

Citizen Science for Cleaner Air and Healthier Cities


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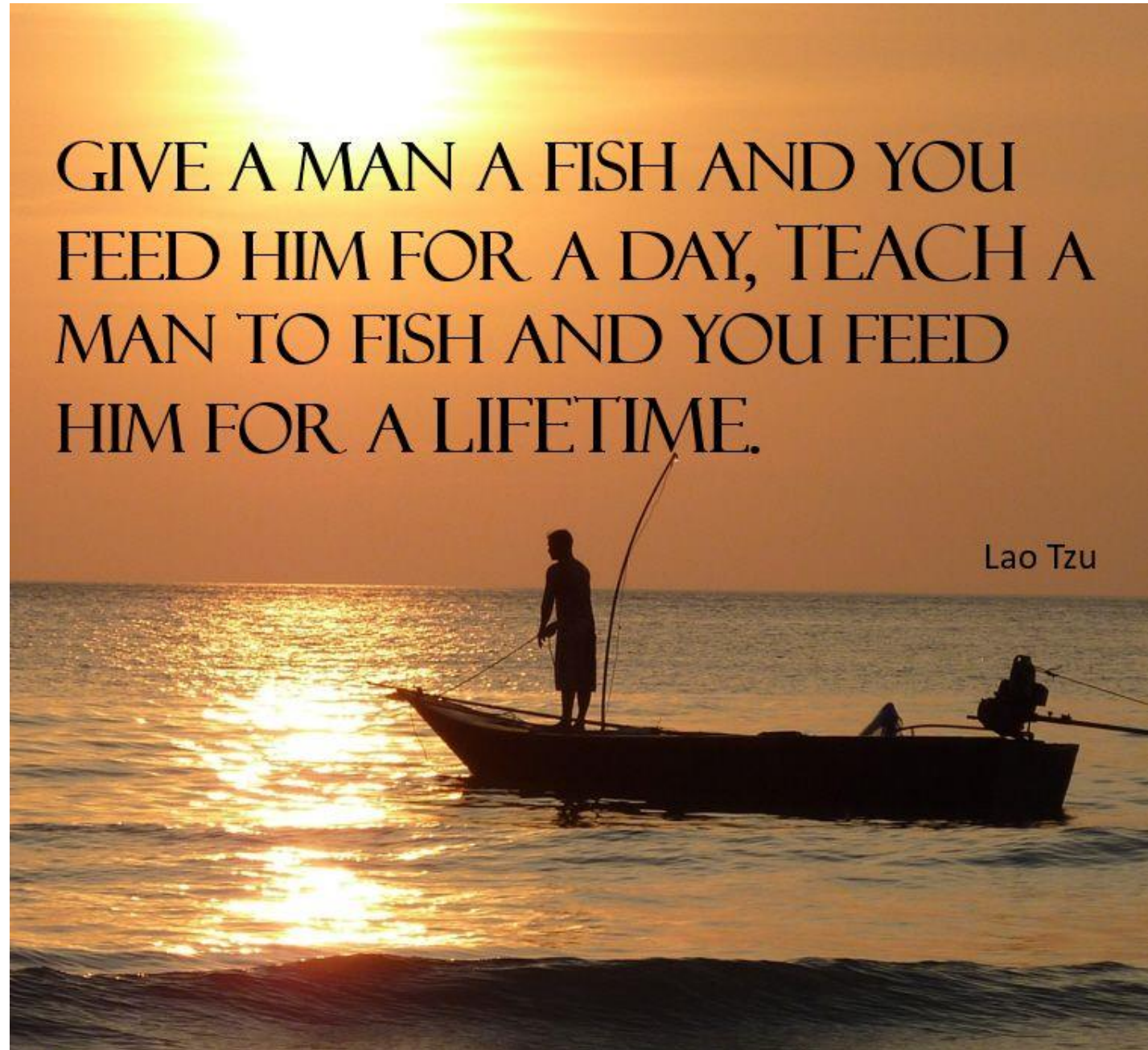
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**Why engaging citizens
in science and policy
will help cities?**

**GIVE A MAN A FISH AND YOU
FEED HIM FOR A DAY, TEACH A
MAN TO FISH AND YOU FEED
HIM FOR A LIFETIME.**

Lao Tzu



1. Cities need relevant and insightful environmental data for decision making. Current monitoring systems are costly and do not always have data when and where need it.
2. Information needs to resonate to people in a world full of “noise” and “fake news”.
3. Cities need actions to reduce the impacts of climate change and environmental degradation to the health of the citizens and the planet. Cities do not have time to lose.

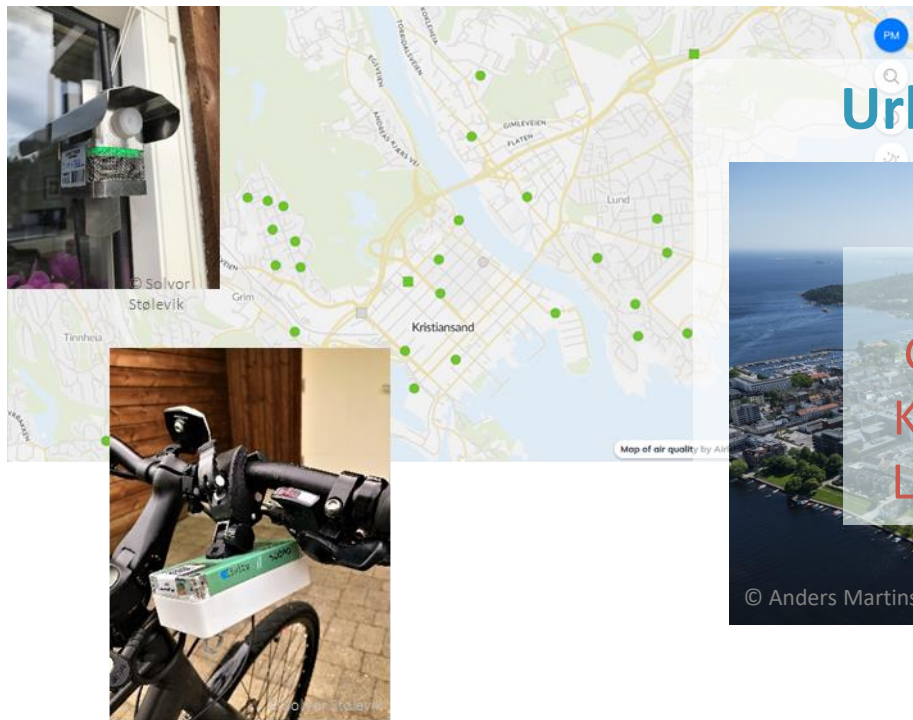
Novel Technologies and Citizen Science can facilitate processes of collaborative co-design of solutions towards shaping more liveable, healthy and sustainable cities for everyone.



