

CleanAir@School



Ny Hollænderskolen, Frederiksberg/Copenhagen
(Picture: Anke Lükewille)

Joint EEA/EPA Network Citizen Science Initiative on Air Quality

*Third face-to-face meeting
22-23 May 2019
Zürich, Switzerland*

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<https://epa-citizen-science.discomap.eea.europa.eu/>



European Environment Agency



EPA Network / EEA Citizen Science Initiative CleanAir@School

Third Face-to-Face Meeting

22 – 23 May 2019

Schweizerische Epilepsie-Stiftung (Bleulerstrasse 60, 8008), Zürich, Switzerland

Draft Agenda v2

Day 1: Wednesday, 22 May 2019

12:00 – 13:00

“Stehlunch” (finger buffet) and registration

13:00 – 13:30

Welcome address by Gabriella Zinke (*Federal Office for the Environment, Switzerland*)

Welcome and objectives of the meeting (*Anke Lükewille, European Environment Agency*);

Tour-de-Table ‘who is who’ (*All*)



13:30 – 14:00

Overview of the CleanAir@School project's development so far and links to other activities (EEA)

- *The three EXCEL templates – status of reporting to EEA*
- *Updates of the CleanAir@School Portal: <https://epa-citizen-science.discomap.eea.europa.eu/>*
- *Update of the CleanAir@School viewer: https://tableau.discomap.eea.europa.eu/t/Aironline/views/CStest/Dashboard?iframeSizedToWindow=true&:embed=y&:showAppBanner=false&:display_count=no&:showVizHome=no*

We have included the “approved” info that we have received so far.

Please let us know if you have comments or see problems!

- *EEA CleanAir@School webpage, which we plan to launch on 27 May 2019*
- *Input to ECSITE annual conference in Copenhagen in June*



CleanAir@School web portal

- ✓ Updates of the CleanAir@School web portal:
<https://epa-citizen-science.discomap.eea.europa.eu/>

HOME



European Environment Agency



This portal contains related information, documents, guidance and services linked to joint [Environment Protection Agencies \(EPAs\) network](#) and [European Environment Agency \(EEA\)](#) for citizen science initiative on air quality.

EEA is responsible for the overall coordination of this initiative, while the EPAs are responsible for the outreach to local schools and the development of specific project plans in their countries.

Update sent to EPA Heads (in Newsletter)



Update on the joint EPA Network / EEA Citizen Science air quality initiative: 'CleanAir@School' (April 2019)

Background

CleanAir@School is a joint initiative between the EPA Network and the EEA focusing on air quality around schools. Citizen science monitoring campaigns are being performed by participating EPAs that take a common approach to monitoring and analysis. Supported by EEA, targeted communication materials will be produced to engage children and parents in a dialogue on air quality around schools.

The initiative was agreed and launched at a meeting of the EPA Network in Dublin in April 2018, and is scheduled for completion **by the end of 2019**.

