



ECN

Your energy. Our passion.

Particulate Matter

“Capturing the local situation”

How much particulate matter is present at a single moment in a city, neighbourhood or street? How large and harmful are these particles? What sort of particles are these? And what are the sources of particulate matter? Is the particulate matter concentration in line with the standards? What are the most effective measures to improve the situation? ECN has the knowledge, experience and equipment to provide an answer to these and other questions. We capture the local situation for governments and businesses and give advice on policies and measures for reducing particulate matter emissions and concentrations.

What can ECN do for you?

- Advise you on measures to improve the local situation
- Capture a detailed view of the local situation with AirBoxes
- Test the local situation against European standards
- Perform mobile measurements
- Determine the composition of particulates (including soot, organic/elementary carbon)
- Determine the source

A clear picture of the local situation

In a measurement campaign, we capture the local situation in the best possible manner: by testing against standards with reference equipment, creating a detailed picture of the local situation with the help of AirBoxes, providing source information with determination of composition. Naturally, a combination of the above is also possible. In consultation with you, we determine the most appropriate measurement set-up for your situation.



Real-Time, visual insight into 'particulate plume'

Continuous insight into the 'particulate plume' of a particular area or industrial site is provided via a secure web portal. This is possible with a network of several measurement stations, including meteorological stations, with which we provide (semi-) continuous, real-time monitoring in combination with a dispersion model.



Well-founded policy recommendations

Based on years of experience in measuring and modeling, we can advise on the measures that are effective for improve the local situation.



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Environmental research

ECN develops solutions for measuring and reducing soil, air and water contamination. Our strength lies in our practical approach, combined with in-depth knowledge accumulated over years of research. By measuring and modelling, we create insight into specific problems and local situations, and work together with our clients to find solutions to their environmental challenges.

Expertise:

- Particulate matter
- Nitrogen
- Volatile organic compounds

Recognised specialists and extensive facilities

Our specialists provide independent advice. Our years of involvement in international research on soil, air and water emissions have helped us develop much knowledge in this field. In addition, we have access to extensive equipment and laboratory facilities. In the field of research, we develop equipment and models, which we use for advising on local situations.

Partner in policy development

We are closely involved in policy development at various levels. ECN is an adviser to national, European and international governments. Via various standards committees, ECN is working on shaping the future of the environmental policy.

Examples of projects

Dust monitoring for Rietlanden

Rietlanden Terminals BV, a transshipment company for dry bulk located in Amsterdam, wants to reduce the nuisance caused by fugitive dust. With the ECN Dust Monitoring System, Rietlanden maps the dust emission 'plume' in real time. By doing so, the terminal can immediately and effectively control the source of this excessive dust emission.



Innovative Air Measuring System for Eindhoven

Municipal and provincial authorities want to improve the quality of life and health in Eindhoven. Together with partners, ECN monitors particulate matter (PM₁₀ and PM_{2.5}) on a real-time and continuous basis at 30 locations in the city with the help of the Innovative Air Measuring System (Innovatief Luchtmeetsysteem, ILM). The data obtained are publicly available via a website and mobile app. These data enable municipal and provincial authorities as well as citizens to take measures to improve the quality of life and health.



Future air measurements (AirMonTech)

As part of the EU AirMonTech project, ECN and its partners carried out a study to find out the air measurements necessary for formulating future policy. The results will be used to shape European policy.

Nitrogen deposition on Maasvlakte 2

Maasvlakte 2 (MV2) is located right next to a fragile dune area. ECN monitors the nitrogen deposition in the dune area. Expensive additional measures can be avoided as a result of this monitoring, unless they prove to be absolutely necessary.



Methane emissions at landfill site

At a landfill site, we investigated whether the current covering layer was sufficiently sealed off to prevent gaseous emissions, such as methane. ECN conducted a measurement campaign to map the emissions and made recommendations on the effectiveness of the covering layer.

