ClairCity: official statistics as an enabler in a citizen-led European air quality project

Statistics Netherlands

Olav ten Bosch
NTTS, Brussels, 2019

Contents

- The problem

- ClairCity, an EU citizen-led air quality project

- The approach: quantification, citizen engagement, scenario analysis, policy packages

- The role of official statistics

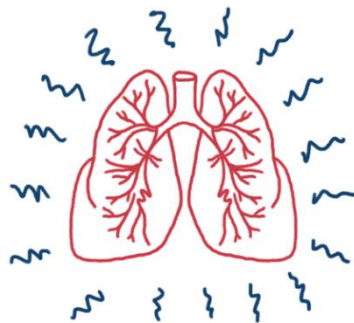- Wrap up

HEART ATTACKS & STROKES

ClairCity

Breathing polluted air increases the likelihood of heart attacks, strokes, and lung cancer. It makes conditions such as asthma or bronchitis worse. [1]

2/3 EUROPEANS ARE WORRIED

67% of people in Europe think that climate change is a "very serious problem". [10]

1.4 TRILLION EUROS

Air pollution costs the residents of Europe an immense 1.4 trillion euros through the sickness and fatalities it causes. [8]

3

Air pollution still too high across Europe

29 Oct 2018

"**Despite slow improvements, air pollution continues to exceed European Union and World Health Organization limits and guidelines**"

" Air pollution is an invisible killer "

Hans Bruyninckx, EEA Executive Director

Particulate matter (PM), nitrogen dioxide (NO_2) and ground level ozone (O_3) cause the biggest harm to human health ... especially for those living in urban areas.

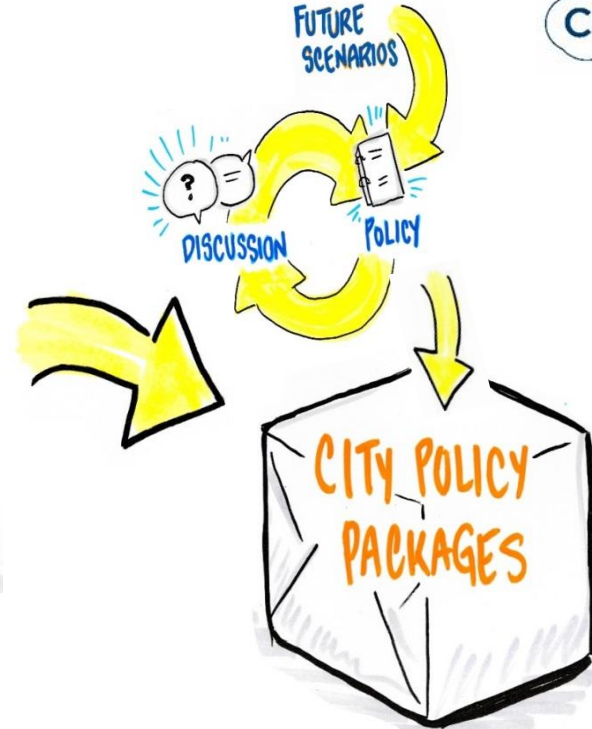# ClairCity: Citizen-Led Air pollution Reduction in Cities

- EU H2020 project; 2016-2020; 6.7 Million Euro

- *9 scientific partners*, *6 cities* and *one* National Statistical Institute (NSI)

- Goal: to *help* cities *decide* on the best *local clean air strategies* based on detailed emission models and scenario analyses

