Open applications study case: Colombia

Project Unit on Persistent Organic Pollutants

Bogotá, March 26, 2025

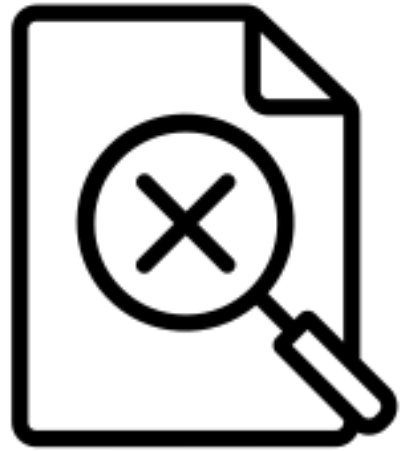
POPs projects in Colombia (2013 – 2025)

We have learned and evolved… facing challenges

https://quimicos.minambiente.gov.co/cop-pcb/

From closed to open… lessons learned

The first survey on open applications was conducted in 2016…



Target: Environmental subnational authorities, and some private companies….

No information on open applications

From closed to open… lessons learned

The first “inspection” took place in early 2016…

Abandoned power generation facilities

From closed to open… lessons learned

SCWO pilot plant (2016)

Satisfactory PCB project closed (2017)

Multiple stakeholders engaged and active (2014 - 2018)

How can we leverage our key achievements to address open applications in Colombia?

The call to action: New POPs project

We included a formal set of activities under the GEF Project 112906 (2022 - 2026):

"The following incremental activities will be carried out to achieve Output 1.4:

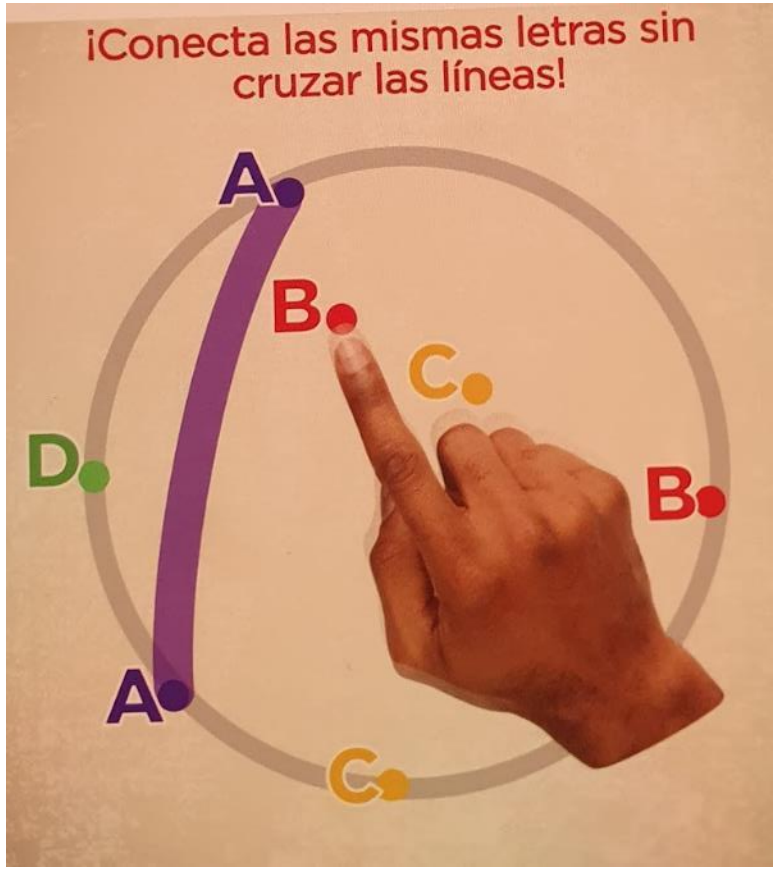
I. Designing and implementing a monitoring plan for the identification of open PCB applications in oil pipelines, seaports, airports, government facilities and waste related to coatings, cables and sealants[1].

