COMMUNITY CHANGE GRANTS
Environmental and Climate Justice
U.S. Environmental Protection Agency

EnDyna

Pollution Reduction Strategy 1: Indoor Air Quality and Community Health Improvements

Indoor Air Quality 101

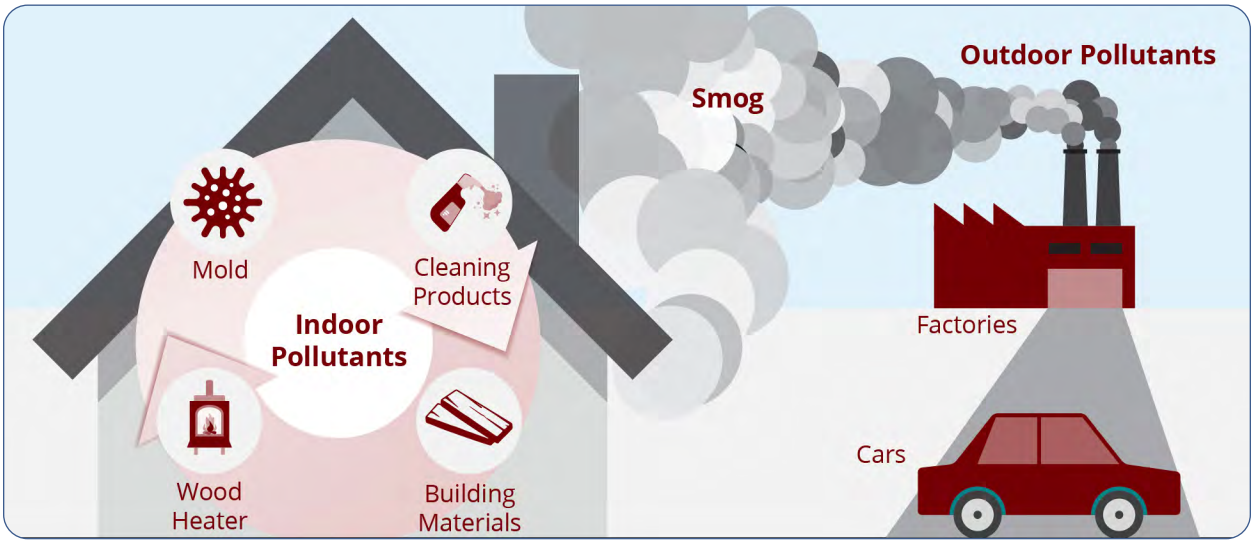
Indoor air quality refers to the safety and comfort of the air within buildings and structures. Various harmful substances, like mold, radon, smoke, chemicals from cleaning products, lead paint, and asbestos can affect indoor air quality. Poor indoor air quality may cause or worsen symptoms of health problems such as asthma, respiratory conditions, and heart disease. Maintaining good indoor air quality involves proper ventilation, controlled indoor humidity levels, regular cleaning and maintenance, and fewer sources of indoor pollutants.

Relevant term and components related to indoor air quality improvements include:

Heating, ventilation, and air conditioning (HVAC) systems: HVAC systems are designed to control temperature, humidity, and air quality within buildings for improving health and comfort.

Filtration systems: These systems are designed to remove harmful substances from indoor air to improve its quality and promote healthier air; they can be installed within HVAC units or as standalone units.

Ventilation systems: These systems promote the circulation and exchange of air within enclosed spaces to regulate indoor air quality.



Factors affecting outdoor air quality

Indoor Air Quality and Community Health Improvements

Indoor Air Quality Solutions for Community Challenges

Poor Ventilation

Community Challenges	Possible Solutions
Poor ventilation allows harmful substances to accumulate and remain in enclosed spaces. • Buildings in rural areas and older buildings are more likely to have poor ventilation; this allows harmful substances to build up in indoor air.	• Retrofit existing buildings with improved ventilation systems for better airflow. • Conduct inspections for current ventilation systems.

Emissions from Wood Stoves and Kerosene Space Heaters

Community Challenges	Possible Solutions
Buildings that rely on wood stoves and kerosene space heaters have an increased risk of poor indoor air quality. That is because the burning of wood and combustion of kerosene releases harmful substances like particulate matter particulate matter ($PM_{2.5}$), carbon monoxide, volatile organic compounds (VOCs), etc. • Wood heaters that don't meet EPA's standards can bring about health problems or make them worse. Such health problems include asthma, respiratory issues, heart problems, and inflammatory reactions.	• Replace wood heaters with more efficient, cleaner heaters certified by EPA. • Vent all combustion appliances to the outside. • Provide improved insulation and weather proofing to homes. This reduces the need for space heaters.

Presence of Harmful Substances Related to Building Materials

Community Challenges	Possible Solutions
Harmful substances, such as lead, radon, and asbsestos, pose significant health risks including respiratory issues, damages to the nervous system, and various forms of cancer. • These harmful substances are more likely to be found in disadvantaged communities	• Conduct inspections and testing to identify the extent of contamination. • Take measures to remedy the problem, such as cleaning, encapsulation, or removal by trained professionals. • Provide community education on ways to reduce the use of harmful chemicals in the indoor space.

Indoor Air Quality and Community Health Improvements

Indoor Air Quality Solutions for Community Challenges

Lack of HVAC and/or Filtration Systems

Community Challenges	Possible Solutions
The lack of or poor HVAC and/or filtration systems induce poor air quality. • Poor humidity control leads to increased risk of mold, poor temperature control results in discomfort or inefficient heating/cooling, and poor filtration allows outdoor pollutants to enter the indoor space. • Mold and outdoor pollutants can cause respiratory issues and make allergies and asthma worse, while poor heating or cooling can pose health risks, especially for older adults and young children.	• Install HVAC systems in buildings to regulate temperature, humidity, and air quality. • Install air filtration systems within HVAC units or standalone units to remove air pollutants and allergens. • Conduct education and outreach campaigns to raise awareness about the importance of HVAC and filtration systems.

Disclaimer: This document was created to help Community Change Grant applicants think through various potential solutions to the problems their community may be facing. All the listed "Community Challenges" and "Possible Solutions" are only examples. We did not attempt to list all possible challenges or solutions.

For further information on indoor air quality, see EPA's Improving Indoor Environment and EPA's Learn About Indoor Air Quality.

For further information on the Indoor Air Quality and Community Health Improvements Strategy, read Section I.G and Appendices D and F of the Notice of Funding Opportunity (NOFO).

For further questions regarding technical assistance, please contact EJ_TechAssist@epa.gov or call 1(800) 540-8123.

For questions regarding the Notice of Funding Opportunity (NOFO), please contact CCGP@epa.gov.

http://bit.ly/CCGTA