ClairCity approach

Phase 1: Baseline evidence

Phase 2: Citizen and stakeholder engagement

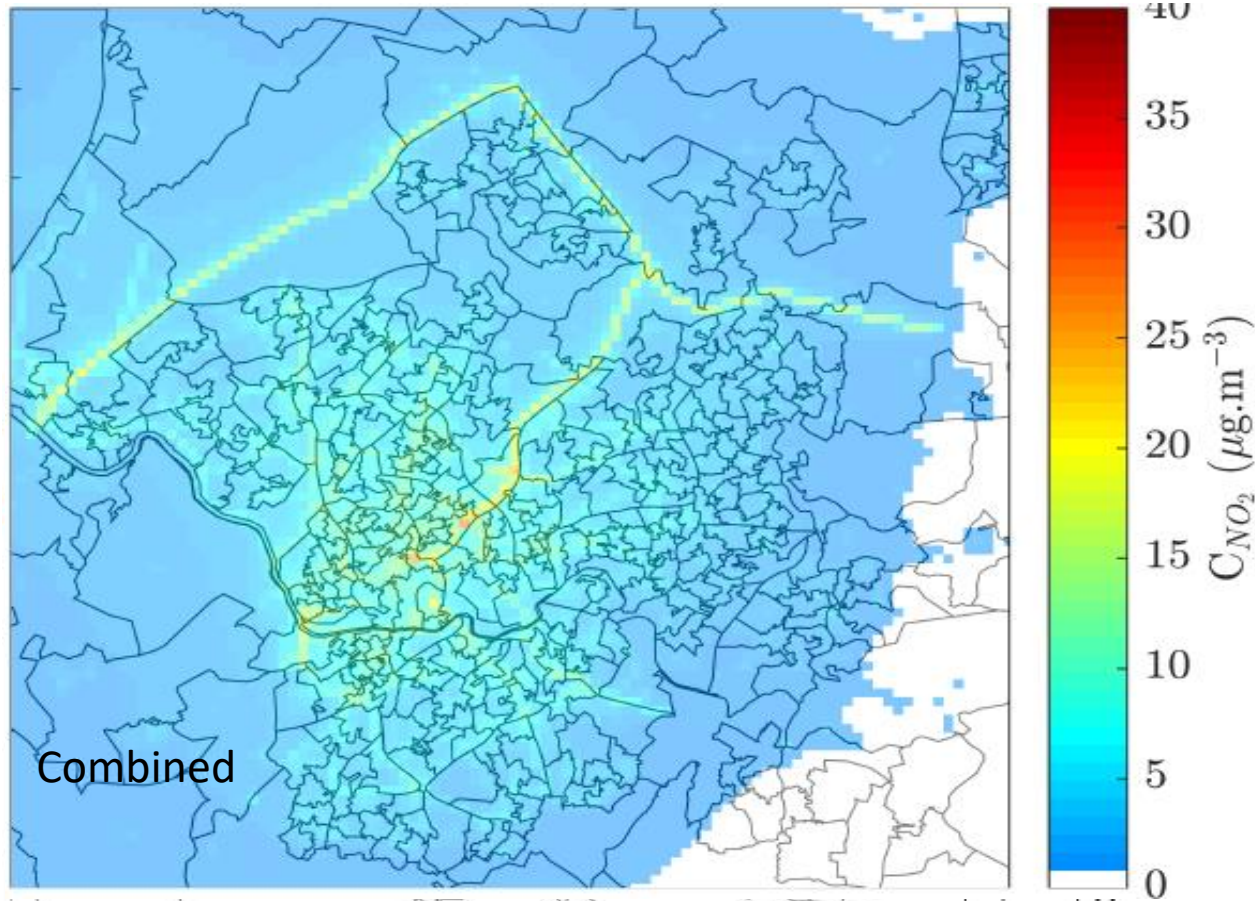**Phase 3: Scenario analysis, results and dissemination**
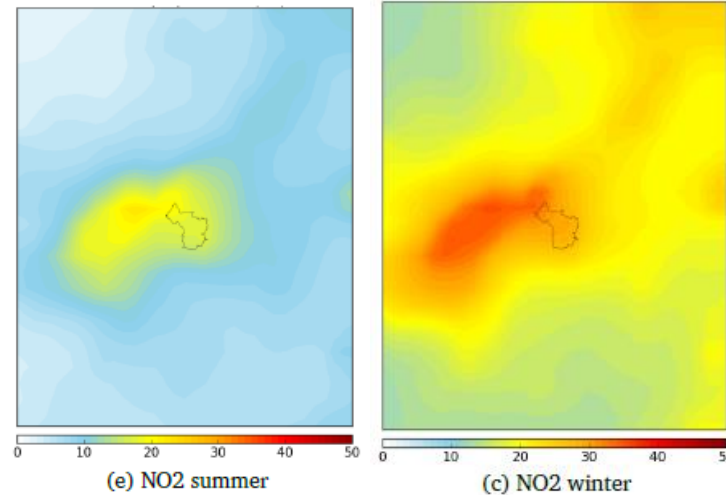
Baseline evidence (1)

