring sensors and supported with advanced systems to collect real-time air environment data and allow for on-site analysis.

DM-SAT1

First nanosatellite designed in the UAE and equipped with latest space observation technology for environmental monitoring. It is the latest generation of environmental satellite systems.

Analysis and

The Emission Inventory for Emirate of Dubai is a

دomprehensive and detailed database of air emissions in Dubai Emirate, which facilitates simulated dispersion of air pollutants in the ambient atmosphere. Air Environment Information Platform provides real-time and forecasted data on air environmentSofARயல்: CONFIDENTIAL مشترك – خاص/



Dubai Air Quality

The strategy strives to achieve the national air quality targets outlined in the National Agenda and Dubai Plan 2021 -

air quality target of 90% clean

air days by 2021.

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Dubai Air Environment Monitoring Network

The DCAEP operates a comprehensive and competitive ground air environment monitoring network that is composed of: - Network of 71 air environment monitoring Types of air environmen t monitoring **O** stations TÜVRheinland CERTIFIED ✓ Accurate Measurement of Measured Parameters ✓ Efficient Maintenance and Calibration Process ✓ Suitability of Stations Geographic Location ✓ Efficient Data Management System and remote 3 Connection SHARED - CONFIDE

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Dubai Municipality Air Environment Monitoring Network







Mobile Air Environnent Monitoring Station

The MAEMS enables the government to significantly improve Dubai's air quality management by enhancing the scope of near ground environmental monitoring, and contributing valuable, complementary data to that of the DGAEP and other sources. Innovative and Intelligent features locations without fixed air or manitoring station:

Main objectives

- Build a strong database to study air pollutant concentrations and trends as input for the development of future air quality strategies and actions, and to support amendments to local environmental laws and regulations to improve air quality in the city;
- Enable a larger scale of air quality monitoring to supplement the existing network and monitor air pollutants in

- Determine geographical patterns or trends of air pollutants dispersion;
- Investigate targeted areas based on past and present air pollution complaints;
- Verify optimal cost effective future locations of air quality monitoring stations prior to installation; and
- Raise environmental awareness through implementing the MAEMS.



- Designed to accommodate all sensors for odorous gases, noise, electromagnetic field, heavy metals, toxic gases, green house gases, and weather parameters;
- Advanced communications systems facilitating rapid responses to environmental emergencies;
- Equipped with self-monitoring cameras • installed on the external and internal shell of the station to provide real-time footage of the surrounding area during incidents; and
- Environmental friendly specifications like; Euro 5 engine specifications with low emissions





DM SAT1 Environmental Satellite

The first nanometric satellite in the Arab world

Monitoring and analyzing atmospheric data using

Development of maps for concentrations and distribution of PM and greenhouse gases

Study and monitor seasonal changes of PM and greenhouse gases

Identify sources and effects of PM and

greenhouse gases

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DMSAT parameters:

 Aerosols (PM₁₀ and PM_{2.5})
Green House Gases - CH₄, CO₂, H₂0







Smart Environmental Survey Vehicle

The SMART ENVIRONMENTAL SURVEY VEHICLE

allows measurements of time-integrated pollutant concentrations at high spatial resolution. The monitoring data sets have sufficient repetition frequencies and statistical power to precisely reveal consistent long-term spatial patterns over wide areas in Dubai Emirate.

Embedded technology

Innovative and Intelligent features

- High-resolution Street level Air Quality data
- Real time Pollution Assessment
- Emission impacts from Non-Industrial sources, e.g. Transport, Transboundary
- Identification of localized pollution hotspots
- Extends Air Quality Monitoring coverage
- Effective response to emergencies
- Validation of other diverse Air Quality data sets
- Timely decision making





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DUBAI MUNICIPA

ssessment of Air Toxics, Ozone and Smog Formation in Dubai Emirate



The Dubai Clean Air Environment Program (DCA



Air Environment Information Platform, Emission Inventory and Forecasting System

A major component of the DCAEP is the integrated forecasting system. It incorporates air dispersion simulation models, designed to facilitate interactive analysis and provide reliable air pollution forecasts allowing regulators to enforce emission reductions over a specified

Benefits:

Facilitates short-term (3 day) forecasting of ambient air quality and concentrations of Protect human health and the environment from air pollution

Supports the management of anthropogenic contributions to ambient air quality



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http://www.dubaiairenvironment.dm.gov.

What you can do to protect the "air" environment?





Please send your enquiries to: AirQuality@dm.gov.ae

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