



COST

European Network on New Sensing Technologies for Air
Pollution Control and Environmental Sustainability - *EuNetAir*

COST Action TD1105

WGs and MC Meeting at Rome, 4-6 December 2012

Action Start date: 01/07/2012 - Action End date: 30/06/2016

Year: 2012-2013 (*Starting Action*)

Presenter's Name: Ernie Weijers

Function in the Action: WG3 and SIG2 member

Affiliation / Country: Energy research Centre of the
Netherlands (ECN)





Scientific context and objectives in the Action

- **Context:** ECN has a long tradition of developing instruments for scientific research (large and expensive) and employing these instruments in various studies of AQ
- **Challenge/demand:** AQ measurements at more locations with smaller instruments with sufficient accuracy, and preferably at lower costs
>>>can sensor systems fulfill these wishes?
- **Action's objectives *matching* the partner activities :**
 - to investigate the best available technology for sensor deployment, etc..
 - environmental measurements in field and laboratory by AQC gas sensors (WG3)
 - evaluations of integrated air quality plans and strategy: role of sensors (WG3)
- **Participation** in WG3 and SIG2

Current research activities ECN

Mission: Development of scientific knowledge in the field of air quality and climate change and make this available to policy makers and other stakeholders

In short (a.o.):

- Instrumental development for air quality measurements (sensors not yet included)
- Assessment of chemical+physical properties of PM (composition, particle number etc.)
- Measurements and modelling of greenhouse gas emissions (CO₂, methane,)>>INGOS
- Development control systems for fugitive sources at industrial sites

Ongoing research topics :

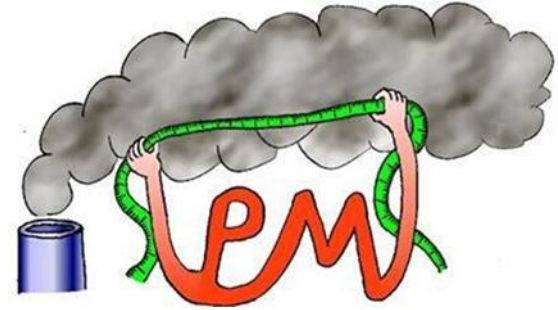
- Relation between human health effects and air quality (EC, soot, UFP,...)
- Effects of reduction measures on urban pollution levels
- Improve the quality of monitoring (urban) networks



Research Facilities ECN

Air quality monitoring laboratory:

- Calibration facilities for aerosol equipment
- Laboratory facilities to test the performance of instruments and to compare with other instruments
- Field stations for air quality research (Amsterdam/Rotterdam)
- Mobile van+trailer for AQ measurements



Suggested **Priorities** for future research

- **Research directions:**

- The implementation of sensors in an existing urban monitoring network

- > selecting the best sensors and technology

- > where to place them?

- > what do we win / lose compared to the traditional standard measurements?

- > how to combine all these new data with existing modelling?

- > etc ...

- Use of AQ sensors in urban monitoring: new for the Netherlands