Combined

Baseline evidence (2)

- Emission profiles for weekdays / weekend; annual /summer / winter; hourly profiles

(e) NO2 summer

(c) NO2 winter

- Effects on *health* in *2015*, *2025*, *2035* and *2050*
    - Premature deaths, years of life lost (YLL)
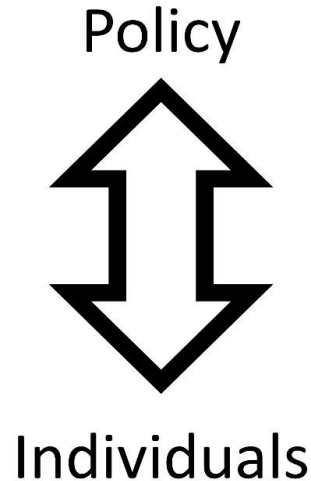   - Restricted Activity Days (RAD) & costs
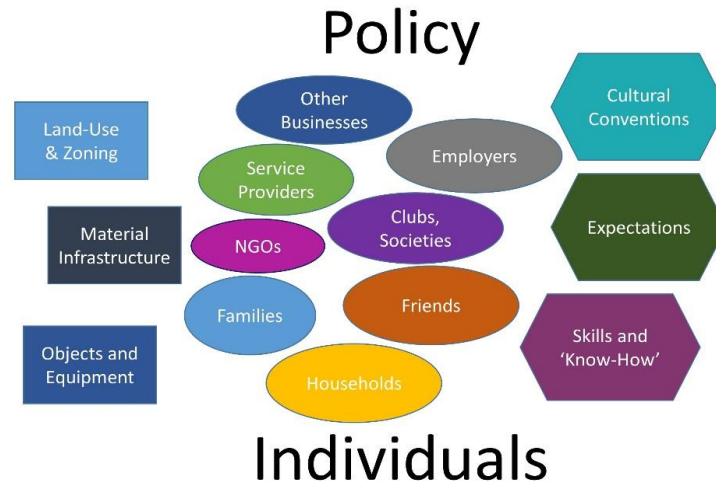
Citizen and stakeholder engagement

- Part of the solution is changing peoples *behaviour* based on practice activity *data* and *social science* theory

City policy packages

- Based on:
    - Scenarios: business as usual (BAU) and 3 alternatives
- Examples:
    - Amsterdam: continue the policy to restrict *heavy traffic* and stimulate *renewable energy*
    - Sosnowiec: Economic restructuring from *coal* and *heavy industry*. Raise awareness on *winter smog*
    - Ljubljana: situated in a *basin* with negative influence on air pollution. Air pollution from *transport* is a major problem. Has an active policy towards climate improvement. Citizen's engagement is already promoted.
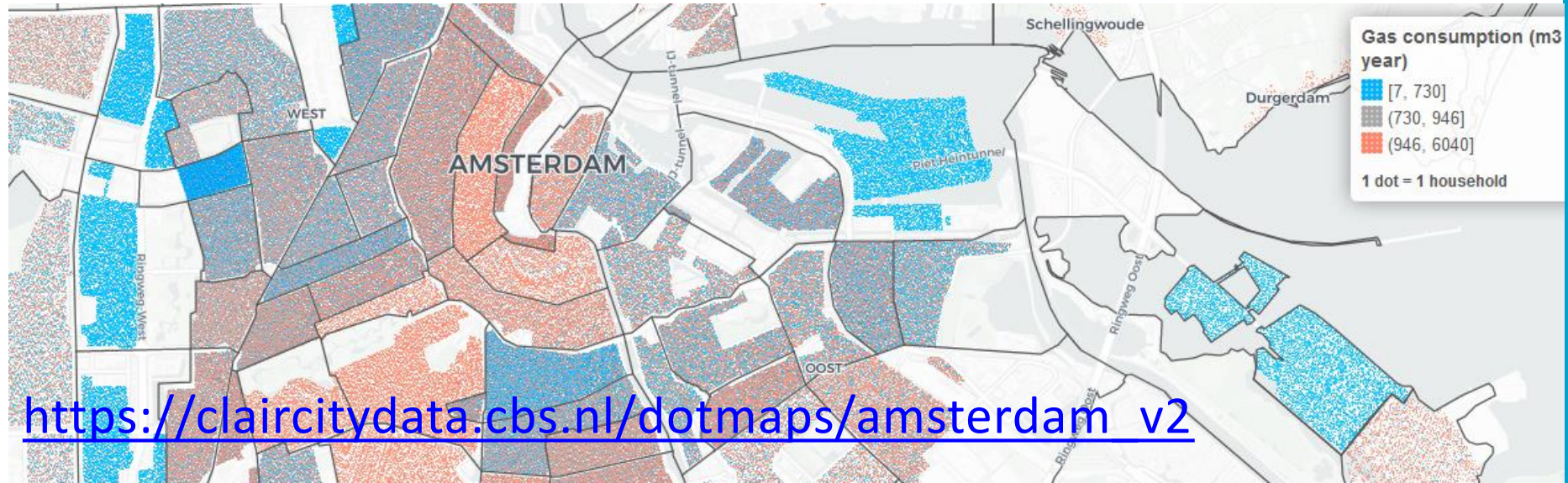
The role of official statistics