NordicPATH model for citizens participation



Environmental co-monitoring



Participatory urban planning



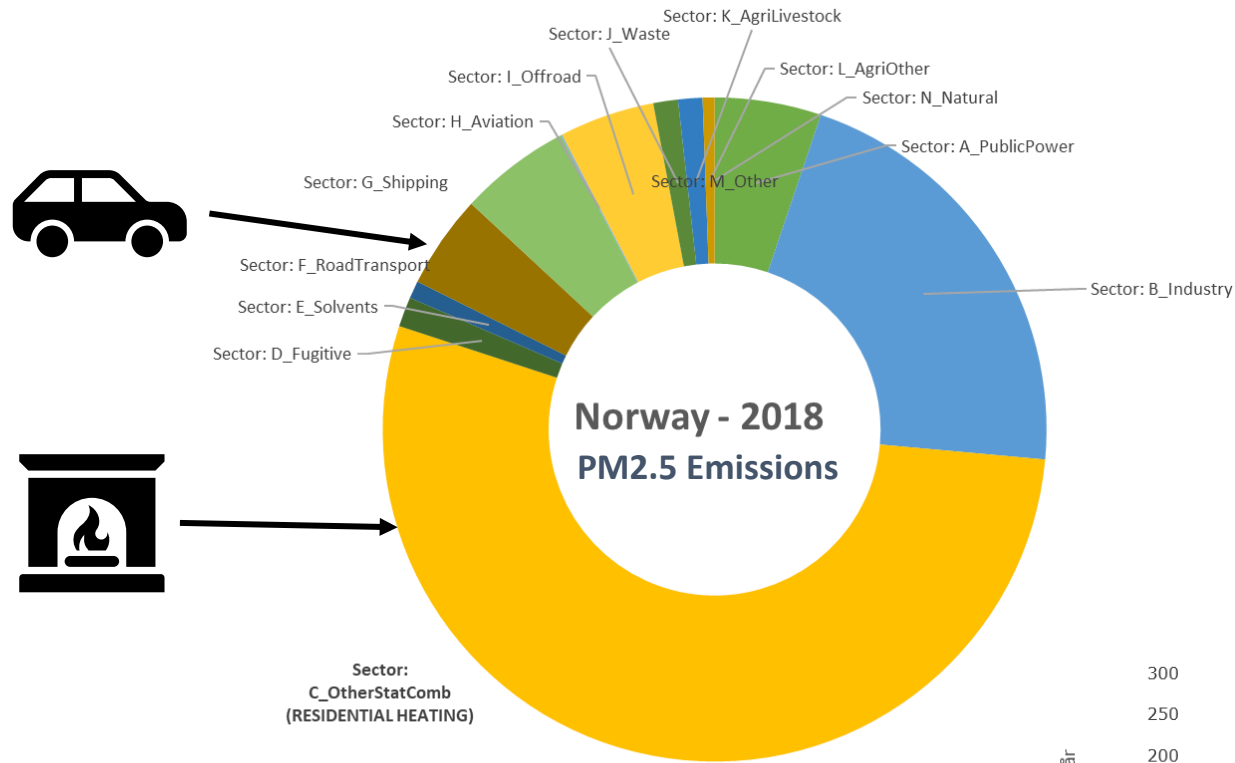
Lessons learned
Transfer to other cities

Collection of best methods for citizen engagement & promotion of socio-technical learning



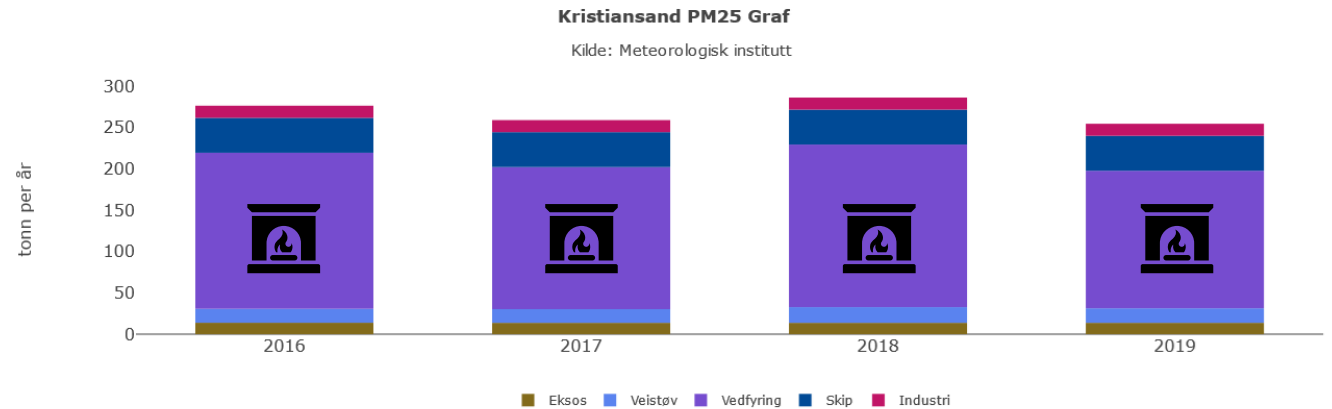
Citizen generated data can complement current measurements and increase the number of observations of the (urban) environment.

