Innovative measuring of air pollution and microscale modelling of urban heat – the iSCAPE project

Resilient Cities 2019
27 June 2019
The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 689954

Marisa Fuchs, M.Sc. Spatial Planning
Research Associate
TU Dortmund University, School of Spatial Planning, IRPUD and Chair of Urban and Regional Sociology

Tilman Christian, M.Sc. Geography
Head of Division
City of Bottrop, Department of Environment and Green, Division Environmental Planning
The project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 689954.
What is iSCAPE and what is it aiming to achieve?

<table>
<thead>
<tr>
<th>Overall Goal</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop an integrated strategy for the control of air pollution in European cities grounded on evidence-based analysis</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce urban air pollution and the negative impacts of climate change using sustainable passive control systems, behavioural change initiatives and the living lab approach</td>
<td></td>
</tr>
</tbody>
</table>
Two approaches of sensing technologies:

- Citizen Science (sensor kits)
- Living Lab stations

https://docs.iscape.smartcitizen.me/
iSCAPE City Bottrop – Microscale modelling

- Baseline Scenario and up to three different scenario models for different measures
- Basis for further analyses: spatial intersection with socio-demographic data, simulating possible future developments in the context of climate change and/or demographic change
Bridging science, policy and planning – iSCAPE City Bottrop
Introduction City of Bottrop | Climate-Friendly Urban Renewal

The project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 689954.

ACTIVATION OF CITIZENS
- theme evening, workshops

3000 ENERGY CONSULTATIONS
- in total c. 30% of all property owners

56% SUCCESS RATE
- of energy consultations

291 MIO. € DIRECT INVESTMENT
- with reference to InnovationCity

1200 GAINFULLY EMPLOYED PERSON YEARS
- secured by 2015
Motivation

- **Fundamental Interests**
  - Expanding our network
  - Getting a more extended perspective on new scientific approaches in the field of environmental planning
  - Constant improvement of our working methods and outcomes

- **Additional Value**
  - Having an excellent access to all chairs at the School of Spatial Planning in Dortmund
What have we done?

iSCAPE

Citizen Science

Simulations

Wandering Trees

Empowerment & potential support of Environmental Impact Assessment

The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 689954

Resilient Cities 2019, 27 June 2019
The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 689954.
Collaboration with TU Dortmund University

Environmental Justice

Vulnerability

ZUKUR

KlimaWaGe

klimawandelangepasste Gewerbe- und Industriegebiete

The project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 689954

Resilient Cities 2019, 27 June 2019
Lessons learned (City of Bottrop)

In order to deal with current and upcoming risks and the impassibility of climate change, the key to sustainable environmental planning is to work hand in hand with science and to look beyond one’s own nose and beyond the particular boundary.
THANK YOU for your attention