- Projects such as ClairCity have a **heavy** and **diverse** data demand
- NSIs can **help**:
  - **Advice** on data management, metadata standards, data linking, version management, open data standards, statistical disclosure control, API's, visualization
  - Make available **instruments** used internally for wider communities
- NSIs can **learn**:
  - Data use in **practice**: what official statistics data is actually needed? How is it used? How do researchers work with it?
  - Can we **re-use** some of the ClairCity instruments in official statistics?
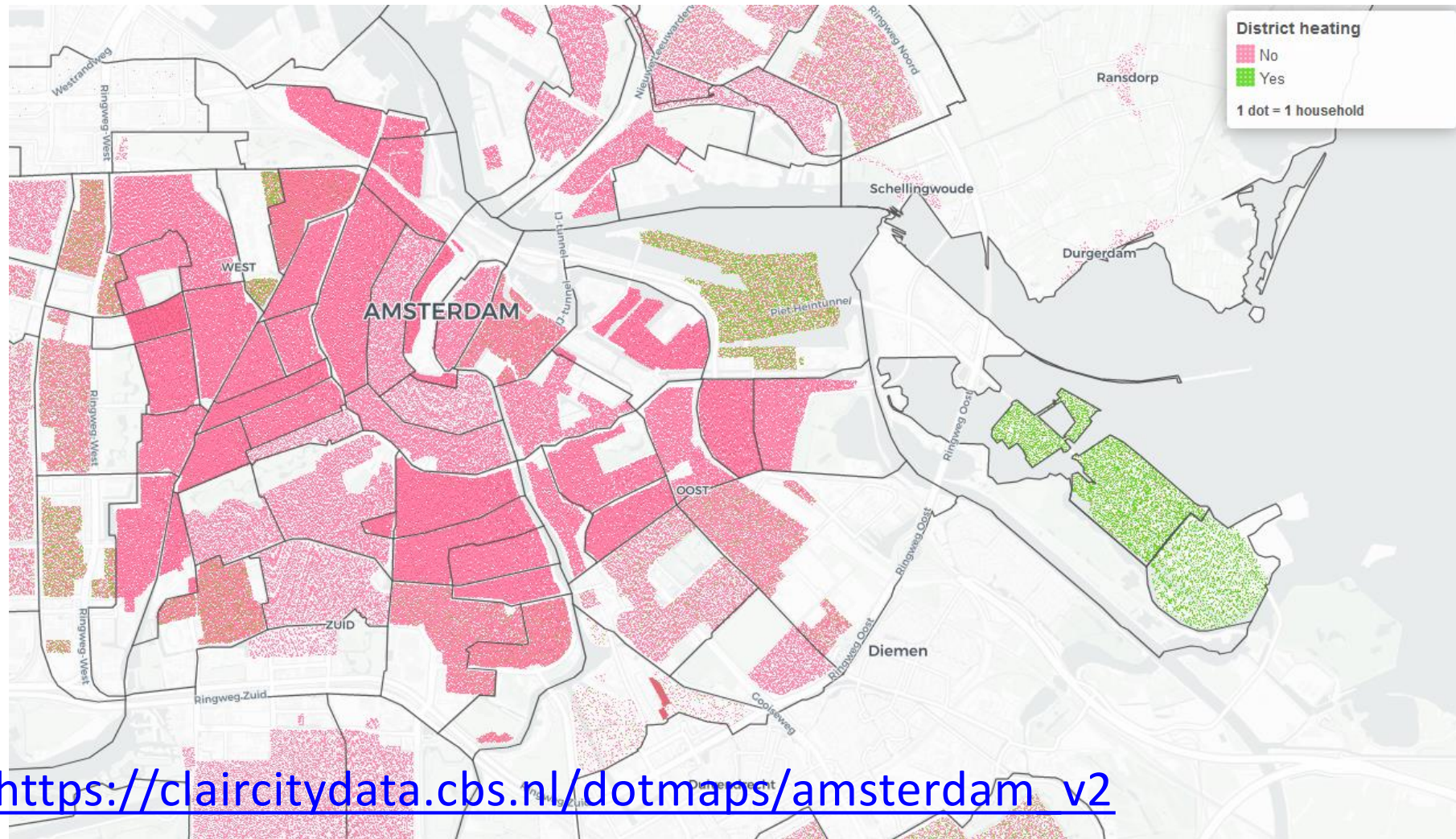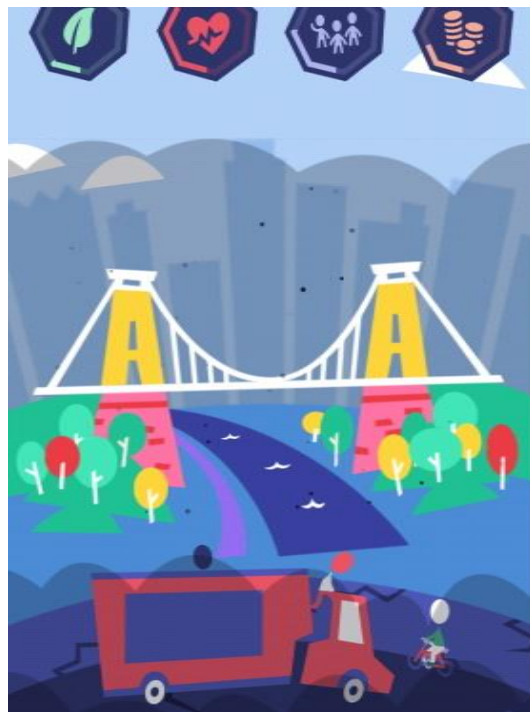
Baseline evidence: urban module

