



MegaCITY – Zoom for the Environment



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In 2007 the urban population was for the first time larger than the rural population. The large cities, called megacities, are polluted surroundings. Megacities are growing rapidly implying changes in habits and infrastructure and emissions. A result of this is that an increasing part of the world's population is exposed to poor air quality. The large emissions can have not only a local impact, but also global impact on the air pollution and climate.

The CityZen will look at the air pollution and changes in and around megacities over the last decade to analyze the impact of air pollution on local and global air quality. The focus will be on ozone and particular matter and their precursors. Four emission hot spots have been selected: the BeNeLux and Ruhr area, Po Valley, Eastern-Mediterranean (Athens, Istanbul, Cairo) and Pearl River Delta in China (including Guangzhou and Hong Kong).

OBJECTIVES

- Quantify and understand current air pollution distribution and development in and around selected megacities/hot spot regions, including the interaction across the different spatial scales
- Estimate the future impact from emission changes with a focus on the effect of rapid growth in the population of megacities/hot spots and the increasing background of pollutants (concentrate on ozone, particulate matter PM, and their precursors)
- Estimate how megacities/hot spots influence climate change
- Estimate how megacities are responding to climate forcing which can influence transport patterns, chemical oxidation and biogenic emissions (especially biogenic volatile organic compounds BVOC)
- Study mitigation options, e.g. by introducing biofuel, to keep the air pollution load in and around megacities/hot spots within sustainable limits in terms of human health effects and climate impact.
- Develop tools to estimate interactions between different spatial scales (megacities to global)
- Bring the scientific results and methods developed and applied during the course of the project to semi-operational use with those consortium partners that on a more permanent basis provide technical underpinning of policy work, that is, ensure an excellent return on the investment in the project both during and after the project has ended.

<https://cityzen-project.eu/>