



Climat et environnement

Klimaat en milieu



France - Wallonie - Vlaanderen

CleanAirBouw

Examples of IAQ projects from Cerema Hauts-de-France



**AVEC LE SOUTIEN DU FONDS EUROPÉEN DE DÉVELOPPEMENT RÉGIONAL
MET STEUN VAN HET EUROPEES FONDS VOOR REGIONALE ONTWIKKELING**

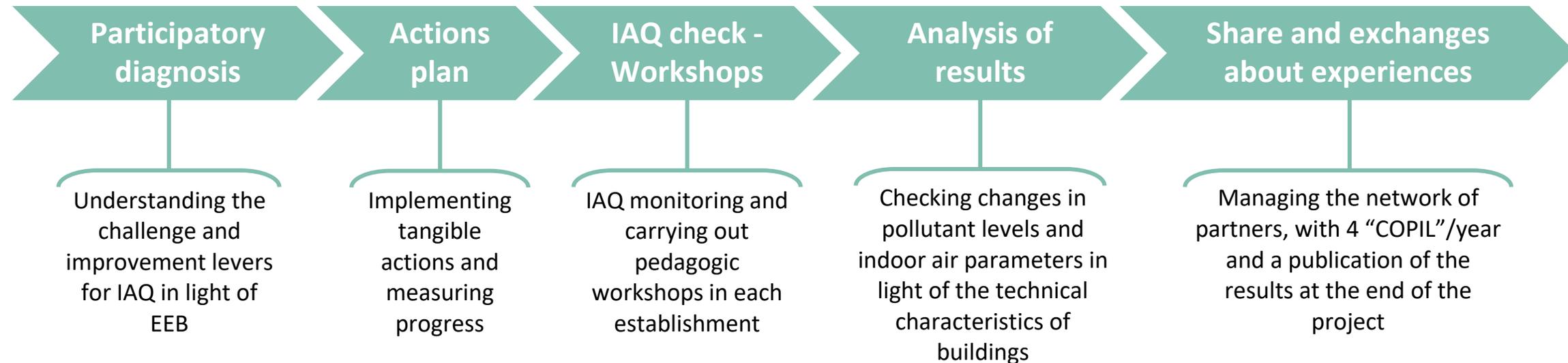


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- A **community** of public and private stakeholders to **combine indoor air quality (IAQ) and energy efficiency** in buildings (EEB)

Schools, offices and a shopping mall

Method:

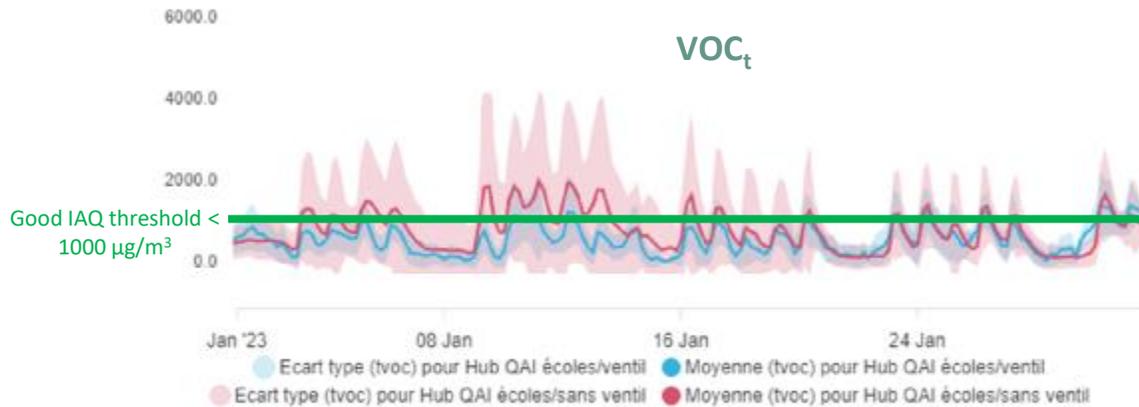


* Project co-funded by ADEME and the French Ministry of Ecological Transition (for schools)