II. Developing a preliminary study to identify some of the open PCB applications in Colombia.

III. Preparing an elimination plan of PCB in open applications and the necessary inputs for the NIP update".

1. Based on technical guidelines available since 2019 by BRS Secretariat and some expert's advices (2017)

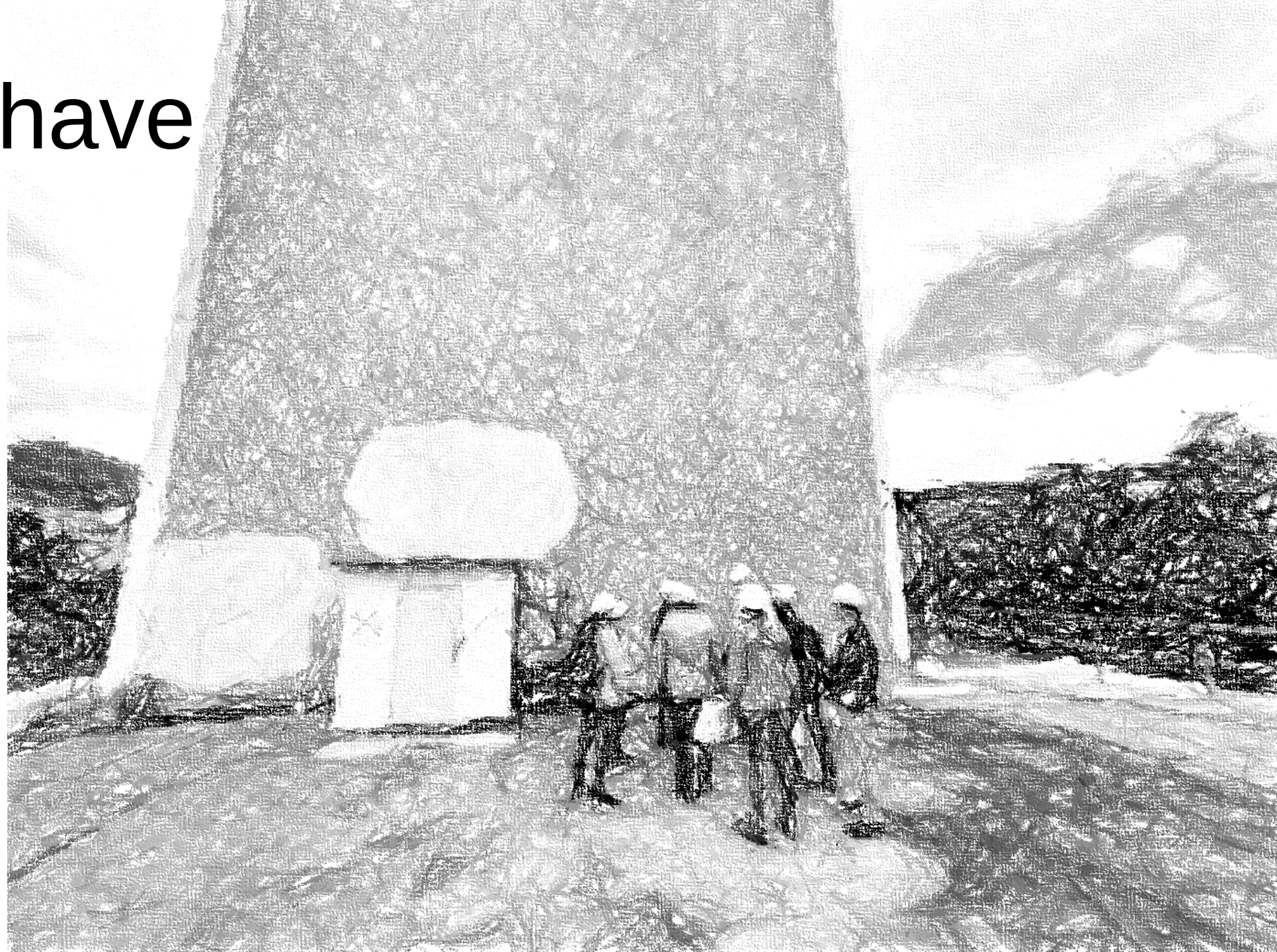
The call to action: New POPs project



To do so, we had a plan:

1. Gather and analyze information on our buildings
2. Train and build capacity for better inspections
3. Implement a monitoring plan in a sample of buildings
4. Prepare the national elimination plan for PCB in open applications
5. Strengthen capacity for the treatment and elimination of PCB containing waste

What we have done…



Our preliminary results…

The second survey focused on buildings…not PCBs (2024)

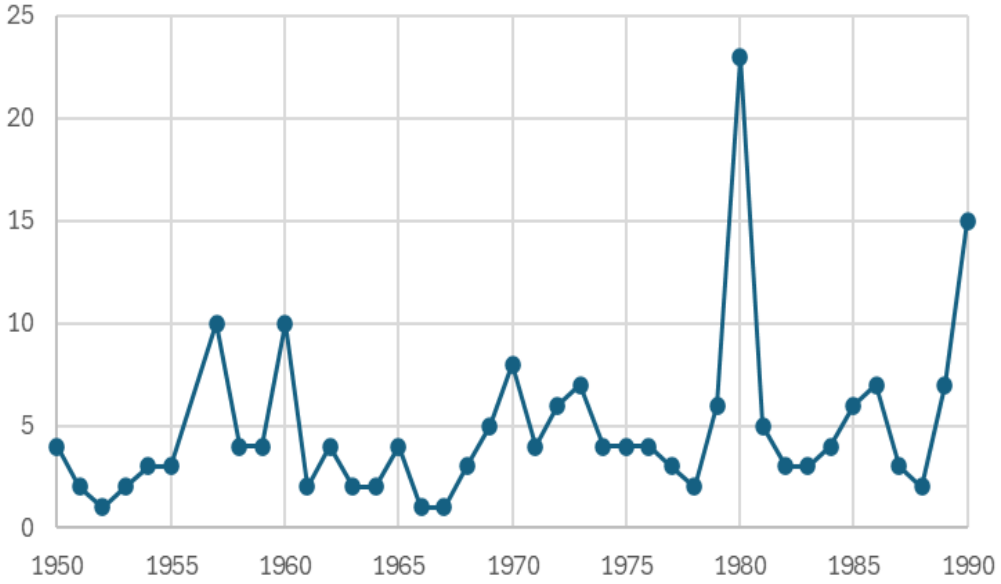
About 100 letters were sent… and we received less than 50 answers (information of 178 buildings)

We gathered information of 120 buildings using internet (public information).