- Dotmaps are *statistically safe* population maps
- It shows both *distribution* and *composition* of a population
    - One colored dot represents one person
    - To protect privacy, dots are distributed randomly per neighbourhood

Gas consumption (m3 year)
- [7, 730]
- (730, 946]
- (946, 6040]

1 dot = 1 household

https://claircitydata.cbs.nl/dotmaps/amsterdam_v2

District heating
No
Yes
1 dot = 1 household

https://claircitydata.cbs.nl/dotmaps/amsterdam_v2

Gamification

www.claircity.eu/get-involved/our-game/

www.claircity.eu/amsterdam/get-involved/our-game/

14

Wrap up

- *Air quality* needs to be improved further in the EU, especially in *cities*
- In the ClairCity project 16 organizations with mixed expertise developed detailed *models* and *scenarios* for clean air in 6 European cities
- *Partnerships* are crucial for this work
- NSIs can *help* but also *learn*:
  - *Advice* on data management, metadata guidelines and statistical concepts
  - make available *instruments* such as a *data portal* and *visualization* knowledge and tools
  - Learn on the actual *use* and *demands* of official statistics from research projects
  - re-use some of the concepts used such as tools for citizen engagement and *gamification*

www.claircity.eu
@claircity

Questions?

Olav ten Bosch
o.tenbosch@cbs.nl