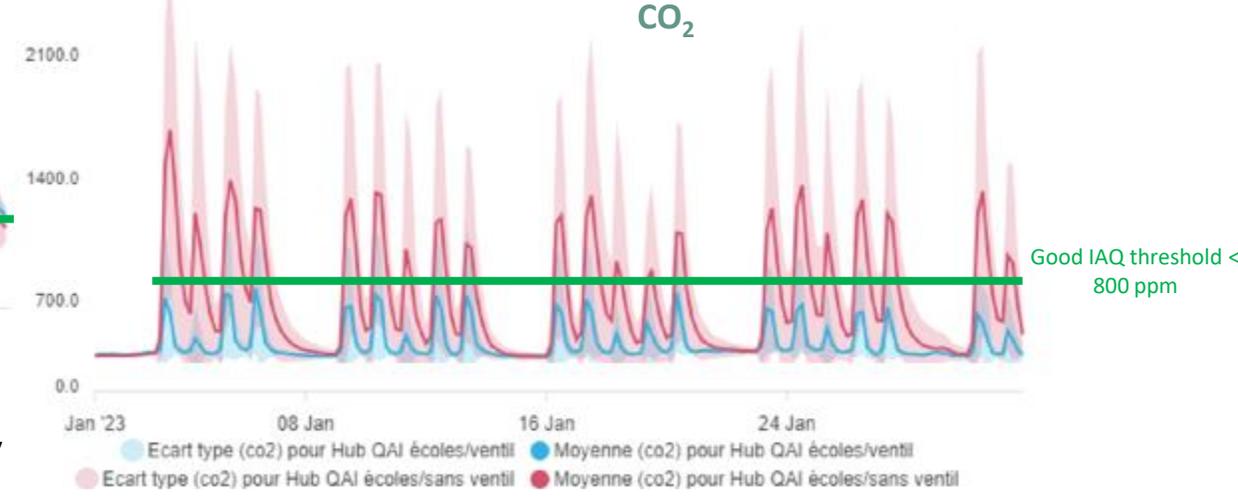
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Key results:



Averages and standard deviations of VO_Ct measures (in $\mu\text{g}/\text{m}^3$) for January 2023 for schools with (blue) and without ventilation (red)

* Data mining with OctopusLab and the Indalo tool



Averages and standard deviations of CO_2 measures (in $\mu\text{g}/\text{m}^3$) for January 2023 for schools with (blue) and without ventilation (red)

- Average levels and CO_2 spikes are **much better (lower)** in schools with **mechanical ventilation systems** in winter
- **Better IAQ and threshold compliance with a mechanical ventilation system**



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Key results:



What impact on reducing consumption ?



Pecquenchanvre

- Comparison of the **insulation performance** of **hemp concrete** (block or sprayed) and **glass-wool** (then wood-wool)

Renovating homes of the social landlord Maisons & Cités in Pecquencourt (59)

- Instrumental monitoring



Key results:

- No significant differences in insulation performances
- Differences in airtightness, in favour of sprayed hemp



Emibio

- Measurement of the **impact on IAQ of two bio-based insulation materials** (wood-wool and cellulose wadding)

Municipal building (59) and a middle school (62)

Method:

- Study of materials at 3 scales:
 - building: *in situ*
 - wall: tested under controlled conditions
 - distinct materials: in laboratory

Key results:

- **No significant impact** on IAQ for either insulation



As long as implementation complies **with good engineering practices**



* Project co-funded by ADEME and the French Ministry of Ecological Transition, as part of the CORTEA programme

* In partnership with Université d'Artois, Université Picardie Jules Vernes, IMT-Atlantique and IMT-Nord Europe

Regulation: IAQ supervision

- **Support** for the implementation of the **regulatory supervision** of IAQ in certain public buildings:
 - Establishments for the collective care of children < 6 years
 - After-school or extra-curricular leisure centres for minors
 - Primary and secondary education and vocational training establishments

Tools available:

- Support guide, updated in 01/2025
- Summary brochure for elected representatives
- Frequently asked questions, updated in 11/2024
- Videos presenting the regulation
- Dedicated web page animated by Cerema



Guide d'accompagnement à la mise en œuvre de la **surveillance** réglementaire de la **qualité de l'air intérieur** dans certains établissements recevant du public

Les catégories d'établissements concernées par ce guide sont :

- les établissements d'accueil collectif d'enfants de moins de 6 ans ;
- les accueils de loisirs extrascolaires ou périscolaires pour mineurs ;
- les établissements d'enseignement ou de formation professionnelle du 1^{er} et du 2^d degré.

Janvier 2025



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THANK YOU
FOR YOUR ATTENTION
Any questions ?