From 298 buildings, 261 are in the timeframe (1950-1990)

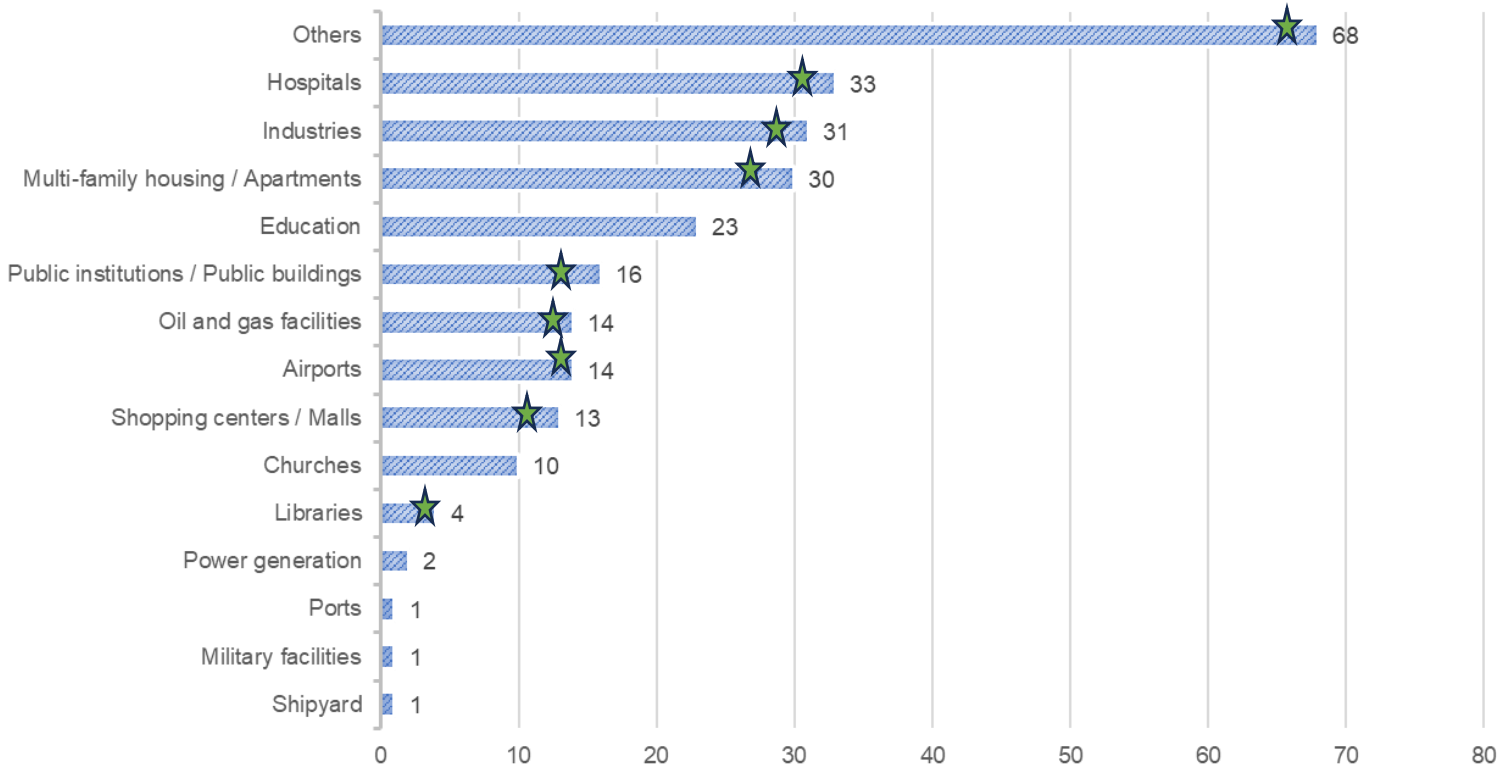
Targets: Subnational environmental authorities, municipalities and other public entities related to construction and renovation permits in Colombia .

Our preliminary results…



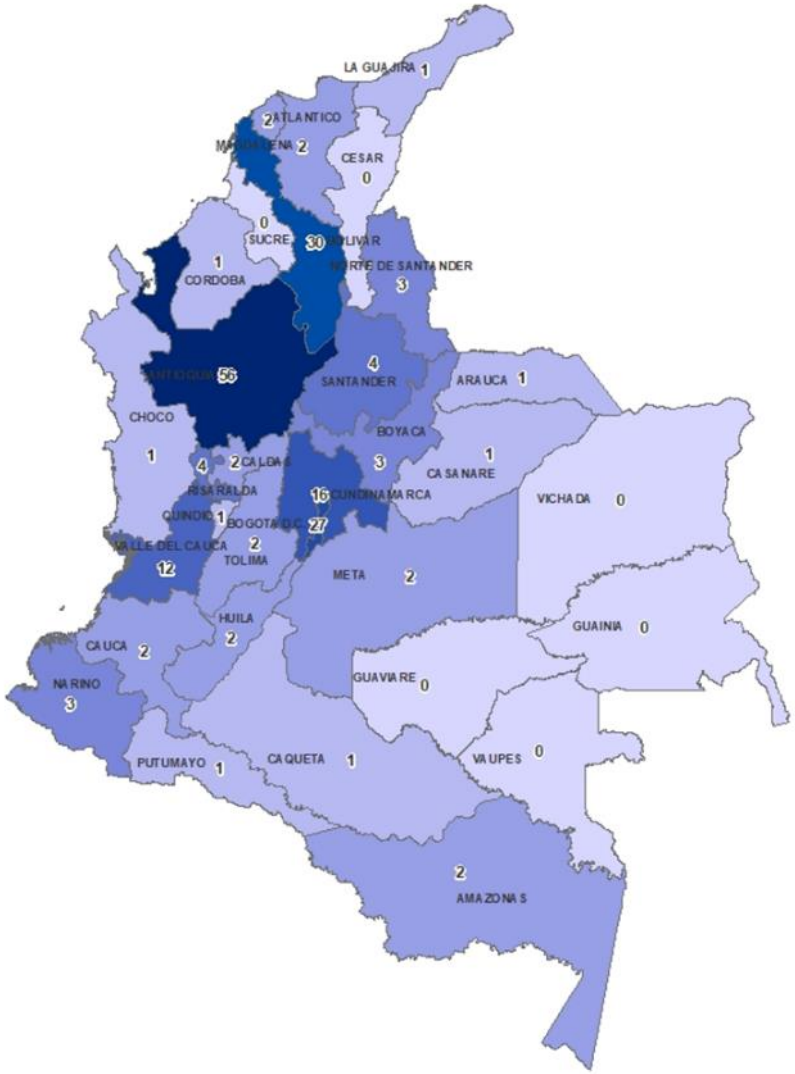
Buildings by reported year of construction

