



Information document for participating schools

School Air quality monitoring

by

Health and Environment Alliance (HEAL)

PROJECT SUMMARY

The health harming impacts of air pollution are becoming increasingly clear and discussed in the public. But this mostly holds for air pollution outdoors: little is being said or done about air quality inside buildings. Yet, children in Europe spend more than 1/3 of their day at school and studies conducted in other countries (i.e. Belgium) show that oftentimes only 3% of schools have what can be considered good air quality.

This project plans to monitor the air in 6-10 primary schools in six cities: Madrid, Sofia, Warsaw, Paris, London and Berlin in February/March 2019 to test whether what our kids are breathing can be considered safe.

The air quality monitoring requires the participating schools to choose one classroom and place two little tubes provided by us on a wall or window where they shall stay for four weeks (to measure NO₂ pollution). Additionally, on one day during this four week period, a representative of this project will visit the classroom for 20 minutes to measure an additional pollutant (PM_{2.5}) and the room's CO₂ level via a hand device.

Results are expected to be published in April 2019 across all participating cities.

PROJECT BACKGROUND

Air pollution inside and outside schools

Children in Europe spend at least 1/3 of their day and often even more inside the school building. Whereas outdoor air pollution has increasingly managed to attract public attention, little is being said about air quality inside buildings. But indoor air pollution can also have significant and harmful health effects. According to the World Health Organization (WHO) air pollution is globally a key cause for deaths and disease from acute lower respiratory infection, stroke, chronic obstructive pulmonary disease and more.

It is especially children who are vulnerable to air pollution and it is children who spend a great deal of their day in and around the school buildings.

What pollutes the air indoors?

The indoor environment reflects outdoor air quality and pollution.

Outdoor pollution primarily results from the combustion of fossil fuels by industrial plants and vehicles. This releases carbon monoxide, sulfur dioxide, particulate matter, nitrogen oxides, hydrocarbons and other pollutants. Outdoor air enters school buildings through windows,

doors and ventilation systems. Furthermore, temperature and humidity are among the many factors that affect indoor contaminant levels.

Air pollution and children's health

According to the World Health Organisation, globally, 93% of all children live in environments with air pollution levels above the WHO guidelines. More than one in every four deaths of children under 5 years is directly or indirectly related to environmental risks. Whereas the numbers are generally lower for countries in Europe, air pollution does impact children in a unique way because their immune system and lungs are not fully developed when exposure begins. Recent studies have suggested that air pollution, particularly traffic-related pollution, is associated with infant mortality and the development of asthma and atopy.

Other studies have associated particulate air pollution with acute bronchitis in children and demonstrated that rates of bronchitis and chronic cough declined in areas where particle concentrations have fallen.

THE PROJECT PROCESS

This project plans to monitor the air in 6-10 primary schools in six cities: **Madrid, Sofia, Warsaw, Paris, London and Berlin** in February/March 2019 to test whether what our kids are breathing can be considered safe.

Each participating school will receive a package that includes four little NO₂ tubes (NO₂ pollutants mostly stem from transport), two of which shall be placed inside the classroom and two of which shall be hung on the main school door (see photo for example).



The date and time of the placement must be noted on paper and the tubes must hang for four full weeks. After those four weeks, the tubes must be sent back via mail to the organisers of this project and will then be evaluated in a laboratory.

Additionally, on one day during these four weeks a representative of this project will visit the classroom for 20 minutes to measure an additional pollutant (PM_{2.5}) and the room's CO₂ level via a hand device. PM_{2.5} are tiny pollutants that cause various health problems as they penetrate the lung and blood stream. High CO₂ levels can result in headaches, sleepiness, poor concentration, loss of attention etc. Results will be noted and published together with the NO₂ results.



The participating schools keep the right to withdraw from the project at any time as well as to remain anonymous once results are published, if the school wishes to do so.

How to participate

If your school is a public primary school, you can inform Vijoleta@env-health.org about your interest to join this project. Please already indicate the responsible contact person within the school and any questions you might have. This project is free of any charge.