# Evaluation of the Photocatalytic Performance of Commercial Materials for NOx Abatement: MINOx Project

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Since the 1950´s an increased loading of cities and ecosystems with nitrogen compounds has taken place. In Spain, for example, more than 1000 Kton of $NO_x$ are annually released to the atmosphere.

Heterogeneous photocatalysis with solar irradiation has started to be considered a plausible, clean and low cost, technology for $NO_x$ abatement. Nowadays, $TiO_2$ is being incorporated with different formulations into construction materials, e.g. asphalts, pavements, facades, and different commercial products are already on the market.

In this context, the European Project "LIFE Minox-Street" arises in order to implement photoactive materials in a neighborhood of Alcobendas District (Madrid, Spain). Four entities, INECO (transport engineering and consultancy), the Alcobendas Council, and two Research Centres CIEMAT (*Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas*) and CEDEX (Centro de Estudio de experimentacion y obras publicas) with a total budget of 1.982.619 € are involved. In the first stage of the project, photoactive materials already available in the market comprising cements, pavements and paints were evaluated under the ISO-22197 standard. It has been analyzed the influence of aging process in the photocatalytic performance in order to define the best of each kind of materials to be applied and tested on the streets. The results shown that a large part of the commercial materials do not present the expected properties for the abatement of NOx under ISO standard conditions.

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