Buildings by usage

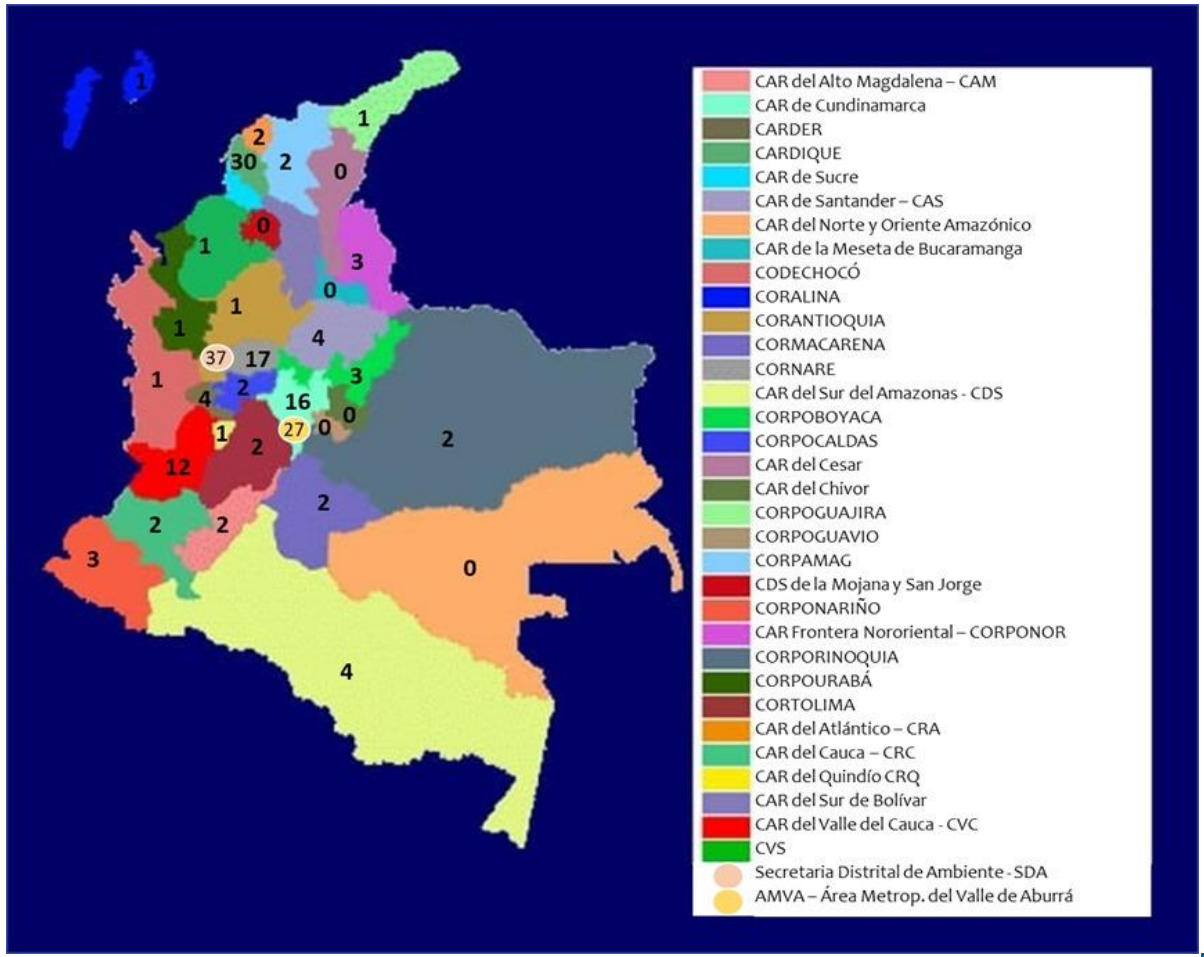


★ At least one building included in the first round of inspections

Our preliminary results…

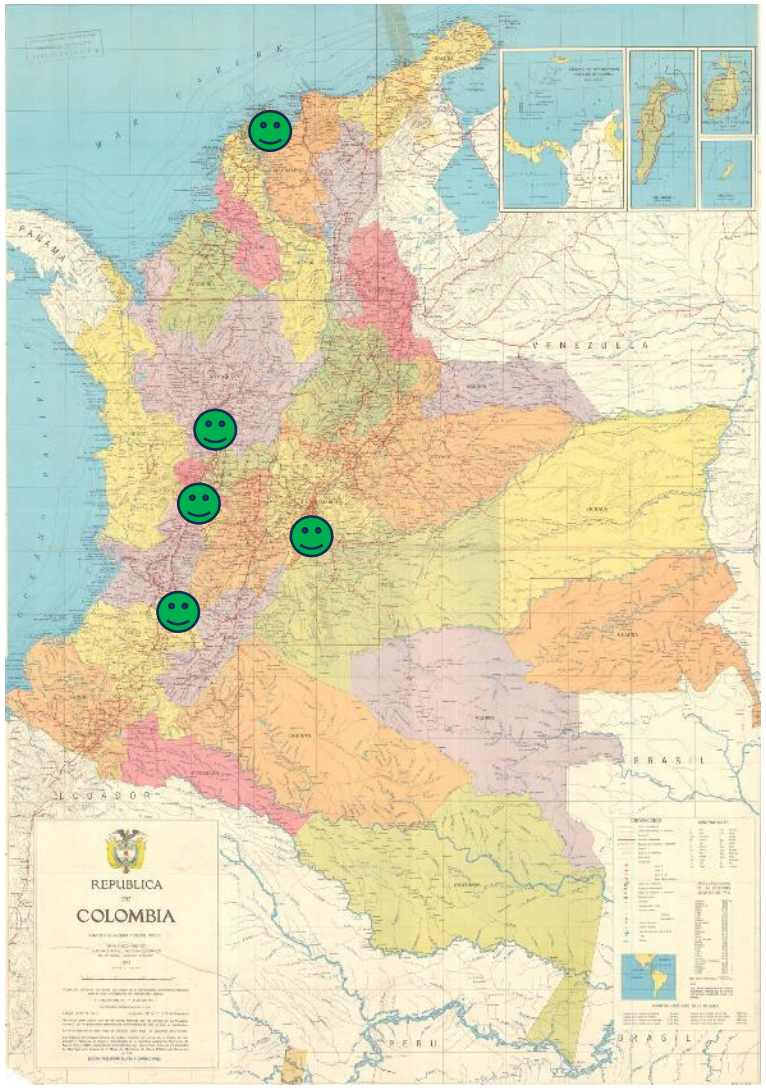


Buildings by state



Buildings by subnational environmental authorities

Our preliminary results…



Four sub-national and one national working groups on PCB, with OA included in the agenda!

Our preliminary results…

A theoretical – practical workshop took place in February 2024.