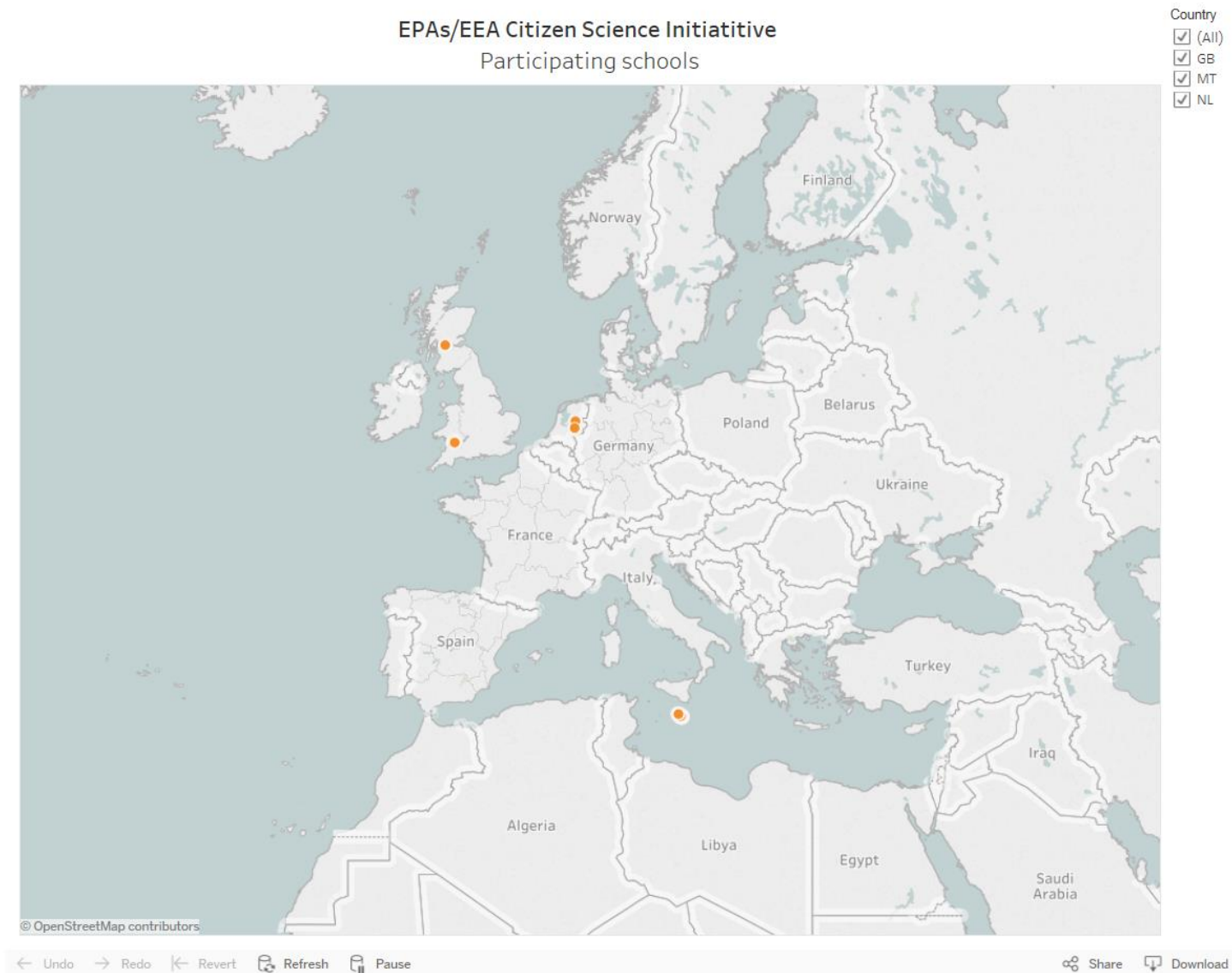
Reporting templates: Schools, sampling, results

A	B	C	D	E	F
School name	School ID	School type	School surrounding	Longitude	Latitude
	Any (max 10 characters without special characters (blank, " , " ; " : " . " ; " ; ") but unique and different for each school . This school ID will be used to ensure the links between the different tables without repeating the school name. Choose it simple.	Values: - nursery - primary - secondary - university or equivalent - other to be specified (<i>e.g. nursery and primary</i>)	Values: - urban (= "<i>Continuously built-up urban area meaning complete (or at least highly predominant) building-up of the street front side by buildings</i>") - suburban (= "<i>Contiguous settlement of detached buildings of any size</i>") - rural (= "<i>All areas, that do not fulfil the criteria for urban or suburban areas</i>")	in decimal degrees (e.g. 6.042384 when East of Greenwich or -6.042384 when West of Greewich)	in decimal degrees (e.g. 52.542242)

A	B	C	D	E	F	G	H
School ID	Sampling point ID	Macro location	Micro location	Height of sampling	Distance to closest main road	Traffic at closest main road	Distance to other main source
as identified in the "Schools" form	Any (max 10 characters without special characters (blank, " ", " ", " ", " ", " ", " ", " ", " ", " ") but unique and different for each sampling point. This sampling point ID will be used to ensure the links between the different tables.. Choose it simple.	Values: - traffic (= "if located in close proximity - less than 25 meters without major obstacles in between - to one or more major streets/roads") - industrial (= "if located in close proximity to a single 'industrial' source other than traffic such as district heating plant") - background (= "if the air pollution is not dominated by traffic or industrial source(s) as defined above but a mix of all sources")	Values: - wall - tree - pole - fence - terrasse - other to be specified	in meters with one decimal	For traffic sampling point, in meters	For traffic sampling point, number of vehicles per day	For industrial sampling points, in meters

[illegible]

Test viewer has been developed



Test viewer has been developed

https://tableau.discomap.eea.europa.eu/t/Aironline/views/CStest/Dashboard?iframeSizedToWindow=true&:embed=y&:showAppBanner=false&:display_count=no&:showVizHome=no