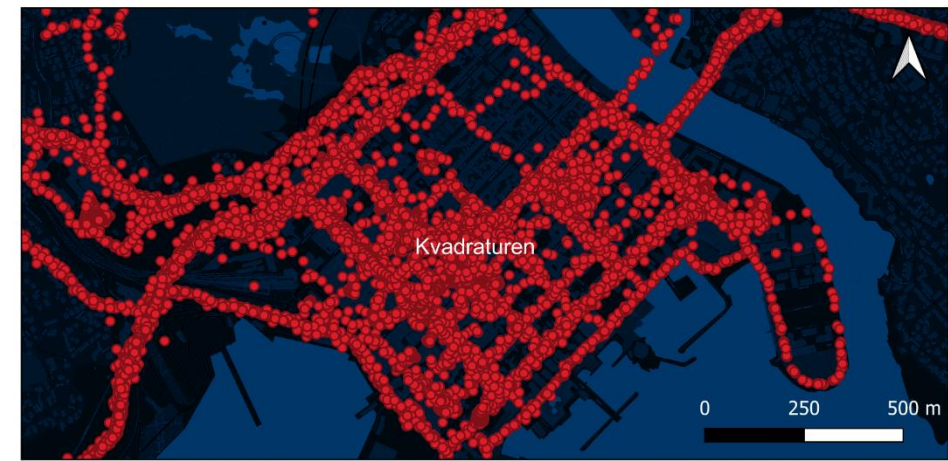
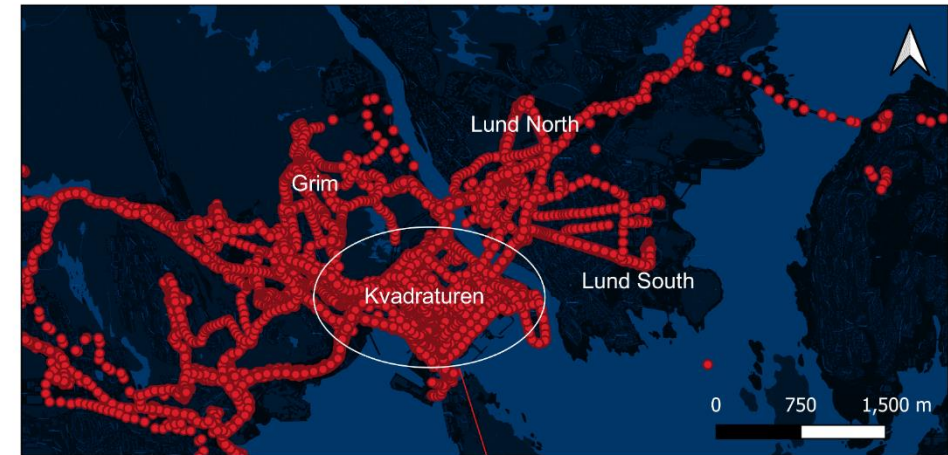
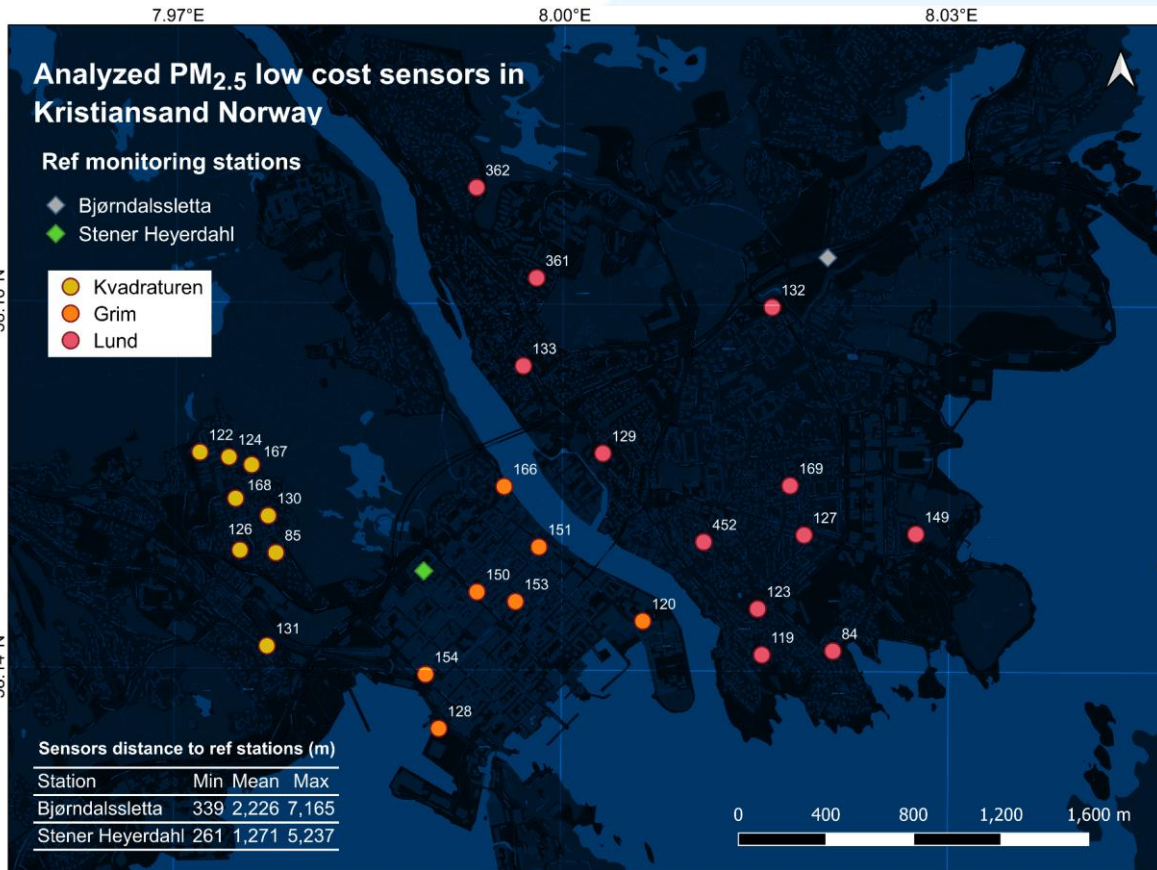
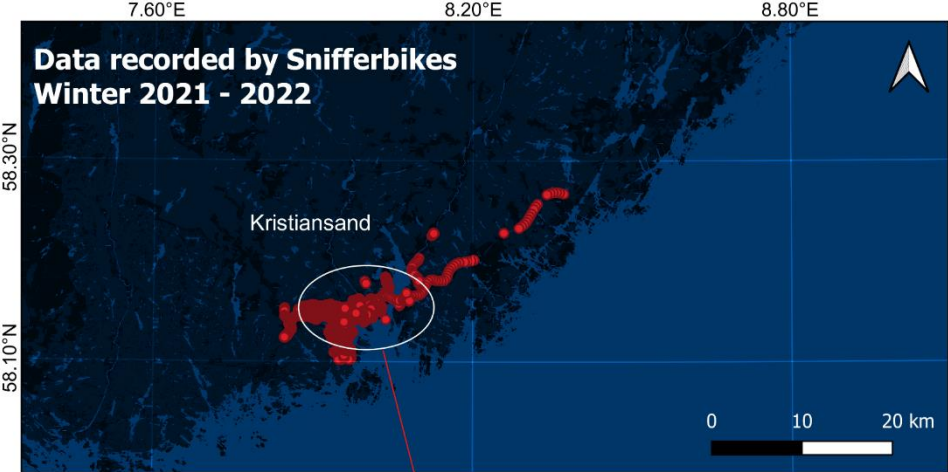
Residential wood burning in Norway