It was the first of its kind in the GRULAC region *(as far as we know)…*

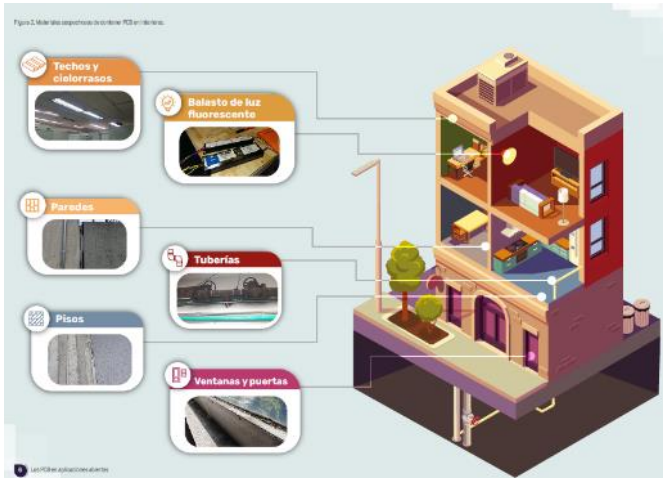
Real-life materials and use of tools

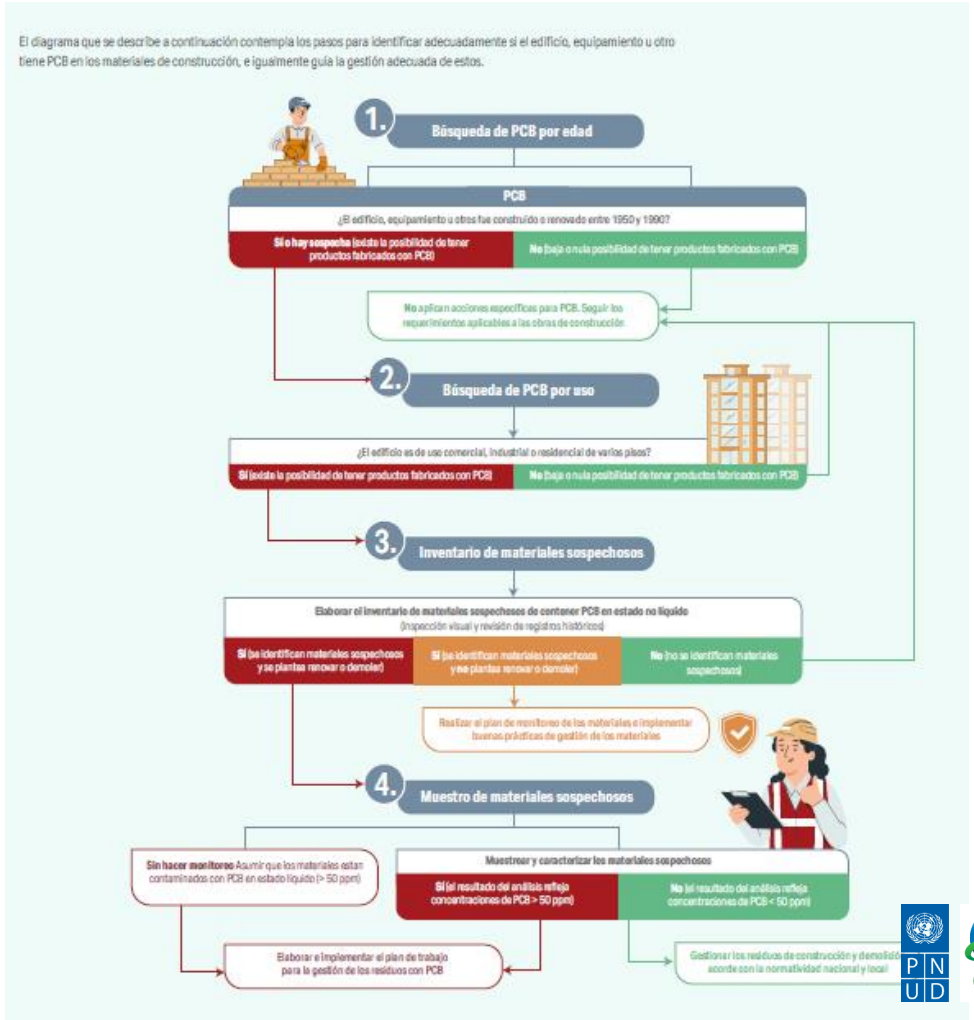
Site 1: Abandoned steel-making facility

Site 2: Abandoned institutional building

Our preliminary results…

A document and a booklet were drafted, to guide owners and environmental officers in identify PCBs and Asbestos in construction materials.





Our preliminary results…

South-west region

Antioquia

Four regional workshops on construction and demolition waste, with open applications mainstreamed…

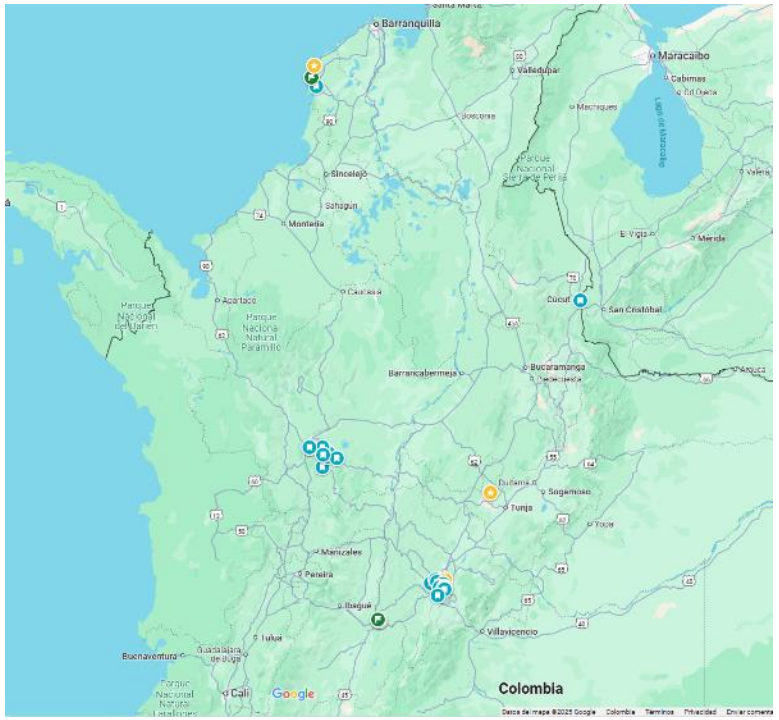
Caribbean region

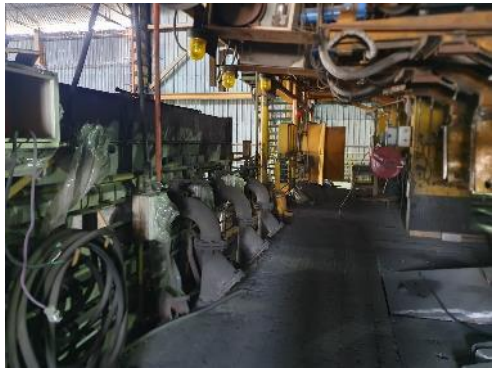