EPAs/EEA Citizen Science Initiative
Participating schools



Status participants (May 2019)

1. Austria (observer)
2. **Estonia**
3. ***Belgium, Flanders***
4. France (???)
5. **Iceland** (observer)
6. **Ireland**
7. **Italy (Isprambiente)**
8. Luxembourg (???)
9. **Malta**
10. **Netherlands**
11. **Spain**
12. Sweden (???)
13. Switzerland (observer)
14. **United Kingdom, Scotland**
15. **United Kingdom, Wales**



- | | |
|----------------------|---|
| 14:00 – 15:00 | Project status, plans, challenges, needs – roundtable (EPAs) <ul style="list-style-type: none">• <i>A short presentation by each EPA participating in the meeting.</i>• <i>Colleagues, who will not be able to take part in the <u>meeting</u>: Could you please provide us with a short update before the event (slides, e-mail, phone/skype call ...)? Thanks!</i> |
| 15:00 – 15:30 | Coffee break |
| 15:30 – 17:00 | Project status, plans, challenges, needs – roundtable (EPAs) |
| 17:00 | End of first day |
| 19:00 | Dinner in the city centre of Zürich (for those who have signed up)
<u>Alpenrose</u> Restaurant http://www.restaurantalpenrose.ch/ |



Update (!) of status 2019 (1)

EPA Network / EEA Citizen Science Initiative on AQ – Overview status on 21 February 2019

Participating EPA	Status(*)	Number of cities	Number of schools	Kind of school(s)	Measurement period	Calibration	Thoughts about communication
Estonia	P	1	?	Secondary	May	Yes	Yes
Belgium (EPA Flanders)	P	?	784	Secondary (?)	May (2018)	Yes	Yes
France	??						
Germany	??						
Iceland	O						
Ireland	P		34	Secondary (75%), primary	February	?	Yes
Italy (<u>Isprambiente</u>)	P	33	?	Mostly secondary	2x 15 days in May and December	Yes	Yes
Luxembourg	??						
Malta	P	2	25	Primary, secondary	Mid-March – mid April and summer	Yes	Yes
Netherlands	P	1	1	Primary	May or June	Yes	Yes
Spain	P	1	10	Mostly primary	May-June; September-October	Yes	Yes
Sweden	P	1	25	Pre-school	Started ...?	Yes	Yes
Switzerland	O						
United Kingdom (Scotland)	P	4	4	Primary, secondary	?	Yes	Yes
United Kingdom (Wales)	P	2	9	Primary	29 th January, ongoing	?	Yes

=> 10 participants; (*) P = Participant; O = Observer; ?? = not clear.

Update (!) of the status (2a)

Participating EPA	Number of schools	Measurement period	Number of passive samplers	Placement of samplers	Vehicle/vehicle type counts
Estonia	?	May	Four samplers (+ two zero sample tests) per school	In front of the schools and in the backyard of the schools	Not planned
Belgium (EPA Flanders)	784	May (2018)	Two samplers per school (?)		
Ireland	34	February	Three NO ₂ passive samplers	Three locations on the school grounds: Two in two different locations considered 'exposed' to traffic pollution (e.g. near a main road, idling cars or main drop off point for the school); Third tube is placed away from traffic (e.g. the school playground).	Yes (plus weather measurements at the same time as NO ₂ measurements)
Italy (Isprambiente)	?	2x 15 days in May and December	Xy (?) radiello samplers or Palm tubes	Three samplers at each school (pairs?)	Will evaluate data availability / possibility to involve pupils
Malta	25	Mid-March – mid April and summer (2018; no school)	Three (?) samplers (or sampler pairs?)	Drop-off/pick-up points and playground	Not currently available
Netherlands	1	May or June	10 times two Palmes tubes (sensor on school roof)	To be chosen by students	No.



Update (!) of the status (2b)

Participating EPA	Number of schools	Measurement period	Number of passive NO2 samplers	Placement of samplers	Vehicle/vehicle type counts
Spain	10	May-June; September-October (2 or 4 week exposure) or September-October and then October-November	20 <u>Palmas</u> diffusion tubes will be used (maybe light scatter low-cost sensors)	20 locations will be chosen around each of the 10 schools; exact location will be determined together with pupils at each school	Traffic counts are not available, some estimates could be done
Sweden	25	?	100 diffusion tubes (4 per school); maybe sensors on staff	?	No.
United Kingdom (Scotland)	4	<u>Not been defined yet.</u>	20 electronic diffusion tubes	Around the drop-off/pick-up areas	No.
United Kingdom (Wales)	9	29 th January, ongoing over 2019; results averaged	18 diffusion tubes	At two specific (?) locations	Not planned.