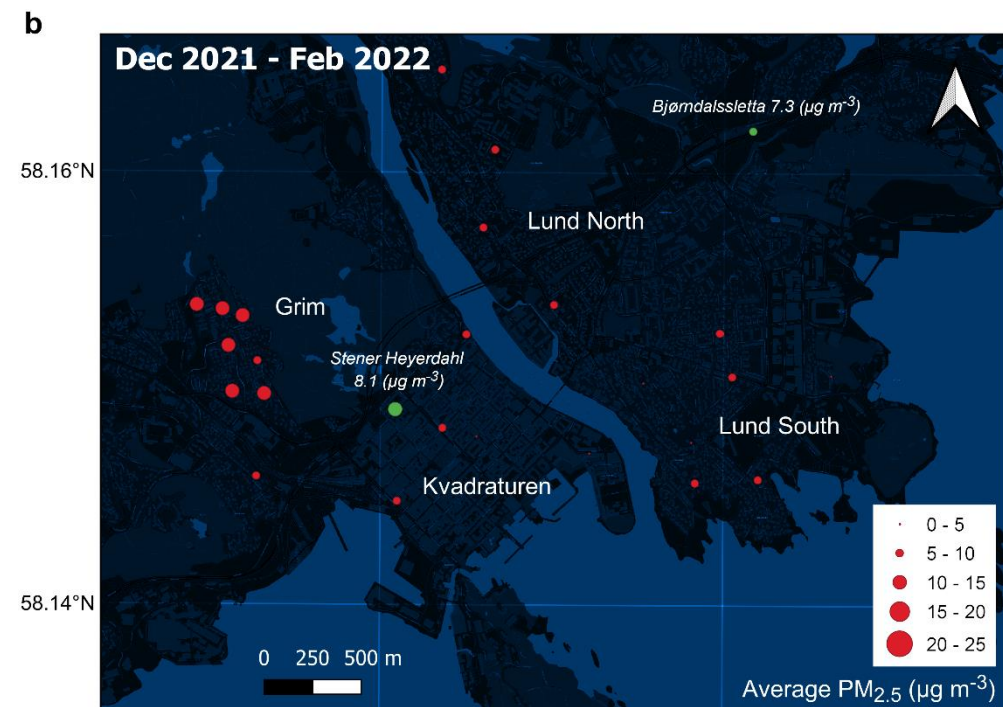
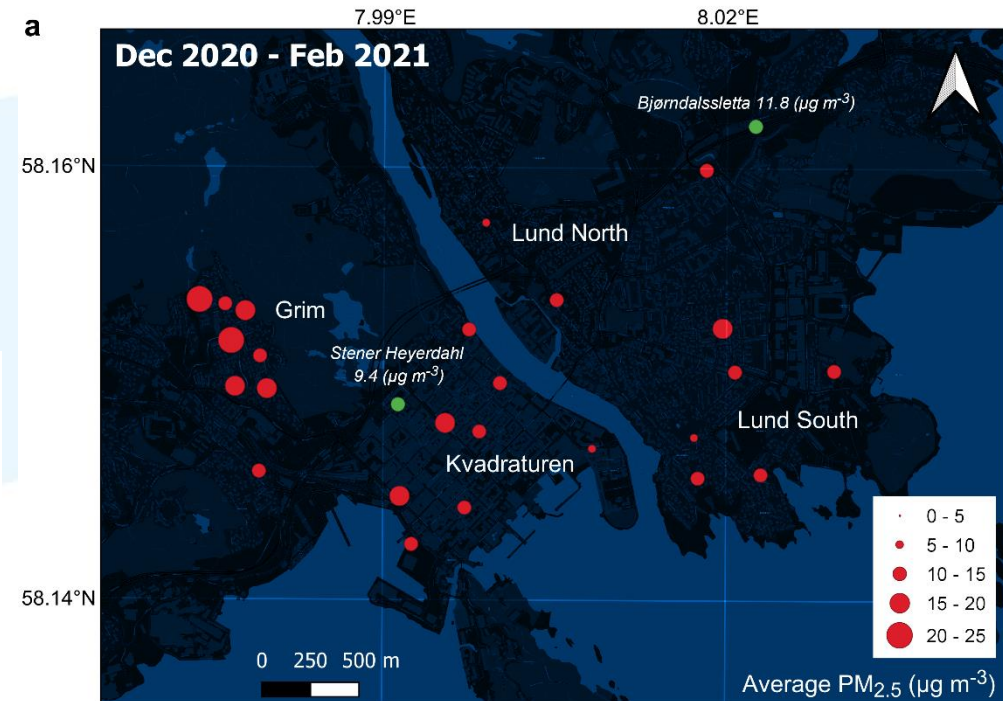
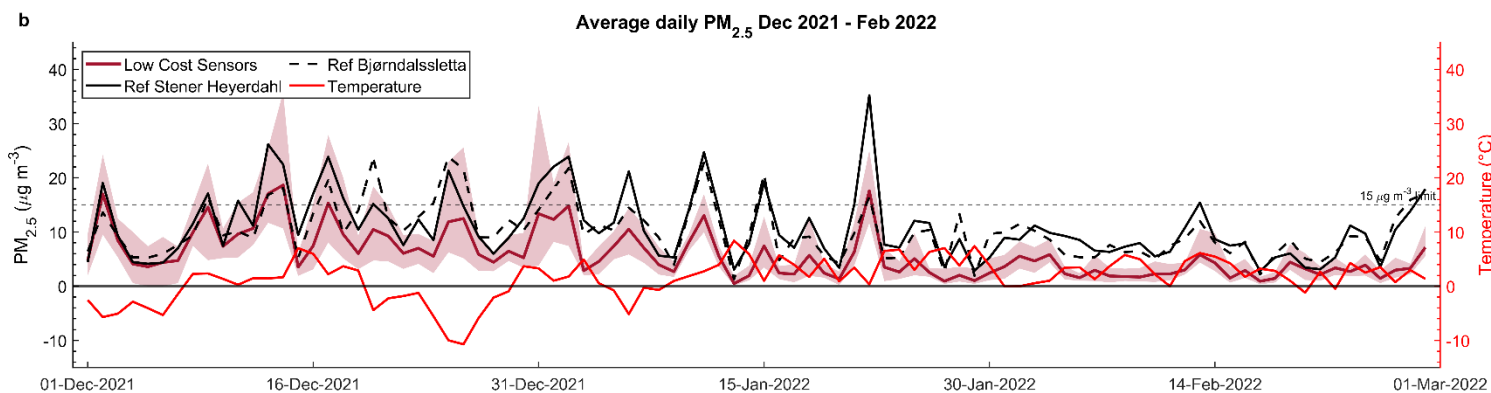
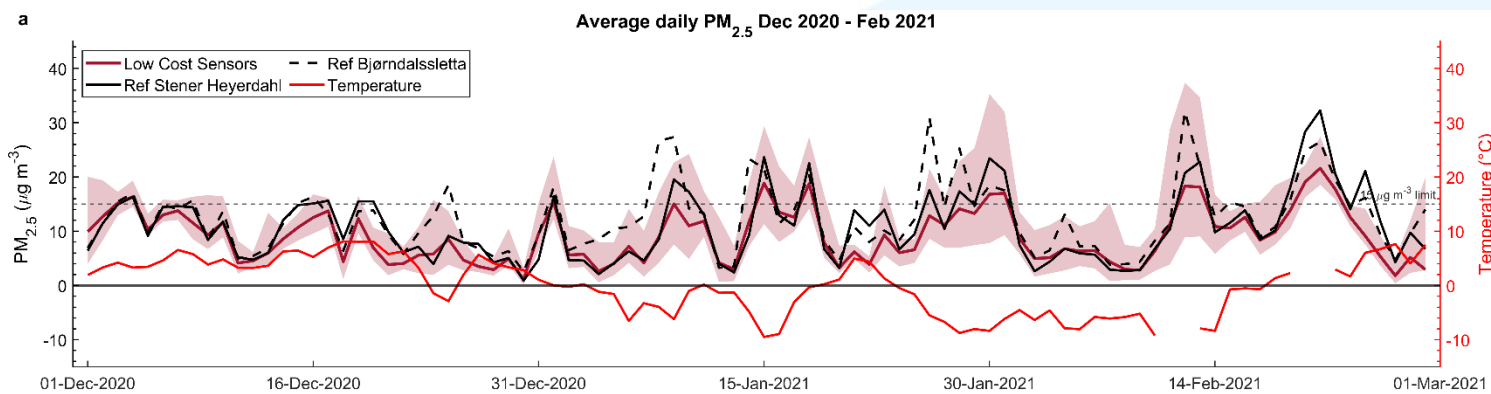
Residential biomass burning is the main emission source of fine particulate matter in Norwegian cities.

