



LIFE C-LOW-N ASPHALT - LIFE COOL & LOW  
NOISE ASPHALT

LIFE16 ENV/FR/000384



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#### Project description:

##### Background

European cities are facing great environmental challenges, including noise pollution and climate change, which have major consequences for the health of inhabitants. It is estimated that 37 million European citizens are exposed to transport-related noise at levels considered dangerous for their health. In Paris, about 22% of the population is affected by noise pollution, mainly caused by road traffic.

Climate change is also a major concern for the most densely populated European cities. Studies have shown that over the past 30 years heat waves have become increasingly intense and longer in Europe, and their impact on health is higher in urban areas than elsewhere. This can be explained by the so-called urban heat island effect, characterised by higher air and surface temperatures in urban areas than in the rural periphery.

##### Objectives

The LIFE C-LOW-N ASPHALT project aims to tackle traffic noise and the urban heat island effect by developing three new types of asphalt road surface. These will have phonic and thermal properties that will reduce noise pollution and mitigate temperature rises in cities. The project will seek to refine the properties of two widely-used asphalt concrete mixes and one mastic asphalt mix, including cost-effectively enhancing their durability. This would enable the new formulas to be used for road surfaces across the EU.

On the thermal side, the aim is to mitigate the urban heat island effect by testing the water retention capacity, the micro-climatic impacts generated by sprinkling during summer peaks and the effects of their colour on heat restitution of pavements.

This will produce positive effects for climate adaptation. The project will also contribute to the Environmental Noise Directive (2002/49/EC - END) by helping to reduce traffic noise in urban areas.

Expected results:

- At least a 5 dB reduction in rolling noise compared to measurements made on the current coating. This would lead to a reduction of at least 2 dB of ambient noise coming from the passage of vehicles, their engines and other sources of street noise measured in front of neighbouring residences; and
- Implementation in three pilot sites, with almost 1 000 people expected to perceive an improvement in their exposure to noise, which will be reduced below regulatory limits;
- Depending on weather conditions, a reduction of the urban heat island effect in summer peaks of 0.5°C (measured at a height of 2 meters) and 1.5°C (felt), achieved by sprinkling pavements with non-drinking water;
- A year-round reduction in the urban heat island effect of between 0.5°C and 1.5°C at night. This will be achieved as a result of the lighter colour of road surfaces;
- The asphalt surface will maintain key mechanical, acoustic and thermal properties, including adhesion and water retention; and
- Extra-costs of new asphalt mixes will be no more than 10% higher than for conventional asphalt.

Results

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Environmental issues addressed:

Themes

Air & Noise - Noise pollution

Keywords

noise reduction, climate change mitigation, urban heat island, urban area

Target EU Legislation

- Climate Change & Energy efficiency
- COM(2013)216 - EU Strategy on adaptation to climate change (16.04.2013)
- Air
- COM (2013/0918) - A Clean Air Programme for Europe (18.12.2013)

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	CITY OF PARIS
Type of organisation	Local authority
Description	The City of Paris is a local authority with responsibility for urban planning, social welfare and health, education, culture, leisure activities, road management, water and waste in the French capital. It employs more than 51 000 people.
Partners	COLAS SA, France BRUITPARIF - Observatoire du bruit en Île-de-France, France EUROVIA MANAGEMENT, France

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Administrative data:

Project reference	LIFE16 ENV/FR/000384
Duration	01-JUL-2017 to 30-JUN -2022
Total budget	2,345,126.00 €
EU contribution	1,353,207.00 €
Project location	Île,de,France(France)

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