Central region

Environmental authorities
Municipalities
Waste management companies
Permits & Licenses officers
POPs Project unit

(Lead by the Ministry of Environment)

Our preliminary results…





From June to November 2024:

22 sites were inspected
56 samples were taken

What we have found…

Our preliminary results…

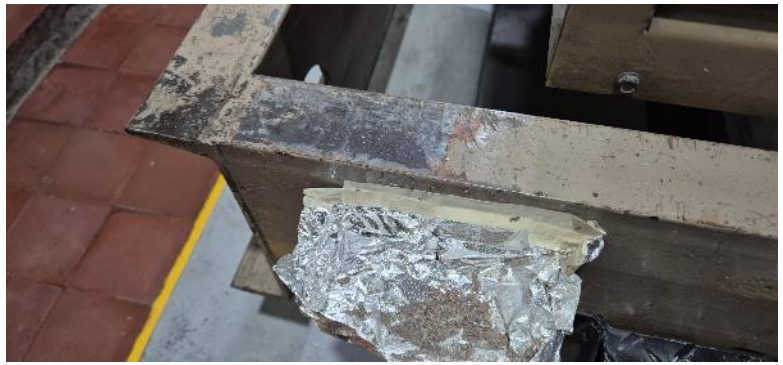
https://fontsinuse.com/uses/4932/galbestos-ads-1945-49

They may be similar, but they are not Galbestos

Our preliminary results…

There is imported equipment, and its original paint remains, but old pipelines may have been replaced and recycled

Our preliminary results…



Four paint samples (out of 20) contain PCBs, but they are below than 50ppm.