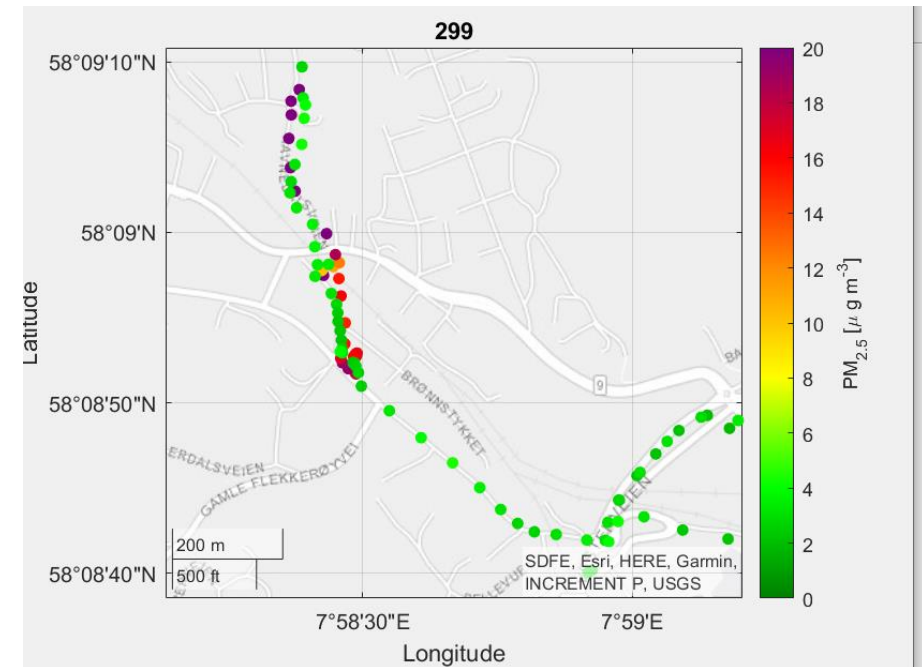
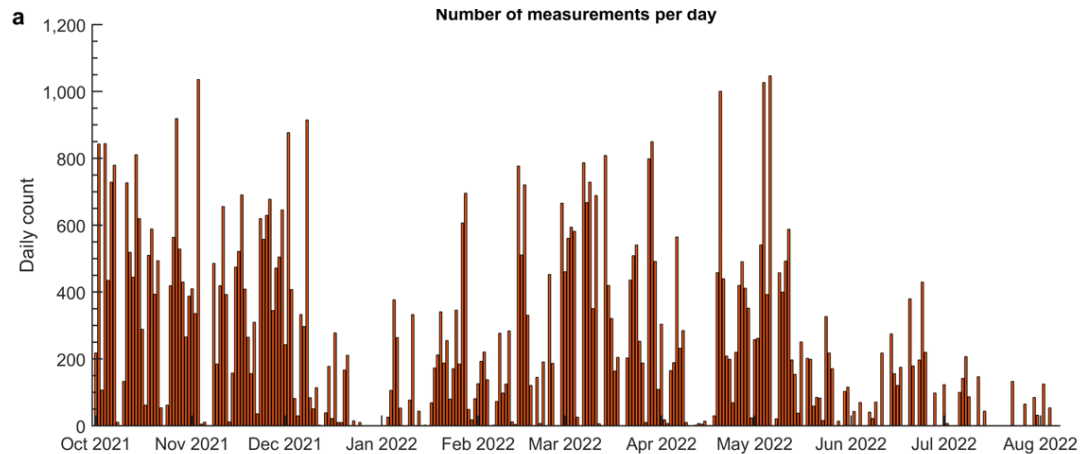
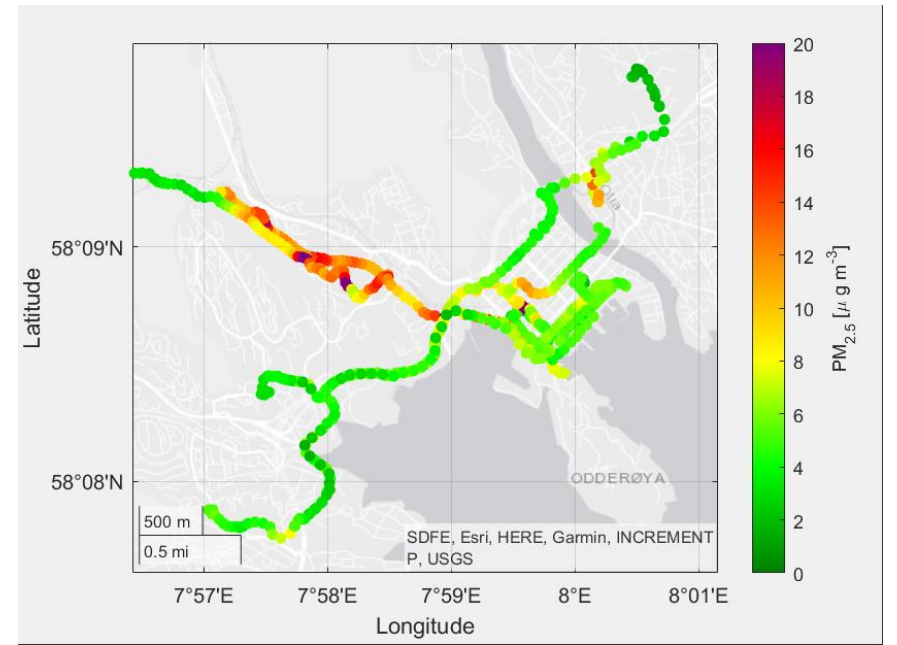
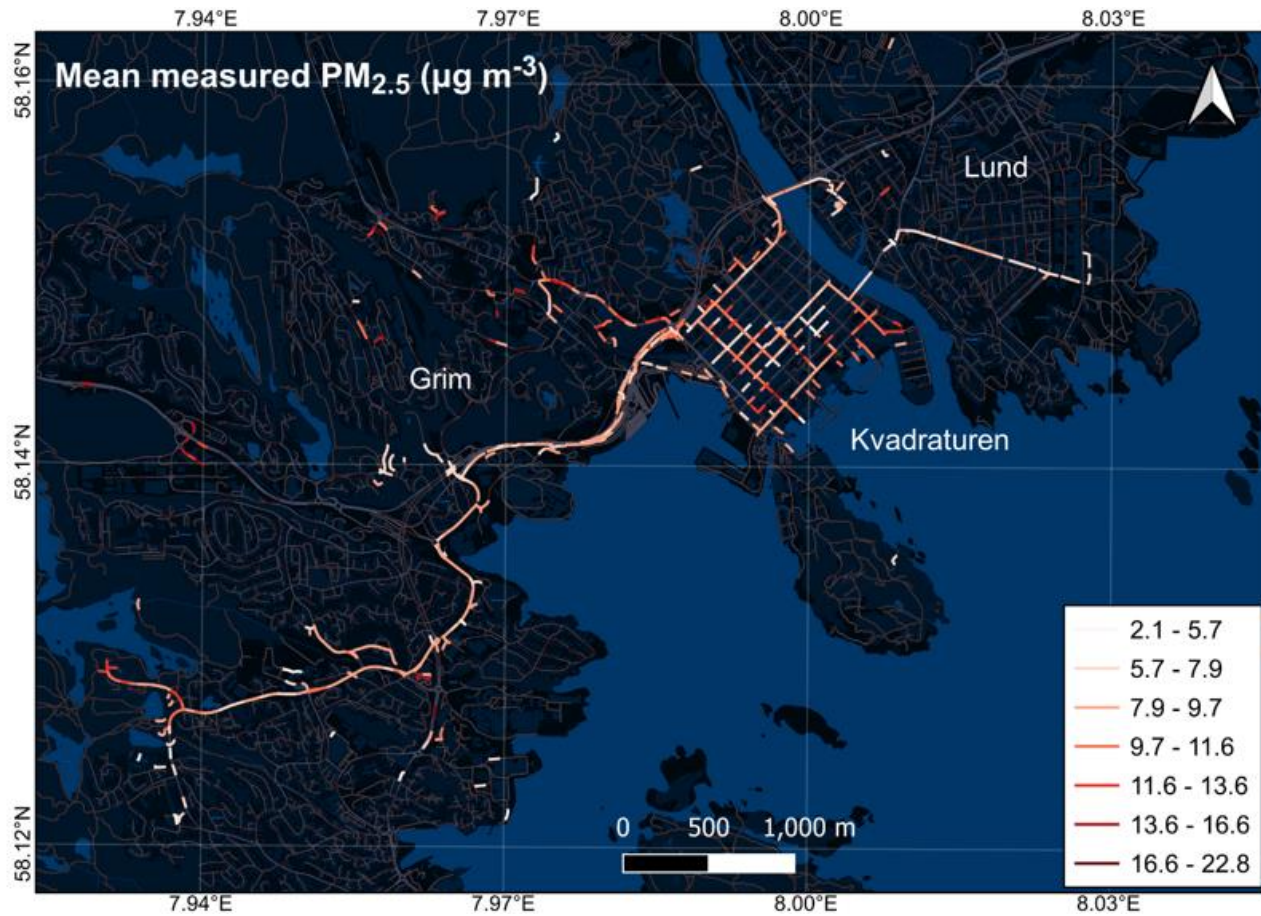
Residential wood burning can contribute to more than 75% of total PM2.5 local emissions.



