

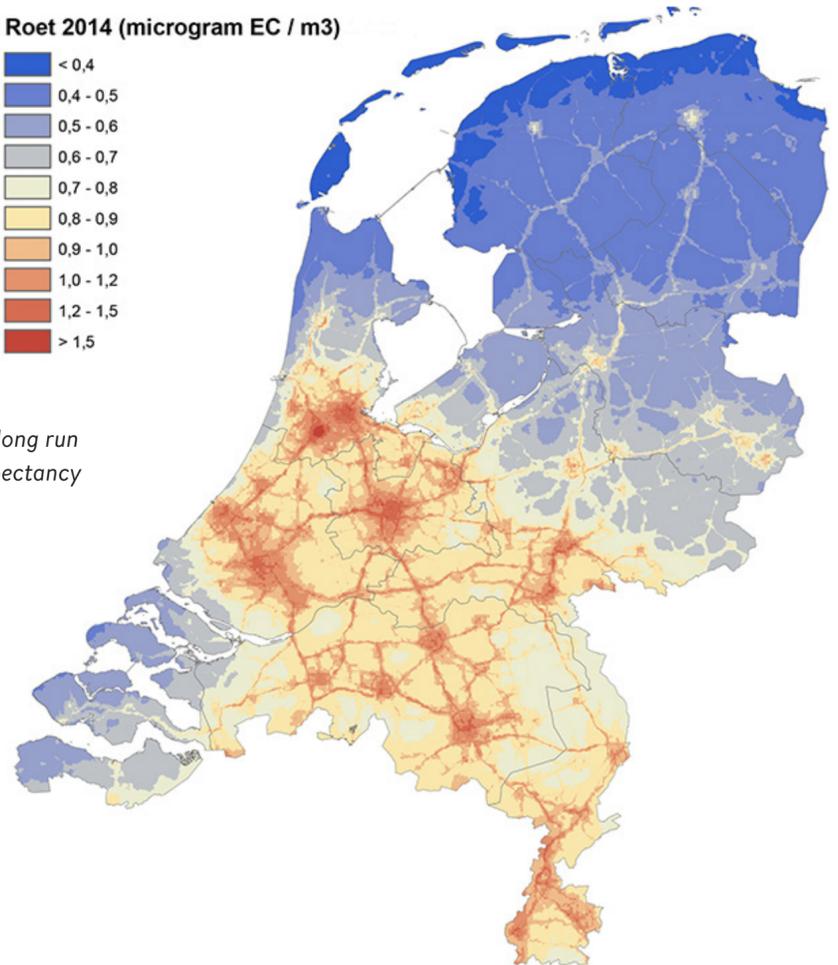
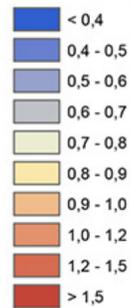
BREATHE

The project analyses the interactions between urban form, economic welfare, energy use by and emissions from households and firms. Increasing urban density and increasing city size tend to reduce households' average energy consumption.

However, increasing population density also tends to reduce local air quality. This trade-off as well as urban policies to stimulate the transition towards low carbon cities are subject of study.

This is done by collecting data in four very different European cities – Amsterdam, Istanbul, Gothenburg and Barcelona – and by developing a spatial-economic equilibrium model that can be used for policy simulations. BREATHE engages policy makers and companies from the four cities.

Roet 2014 (microgram EC / m3)



For every 0.5 µg EC/m3 long run exposure to soot, life expectancy decreases by 3 months

Source: RIVM

Aim/objective

- Increasing city size and urban density tend to reduce households' average energy consumption. However, it also worsens local air quality.

Approaches/methods

- Study the role of spatial structure in defining sustainable and socially inclusive cities:
 1. interactions between urban form, energy use and emissions by households and firms
 2. policies for social welfare compliant with local air quality standards, speeding up the transition towards prosperous low-carbon cities

Expected results and impacts

- Take into account that firms and households are mobile and sort themselves across space, also in response to environmental and transport policies
- Work bottom-up and demand driven and support policy makers in their design of integrated local urban energy and transport systems, assessing the combined effect on economic welfare

Involved cities/project examples

- Amsterdam City Region
- Ecorys

Comparison of cities

- Amsterdam
- Istanbul
- Gothenburg
- Barcelona

BREATHE – Urban form, location choice and transport solutions for low-carbon cities

Duration: 2016–2019

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Budget: 606.718 EUR

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About JPI Urban Europe

JPI Urban Europe is a transnational research and innovation programme on urban transition. With the ambition to develop and validate new solutions for sustainable and liveable cities, a cooperation platform and programme is provided to connect urban stakeholders, researchers, cities, business and society

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