

**PROTECTING COMMERCIAL BUILDINGS FROM OUTDOOR POLLUTANTS:
SCHOOL, OFFICE, AND MULTIFAMILY BUILDINGS**

Appendix: IAQ Information Resources and Topics

Newsletters and/or listservs are also provided by most of these resources.

1) Collaborative for High Performance Schools, Best Practices resources

<http://www.chps.net/dev/Drupal/node>

- a) Planning and design criteria
- b) Maintenance and operation
- c) Commissioning
- d) Relocatable classrooms
- e) Training

2) U.S. Environmental Protection Agency (EPA), Indoor Air

<http://www.epa.gov/iaq/>

- a) Schools
 - i) IAQ Tools for Schools
 - ii) Energy Savings Plus Health Upgrades
 - iii) Healthy Schools Environmental Assessment Tool (Healthy SEAT)
- b) Homes
- c) Large Buildings
 - i) Indoor Building Education and Assessment Model (I-BEAM)
 - ii) Other publications
- d) Federal Interagency Committee on Indoor Air Quality webinars
- e) My Environment: maps and data on pollutant sources in the U.S. (air, water, soil), <http://www.epa.gov/myenvironment/>
- f) [Air pollutant sensors, http://www.epa.gov/research/airscience/next-generation-air-measuring.htm](http://www.epa.gov/research/airscience/next-generation-air-measuring.htm)

3) Lawrence Berkeley National Laboratory, Indoor Air

<http://indoorair.lbl.gov/>

- a) Indoor Air Quality Scientific Findings Resource Bank, <http://www.iaqscience.lbl.gov/>
- b) Research groups, <http://energy.lbl.gov/ied/>
- c) Webinars

4) U.S. Department of Energy (DOE)

- a) Multifamily Buildings, <https://www4.eere.energy.gov/challenge/partners/multifamily>
- b) Commercial Buildings, <http://www.energy.gov/public-services/commercial-buildings>
Weatherization Assistance Program, <http://www.wxplushealth.org/about/department-energy-weatherization-assistance-program>

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5) National Center for Healthy Homes

<http://www.nchh.org/>

- a) Elder Apartments Green Rehab,
<http://www.nchh.org/Research/GreenRehabilitationofElderApartmentTreatments.aspx>
- b) Research
- c) Training
- d) Resources
- e) Policy

6) National Institute for Standards and Technology, IAQ & Ventilation Group

http://www.nist.gov/el/building_environment/airquality

- a) IAQ
- b) Ventilation
- c) Air Cleaning
- d) Sustainability
- e) Modeling
- f) R&D

7) National Institute for Building Science, Whole Building Design Guide

<http://www.wbdg.org/>

- a) Air sealing and building commissioning
- b) Ventilation and air filtration
- c) Moisture control
- d) Operation and Maintenance
- e) Guidance on various other topics

8) California Air Resources Board (CARB), IAQ and Personal Exposure Program

<http://www.arb.ca.gov/research/indoor/indoor.htm>

- a) Schools, <http://www.arb.ca.gov/research/health/school/school.htm>
- b) Community Health and Environmental Justice, <http://www.arb.ca.gov/ch/ch.htm>
- c) Air Cleaning Devices
- d) IAQ Guidelines
Wood burning Handbook,
http://www.arb.ca.gov/research/indoor/wood_burning_handbook.pdf
Land Use Handbook, <http://www.arb.ca.gov/ch/landuse.htm>
- e) IAQ Research and webinars
- f) Review and recommendations: Report to the Legislature

9) California Department of Public Health (CDPH), IAQ Program

<http://www.cdph.ca.gov/programs/IAQ/Pages/default.aspx>

- a) Regulations
- b) Resources

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- 10) Centers for Diseases Control and Prevention (CDC) and National Institute of Occupational Safety and Health (NIOSH), IEQ Programs**
<http://www.cdc.gov/niosh/topics/indoorenv/>
 - a) Resources, guidance
 - b) Legionellosis
 - c) Filtration guidance

- 11) Federal Emergency Management Administration (FEMA)**
 - a) Shelter and Safe Room design guide,
<http://www.fema.gov/pdf/plan/prevent/rms/453/fema453.pdf>

- 12) Canada Mortgage and Housing Corporation, High-rise and Multifamily Buildings**
<https://www.cmhc-schl.gc.ca/en/inpr/bude/himu/>
 - a) R&D
 - b) Healthy high rises
 - c) Education

- 13) National Research Council Canada, IAQ Program**
http://www.nrc-cnrc.gc.ca/eng/reports/2013_2014/clean_air_regulatory_agenda.html

- 14) Health Canada**
 - a) Residential Indoor Air Quality Guidelines,
<http://www.hc-sc.gc.ca/ewh-semt/air/in/res-in/index-eng.php>

- 15) Environment Canada**
 - a) Environmental indicators, monitoring, emissions,
<http://www.ec.gc.ca/indicateurs-indicators/default.asp?lang=En>

- 16) European Union**
 - a) Indoor air review,
http://ec.europa.eu/health/scientific_committees/opinions_layman/en/indoor-air-pollution/index.htm
 - b) Research, <http://www.env-health.org/news/latest-news/article/indoor-air-quality-results-from-eu>World Health Organization
 - c) Indoor Air Guidelines,
<http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/publications/2010/who-guidelines-for-indoor-air-quality-selected-pollutants>
 - d) Air sensor R&D, EuNetAir, <http://www.eunetair.it/>

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17) American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE)

- a) IAQ Guide (best practices), <https://www.ashrae.org/resources--publications/bookstore/indoor-air-quality-guide>
- b) Ventilation Standards, <https://www.ashrae.org/resources--publications/bookstore/standards-62-1--62-2>
- c) Commissioning Guideline, <http://www.techstreet.com/ashrae/products/1573306>
- d) Air Filter Standards

18) Air Infiltration and Ventilation Centre, International Energy Agency

<http://www.aivc.org/>

- a) Publication database, annotated bibliographies, literature lists
- b) Technical reports, guides
- c) Annual conference

19) Air Barrier Association of America

<http://www.airbarrier.org/>

20) Building Ecology

<http://www.buildingecology.com/articles>

21) Building Green

<http://www2.buildinggreen.com/>

- a) Environmental Building News
- b) Green Spec
- c) Training webcasts