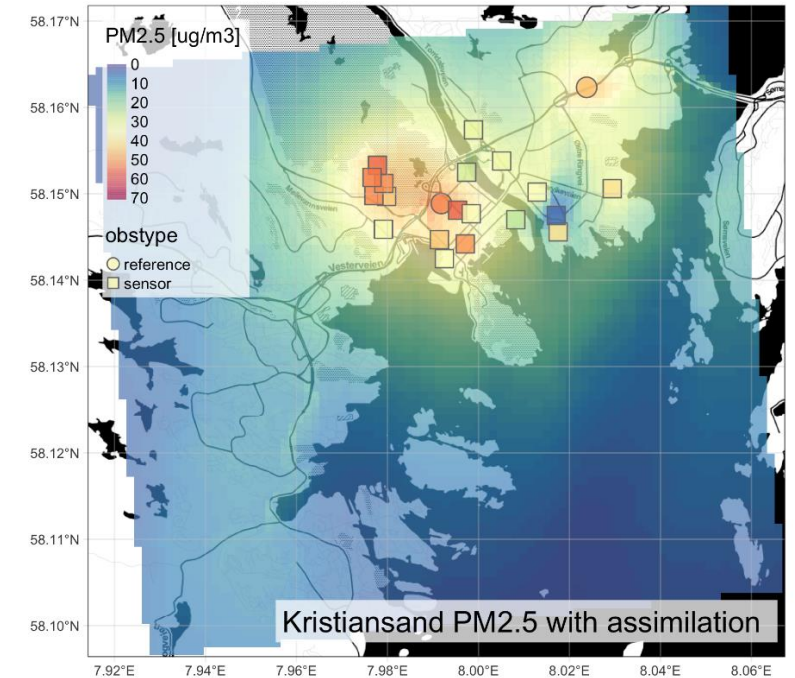
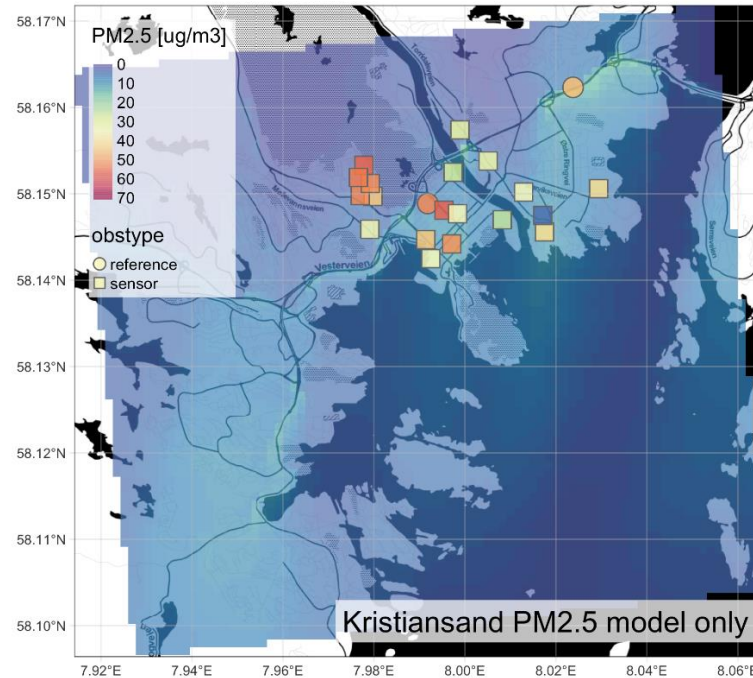
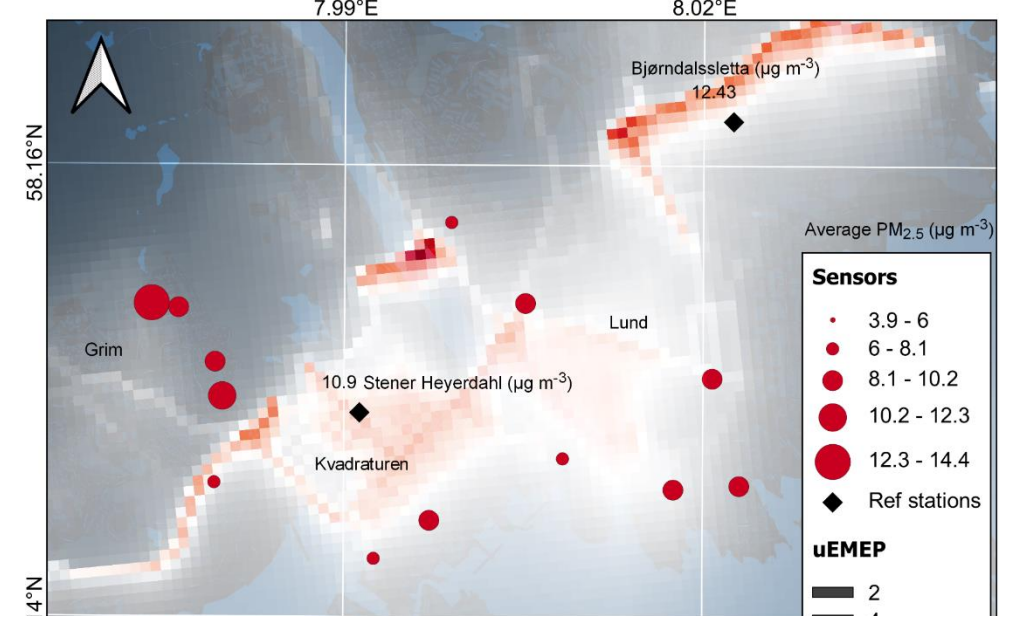
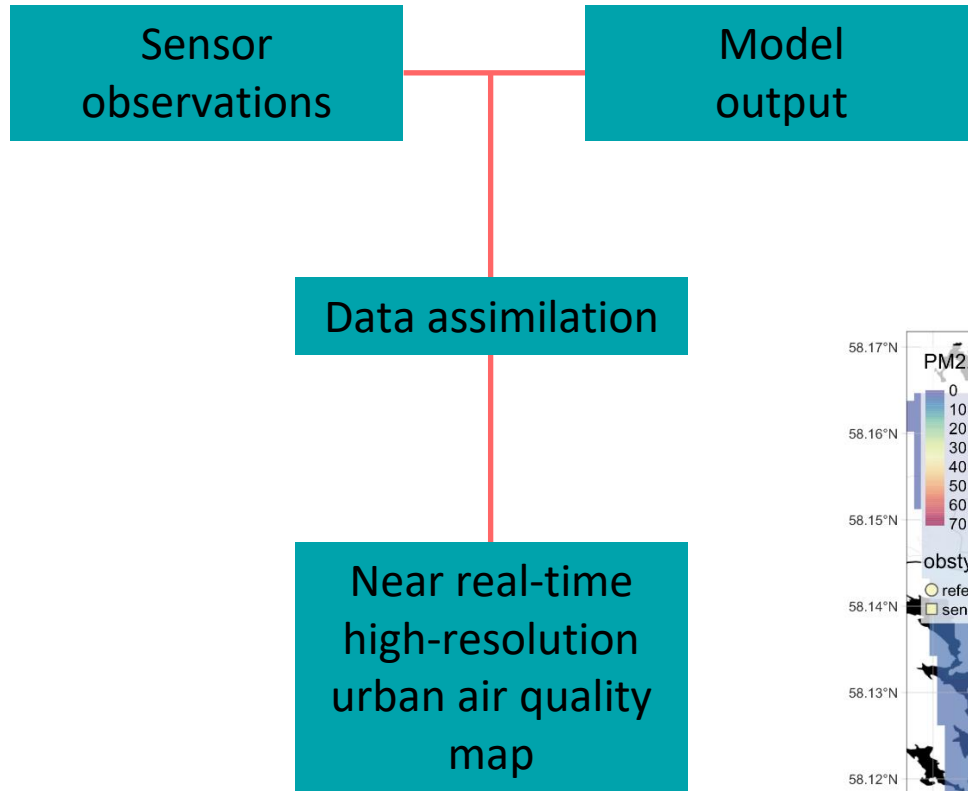


