

## **INTRODUCTION TO HOUSES THAT WORK – Half-Day Workshop Description & Outline**

### **Title:**

### **HTW II Houses That Work “Lite” – Half-Day Workshop "An Introduction to Houses That Work"**

This is a half day workshop that is the “lite” version of the full day Houses That Work program. This shorter version is often used in conjunction with other half day sessions or at conferences as an introductory piece to give participants the basics of building science and how it is applied to create high performance homes. The session will cover the elements that are part of high performance homes and the industry conditions that create a need for us to build them. The fundamentals of building science - air, heat and moisture flow – will be outlined and applied in helping participants make better choices with respect to construction materials and methods. By the end of the session participants will have a better understanding of how to build better attics, walls and foundations and how to choose HVAC systems that integrate properly into their homes.

### **Relevance to Attendees:**

The workshop will be of most interest 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 industry suppliers and manufacturers representatives of building products
- Trade contractors who want to know more about how their work affects building performance
- Utility and housing program officials.
- Government housing officials
- New home sales agents
- Energy Raters

### **Learning Objectives:**

- Learn the elements of high performance homes and how they help respond to the many changes in the residential construction industry and consumer expectations.
- Learn the fundamentals of air, heat and moisture flow and see how they can be applied to make better material and methods decisions
- Apply the building science to attics, walls, windows, foundations and HVAC decisions to create high performance homes.
- Identify the building process changes needed to cost effectively implement high performance homes
- Learn about the successes of other builders who have benefited from implementing high performance home strategies.

### **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.

## **Workshop Format**

**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 and the ENERGY STAR program
- 8:40 - **What is a High Performance Home and Why Do We Need Them**
- Review of the key concepts of the Houses That Work program that specifically apply to insulation 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 insulation and air sealing, house as a system issues and how small changes can have important impacts
- 9:00 - **Fundamentals of Building Science**
- How air, heat and moisture flow and why every builder and trade contractor needs to know it
  - Finding important opportunities and avoiding risks using a building science approach
- 9:30 - **Applying Building Science to Construction Elements**
- Using building science to make better:
    - Attics,
    - Walls and windows
    - Foundations
  - Managing moisture to avoid defects and make healthier longer lasting buildings
  - Innovative materials and methods that can be used to improve overall performance
- 11:00 – **Choosing Better HVAC Systems**
- Important decisions on choosing appropriate HVAC systems that are more cost effective and integrate better into the building envelope to create more comfortable homes
  - Opportunities for better air quality using ventilation, filtration and proper dehumidification strategies
    - Critical details behind tubs, fireplaces, bulkheads, garage interfaces
- 11:30 – **Process Changes for Implementing High Performance Elements**
- Identifying what process changes builders need to employ to be successful with new materials and technologies
  - Engaging and training staff, trades and sales agents
  - Identifying the scopes of work that need to change
  - Identifying building science associates and energy raters to work with
- 11:45 – **Examples of Builders Who Have Effectively Implemented High Performance Construction**
- Case studies of builders working within the Building America and ENERGY STAR program that have benefited from a building science approach
  - Resources available to assist with building and marketing high performance homes
- 12:00 – **Summary and Wrap-up**