Our preliminary results…

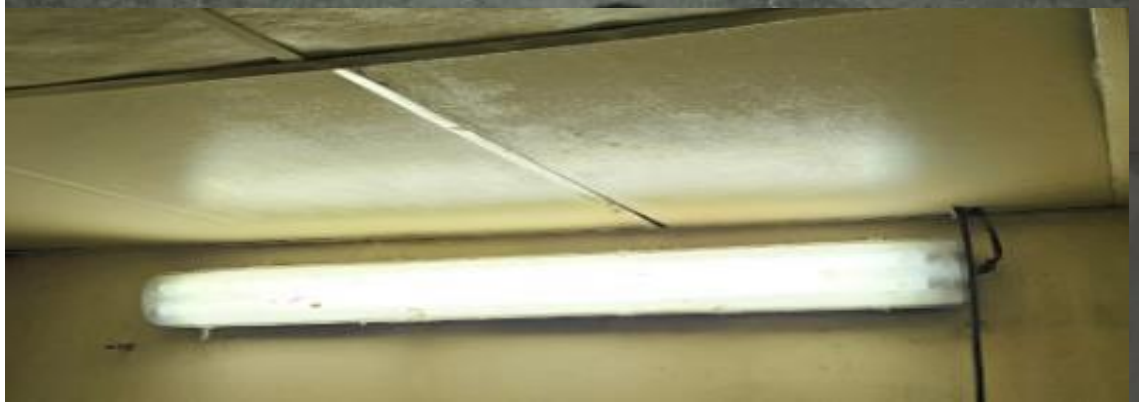
A typical pre-1979 PCB-containing fluorescent light ballast (FLB)

A typical Non-PCB containing fluorescent light ballast. The ballast has a "No PCBs" marking on the top of the ballast and the text "electronic ballast". Only magnetic fluorescent light ballasts contained PCBs.

Even though fluorescent lamps are still in use, the ballasts are relatively new (1990 – 2010): no PCBs.

Our preliminary results…

And mercury is still there in bulbs and tubular lamps



Our preliminary results…

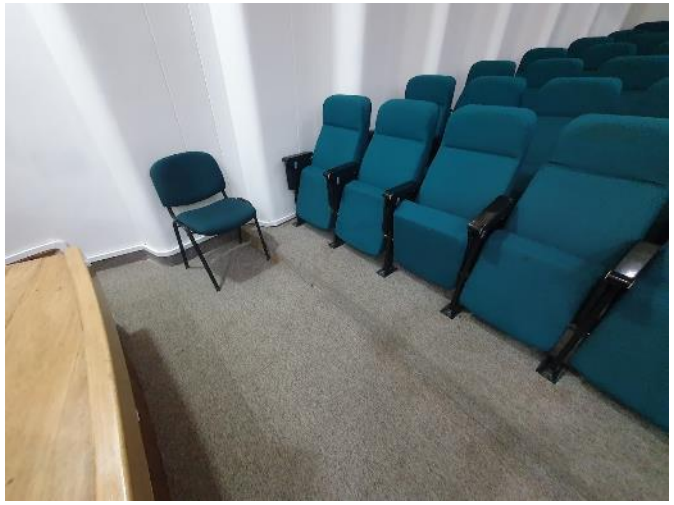
Asbestos is present in many “forgotten applications”

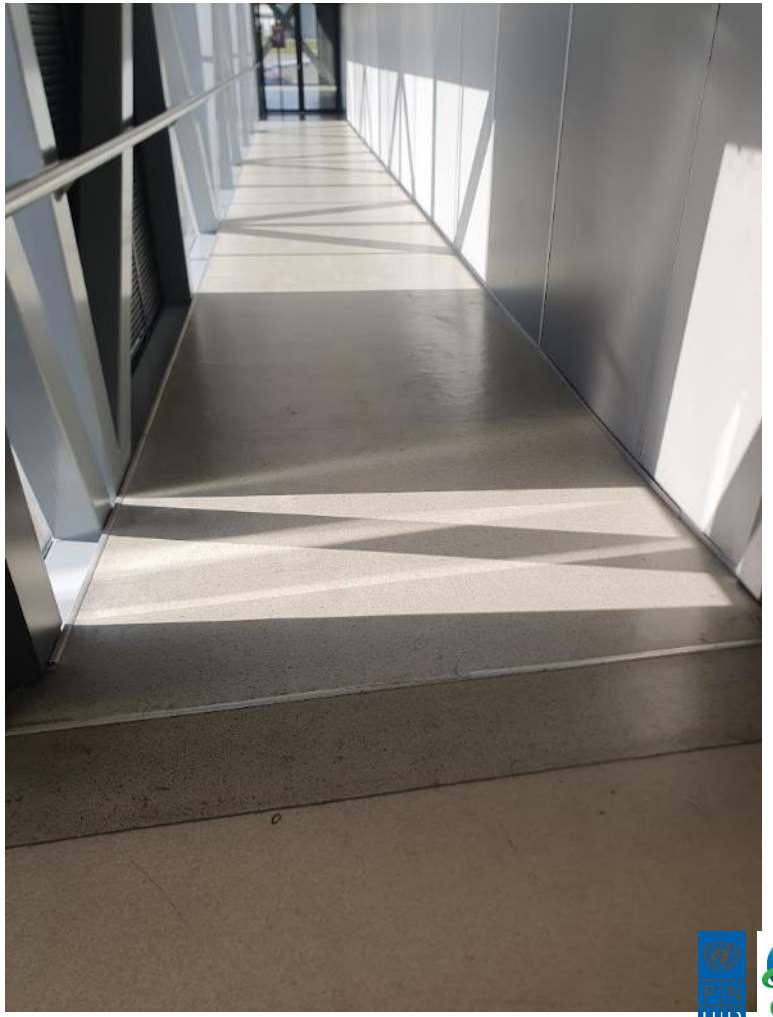
Our preliminary results…

The sealants found so far are not suspected to contain PCBs... and we must check for SCCPs.

