

Indoor Air Quality Workshop Description and Outline

HTW II Indoor Air Quality (IAQ) Workshop: Finding Opportunities and Minimizing Risks for Builders

This workshop will teach participants essential information about indoor air quality as it applies to single family residences. Participants will learn the basics about the full range of potential pollutants and their impact on occupants. They will also learn the four important strategies for controlling and improving indoor air quality. This knowledge will empower builders and other participants to sort through the quagmire of IAQ information that is currently available and give them practical and affordable tools and strategies they can use to help their clients make better decisions and to incorporate healthy indoor initiatives into their building projects. Participants will be equipped to avoid potential risks and identify new opportunities for marketing healthier homes. The information presented in this session will build on the basics of building science covered in the popular EEBA full day Houses That Work session. Participants for this IAQ session are encouraged to attend a HTW I session before taking this session.

An important element of the workshop will be to introduce EPA's new air quality home-labeling program. EPA's Indoor airPLUS, administered under the ENERGY STAR program, is one tool that helps builders sort through a wide range of construction elements and techniques that can impact indoor air quality.

Relevance to Attendees

The workshop is targeted to at least the following groups:

- New home builders and remodelers and their site supervision staff
- Designers and architects
- Estimators and contract managers of builders
- Building supply and manufacturers representatives who wish to promote materials applicable to the specifications
- Specific trade contractors such as HVAC, foundation, framers, insulators and siding contractors
- Utility and housing program officials who promote ENERGY STAR Homes.
- Energy Raters

Learning Objectives

- Identify how IAQ issues are related to the larger topic of building science and high performance homes.
- Identify the full range of potential indoor air pollutants that are related either to construction materials and techniques or occupant activities, and learn about their potential impact on the building and the occupants.
- Learn the four essential strategies for controlling indoor air quality
- Learn to apply cost effective strategies to specific pollutant sources.
- Identify opportunities and barriers presented by indoor air quality initiatives
- Identify the key requirements of the EPA's Indoor airPLUS and how builders can apply them to their homes.

Note:

- The workshop will in all cases be adapted to the climate zone and building practices of the local area where it is being presented to ensure it is relevant to participants.

Length of Workshop: The workshop is a half day (3.5 hour) format

Agenda

8:30 - Welcome, review of the agenda / the objectives, introductions

- A brief overview of EEBA, ENERGY STAR and EPA

8:40 - **Background**

- Review of the key concepts of the Houses That Work program that specifically apply to IAQ issues – that is, where this workshop fits in light of the other EEBA offerings.
 - A short review of building science basics – air, heat and moisture flow as it relates to indoor air quality, house as a system issues and how small changes can have important impacts
- A simple introduction to the EPA's Indoor airPLUS and its relevance during the workshop

9:00 - **Indoor Air Quality Pollutants and Their Sources**

- A discussion of indoor air pollutants, what they are, where they come from & their relevance
 - Categorizing of pollutants – biologicals vs. chemical, outdoor vs. indoor, those associated with buildings and building materials vs. occupant based.
 - A simple review of the current research and understanding of potential health effects and the impact on occupants.
 - The roles and responsibilities builders have in providing healthy indoor air.

9:25 - **Indoor Air Quality Control Strategies**

- The essential priorities for IAQ control – removing sources, sealing, ventilating and filtering
- Applying these strategies to the list of pollutants developed above

9:40 - **Essential Construction Elements**

Important messages for every builder to know on specific construction elements. The discussion will again focus on the basic strategies of Remove, Seal, Ventilate and Filter.

- Water management details – foundation strategies, flashings, rain screens, penetrations
- HVAC impact on IAQ – AC sizing, dehumidification, ventilation, filtration, duct sealing, return air issues, combustion venting, fireplaces, alarm systems
- Air sealing - garage to house connections, attics, performance testing of houses and ducts
- Selection of building materials
- Pest barriers
- Radon control

11:30 – **EPA's Indoor airPLUS - The Benefits and Barriers to Builders**

- Relevance & benefits to builders by implementing IAQ initiatives
- List of potential barriers to implementing IAQ initiatives at their sites
- Sales and marketing techniques to being successful with an IAQ focus
- Training of trades and adjusting scopes of work
- Commissioning of houses
- Homeowner education and “operation manual”
- The role of the energy rater
- Marketing support & where to go for more detailed information

12:00 – **Summary and Wrap-up**