Spatio-temporal variation



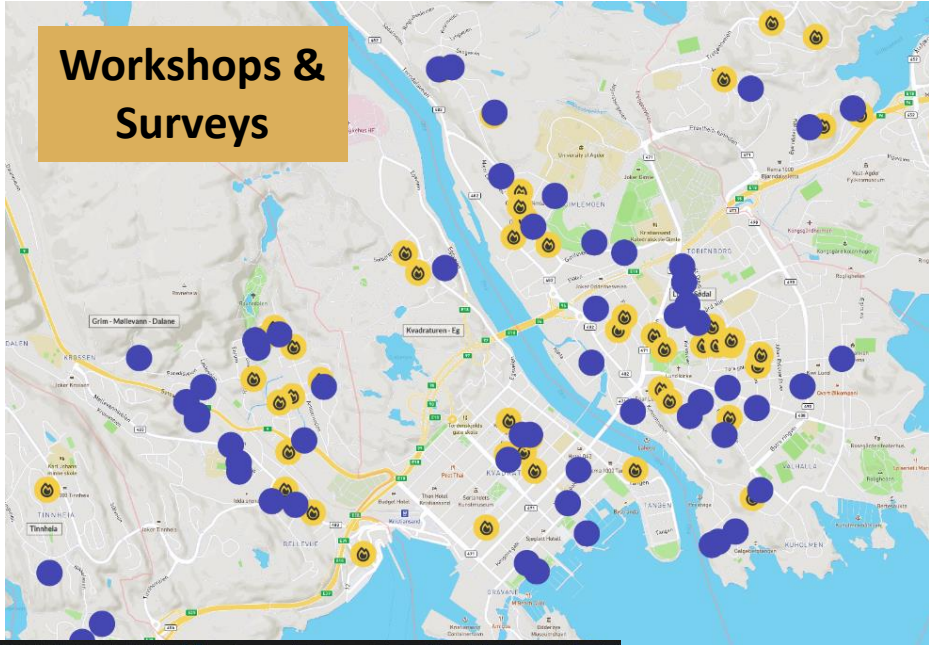


Sensor data assimilation





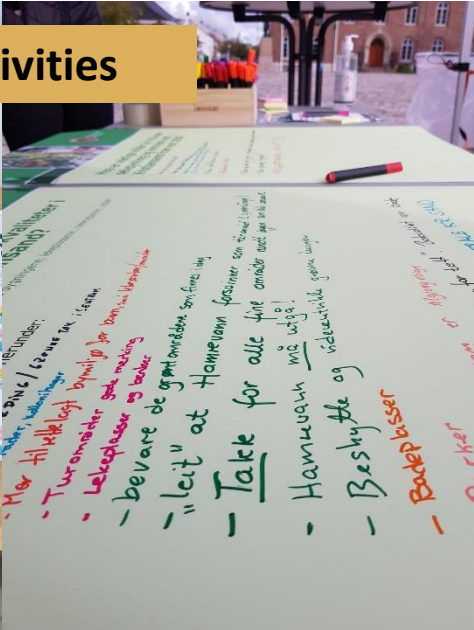
Citizen Science increases awareness, involvement and engagement of citizens from all backgrounds and age with science and policy.