Our preliminary results…

Some vinyl flooring, carpets, and LED strips contain SCCPs.





Our preliminary results…

We also sampled for brominated flame retardants POPs, but results are not ready yet.

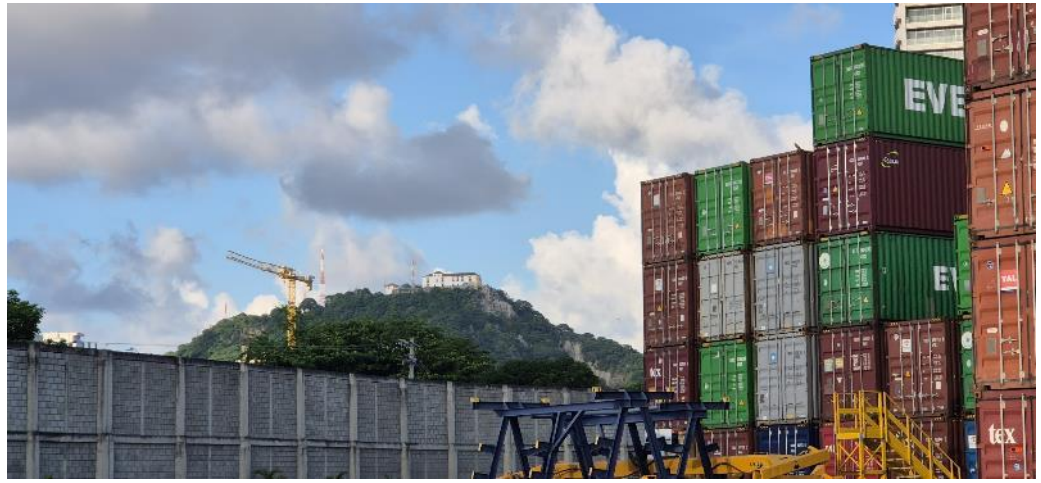
Our preliminary conclusions

There is a low prevalence of PCBs in open applications: only 4 from 20 samples and they were below 50 ppm.

There is a prevalence in applications apart from shingles and tanks. Relevant measures should be considered when intervening materials.

There are SCCPs in flooring and other construction materials.

Our next steps…



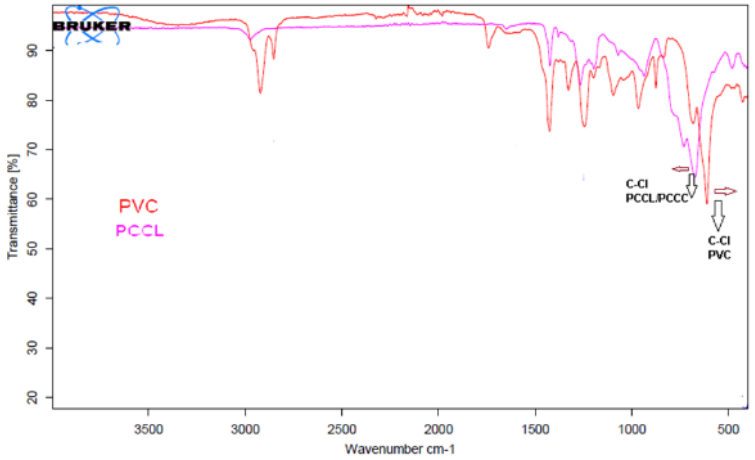
Inspect at least 20 more buildings, including military facilities, shipyards, and Oil & Gas sites.

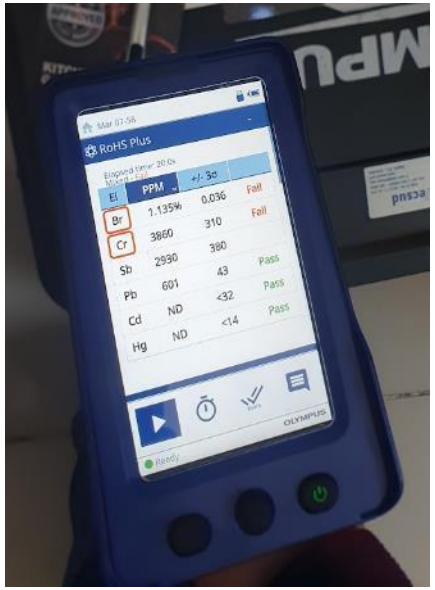
Conduct at least two subnational workshops / training sessions on contaminants in construction materials.

Our next steps…

Publish the booklet and the national report on open applications.

Develop a procedure to integrate XRF and FTIR screening techniques in the analysis of samples.





Draft an elimination plan of PCB in open applications

Our recommendations…

Engage stakeholders from the outset. Use the existing work on asbestos and other contaminants as a foundation for addressing POPs and similar pollutants.

Owners are often surprisingly receptive to collaboration, provided that you maintain the trust of those who facilitated your access. Owe that trust with feedback.

When inspecting buildings, take the opportunity to thoroughly assess for all possible contaminants. This is cost-effective and maximizes the value of the inspection.

Develop analytical capacity for POPs and related contaminants; universities and research institutions can provide crucial expertise and resources.

¡Muchas gracias!

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Ambiente