AIR POLLUTION

INSTALLING LOW-COST SENSORS TO SPUR IMPROVEMENTS

PROBLEM

Nearly 99% of the world's population breathes air that is so polluted that it fails to meet standards set by the World Health Organization. Breathing contaminated air causes over 4 million early deaths each year, with the vast majority of these occurring in low- and middle-income countries. Lack of reliable air quality data is a barrier to action—with better local data, governments can prioritize effective air quality interventions.

SOLUTION

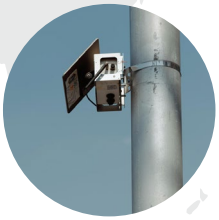
By installing air quality sensors at strategic points throughout the city, municipalities can monitor air quality in real time, identify pollution hotspots, and gather accurate data to inform targeted policy development. This enables cities to implement effective clean air and climate policies that address specific local needs. Once these policies are in place, cities can use the data to measure and track improvements in air quality and public health outcomes over time.

CHALLENGES THIS IDEA CAN HELP YOU NAVIGATE

- Lack of data to inform decision-making on clear-air initiatives
- High exposure to harmful air pollutants
- Low public awareness about unsafe air quality

IMPACT

Over 50 cities worldwide are monitoring air quality to improve residents' health outcomes.



Lima, Peru ↑ 45% **increase in air quality**

Increasing air quality monitoring by 66% helped the city implement actions to reduce pollutants, such as converting vacant lots into gardens and playgrounds and increasing vegetation cover. In targeted areas, respiratory and cardiovascular diseases are expected to fall 30%, and life expectancy will increase in 11+ months.

NYC, USA ↓ 97% **reduction in sulfur dioxide (SO_2) levels**

Community air monitoring prompted high-impact municipal interventions, such as a mandate to use cleaner heating oils. The result was a significant reduction of harmful air pollutants, including up to a 97% decrease in sulfur dioxide (SO_2) levels and a 33% reduction in nitrogen dioxide (NO_2).

ADOPT THIS IDEA: 3 KEY STEPS

Start by
Assessing current air quality data coverage and identifying key areas of concern.

Deploy sensors 1

Collaborate with city departments and experts to strategically deploy air quality sensors in pollution hotspots identified as priorities.

Analyze and design 2

Analyze the collected data to identify and design targeted clear-air actions. Ensure transparency by actively involving the community.

Deliver and scale 3

Implement air-clean actions and assess their effectiveness. Use these insights to advocate for expanding clean air efforts.

Learn more and register to be a part of the Idea Exchange here