Workshops & Surveys



Street Activities



Info material



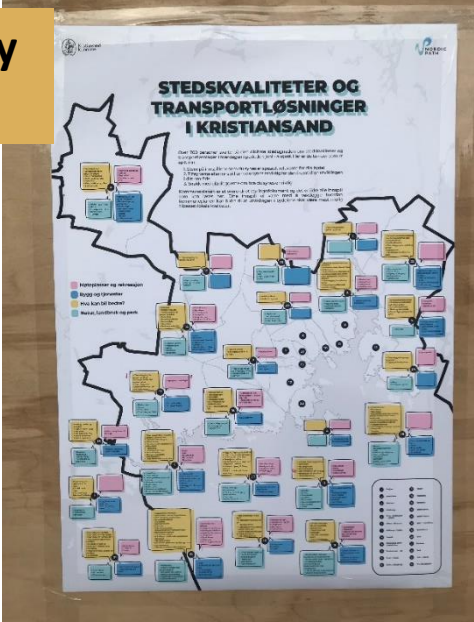
Residents are invited to co-creation workshops to discuss new incentives and policies towards healthier cities

A screenshot of a participatory budgeting interface. It shows a progress bar at 0/100 and a list of items with input fields and plus signs:

- Replacement of old wood stoves for modern and more efficient ones: 0
- Installation of solar panels at the housing associations (borettslag): 0
- Extension of district heating to other areas: 0
- Better household isolation: 0
- Educational and awareness raising campaigns: 0
- My own suggestion: 0
- My own suggestion: 0

At the bottom, there is a 'Please specify' field and navigation arrows.

Participatory Budgeting



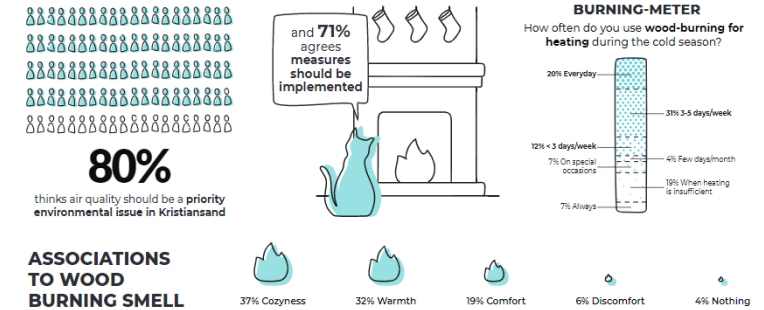
Insights from Wood Burning Workshop with Residents

- **Reduce the need for wood burning** – Energy measures (insulation and alternative energy sources, like district heating, solar cells, etc.)
- **Clean-burning stoves** – revision of the incentives for renewal of stoves to be more accessible to all citizens, prioritization of areas.
- **Education on good firing techniques** – cooperation with the fire brigade to distribute information and guidance.
- **Knowledge and awareness raising** – distribution not only through the official channels from the municipality, also use district meetings, welfare associations, schools, etc.
- **Work more at the district level.**

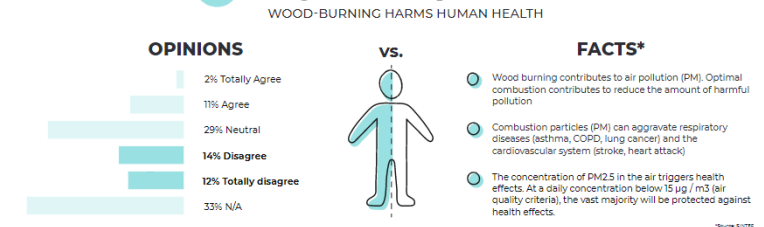
WOOD BURNING IN KRISTIANSAND



1. How is it in Kristiansand?



2. Why is it important?



3. What can be done?

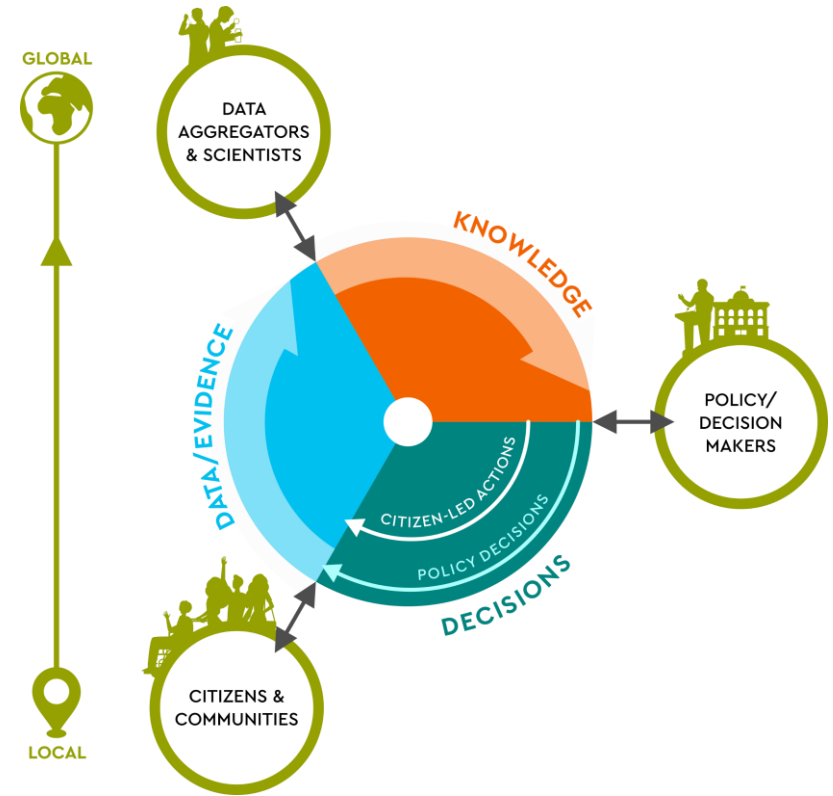


Co-creation of data and actions for healthy, sustainable and resilient cities with Citizen Observatories

5
Frontrunners

30
Implementers

50
Fellows



New Horizon Europe Project: CitiObs

CitiObs will connect, support, enhance and scale up COs so they can provide the locus for jointly monitoring the environment, and for initiating and undertaking citizen-led actions protecting the urban environment, alongside changes in policy.

Citizen Science is a powerful research and policy-making approach in support of cleaner air, providing:

- Data
- Awareness
- Actions


It is important to integrate Citizen Science in research and governance to achieve the zero pollution goals.


Thank you for your attention

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