DAY 2 - The way forward...

Citizen
Science is

Constructing &
communicating
explanations

Asking
questions

Planning &
carrying out
investigations

Making
observations

Analyzing &
interpreting
data

Agenda 23rd May 2019

Day 2: Thursday, 23 May 2019

09:00 – 10:30 Measurement campaigns and communication of results (EPAs)

10:30 – 11:00 **Coffee break**

11:30 – 12:00 Communication of results on the European scale (EEA)

- *We need the long./lat. info for all schools and the names of the schools for the viewer. If not all EPAs can provide this for certain reasons, we will have to discuss and find a solution.*
- *We would like you to provide us with links to your websites and vice versa would like to ask you to add the link to the EEA CleanAir@School website (when launched) to your webpage.*
- *We have a draft of the website text that we will present to you. We suggest that the paragraph describing “what the initiative is all about” will be used as a standard text by you on your website (in your native language, if it is not English).*
- *Questions?*



Survey “before” and “after”

CleanAir@School - Survey for pupils and parents/guardians

In your opinion, how clean is the air close to your school?

- ☐ Very clean
- ☐ Moderately clean
- ☐ Not clean
- ☐ I do not know



Did you talk about your air pollution measurements to other people?

- ☐ Yes, I talked about it to my family.
- ☐ Yes, I talked about it to my friends.
- ☐ No, I didn't talk about it
- ☐ Other (please specify):



Air pollution

Change language

Air pollution harms human health and the environment. In Europe, emissions of many air pollutants have decreased substantially over the past decades, resulting in improved air quality across the region. However, air pollutant concentrations are still too high, and air quality problems persist. A significant proportion of Europe's population live in areas, especially cities, where exceedances of air quality standards occur. [More](#)



Subtopics

- Air pollution sources
- **Air quality index**
- Air quality standards
- EMEP/EEA air pollutant emission inventory guidebook
- Health impacts of air pollution
- Improving Europe's air quality measures reported by countries
- National Emission Ceilings (NEC) Directive

Air pollution

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<https://www.eea.europa.eu/en>

Explore air pollution data



Citizen science initiative CleanAir@School

More and more European citizens are engaging in air quality monitoring by using so-called low-cost measurement devices. The primary goal of such 'citizen science' initiatives is to raise awareness of the links between air pollution and health, mainly in cities where most Europeans live. CleanAir@School is a joint initiative of the European Network of the Heads of Environmental Protection Agencies (EPA) and the EEA. Under the initiative, citizens are monitoring air quality around schools across Europe using a common approach.

Background and objectives

CleanAir@School was launched at a meeting of the EPA Network in Dublin in April 2018 and runs until the end of 2019.

The initiative uses citizen science campaigns to better understand children's exposure to a key air pollutant, nitrogen dioxide (NO₂), in the school environment across Europe. Children at participating schools learn about air pollution and health effects, while both pupils and their parents see how road transport affects air quality. A key question is whether, in the light of this knowledge, parents shift away from bringing their children by car to school. Participating environmental protection agencies engage with local communities and explain how they work to improve air quality.

The way forward & action points



- *Plans for the second half of 2019 and list of action points (All)*

12:00

End of the third face-to-face meeting

EPA Network – Interest Group on Citizen Science, Fourth Meeting (23-24 May 2019) starts at 12:00 with the registration.

The way forward & action points



- Issues in “federal” organized countries → difficult to establish top down approaches
- Funding – local, national, EU... “snow ball effect”; twinning and building of consortia can help
- Policy, religion, culture influence the set up of the EPA’s projects
- Client Earth involvement, Deutsche Umwelthilfe – we need to be aware that also NGOs follow CleanAir@School
- Issues with showing details of schools such as names and exact locations
- Include citizen science AQ approaches in Curriculum for schools
- EEA: Show best practice examples on website and in EEA report → Please provide links to your web pages!
- EPAs will try organising a measurement campaign within an “autumn window”
- Besides passive samplers: life measurements of NO₂ → peaks only, not absolute concentrations
- Measurements: other air pollution issues such as smoking and construction work have been identified...
- Link to mobility!
- Life platform for schools for pupils to exchange info – how could this be set up?
- Road map for next year?



Thank you for your cooperation!



Have a safe trip home!
See you in autumn in Copenhagen...