

## *Comprehensive Energy Auditor Training*

This workshop will teach you how to evaluate the energy performance, comfort and safety of a house through a comprehensive, whole-house diagnostic procedure. You will learn about the hidden flaws often found in residential construction that can cause discomfort, high utility bills, moisture problems and indoor air quality problems. You will learn how to use powerful diagnostic tools to find and correct flaws in a building's thermal envelope. You will also learn how to evaluate and sell the economic benefits of solutions to these problems by using powerful energy analysis software -- software that will also provide accurate sizing of heating and air conditioning equipment.

## *Energy Rater Certification*

Successful completion of this training is the first step toward becoming certified as a professional home energy rater. As an energy rater, you will be able to produce energy rating reports that will help homebuyers and homeowners qualify for financing incentives through a variety of private and government loan programs. KBSI's home energy rater training is accredited by the Residential Energy Services Network (RESNET). KBSI is one of the oldest independent training centers in the nation, and has offered this training since 1997.

## *Who should attend*

This workshop is designed for energy auditors, utility customer service representatives, housing inspectors, HVAC contractors, insulators, builders and remodelers. Establish yourself on the cutting edge of housing performance technology and create a marketing edge for yourself.

## *What you will learn*

- a sound understanding of building science principles and residential energy use
- how to use state-of-the-art diagnostic tools, including the blower door and Duct Blaster™
- how to conduct a comprehensive diagnostic analysis of a home
- how to produce a complete home energy analysis using REM/Rate™
- how to produce Energy Code compliance reports
- how to certify a home for the EPA Energy Star labeled homes program
- how to certify a home for the EPACK 2005 (45L) builder tax credit

## *Your instructors*

- **Doug Walter** is president of KBSI. He has taught building energy principles for more than 30 years. He is an architect by training, and presents at a number of national building performance conferences. He is a former member of the RESNET board of directors and its training and education committee.
- **Rob DuTeau** is KBSI's director of training. He is a mechanical engineer with a master's degree in petroleum engineering/geothermal. Before joining KBSI he taught mathematics at Friends University.

## Workshop Agenda

### Day One

- Introduction to home energy ratings
- Introduction to residential energy
- Building science and energy flow principles
- Telltale House demonstration
- Quantifying building energy flows
- Climate and energy use

### Day Two

- Defining the thermal boundary
- Insulation
- Windows and doors
- Air leakage
- Using a blower door to measure air flow and locate air leaks (hands-on)
- Basic pressure diagnostics
- Using a Duct Blaster™ to measure duct leakage (hands-on)



### Day Three

- Residential heating systems
- Comparing heating energy costs
- Water heating
- Cooling & summer comfort principles
- Sun angles and shading
- Lights and appliances
- Mechanical ventilation

### Day Four

- Understanding construction drawings
- Documenting buildings
- Recommended tools & equipment
- REM/Rate: rating exercise #1
- Selecting energy improvement measures
- Understanding utility rates
- Rater certification steps
- Rating exercise #2: in-field measurement and data collection

### Day Five

- Course review
- RESNET National Rater Exam (9:30 – 11:30 AM)
- Rating exercise #2: data entry
- Participating in the Energy Star Program

Adjourn at 3:30 pm

- The RESNET Work Scope exam and RESCAZ practical exam can be taken after the class adjourns at the student's discretion.

**Exams:** Students must complete the following RESNET exams.

- Rater Exam. \$100. 50 multiple-choice questions. 2 hours. On-line. Open-book. Passing score 80%.
- Work Scope Exam. \$50. 25 multiple-choice questions. 2 hours. On-line. Open-book. Passing score 80%.
- ResCaz Field Simulation Exam. \$199. On-line simulation during which student completes the combustion appliance safety procedure, including setting up the CAZ for worst-case depressurization. 2 hours. Passing score 85%. The license also includes the exam fee. Access to the software for practice will be provided upon receipt of registration.
- RESNET Practical Sim exam. \$250. On-line simulation during which student completes the entire rating process on two houses. Passing score 80%. The license fee includes the exam fee. Access to the software for practice will be provided upon receipt of registration.

**Location:** The training is conducted at the KBSI Training Center, 200 Zeandale Rd., Manhattan, Kansas. Sessions begin at 8:00 a.m. Lunch and refreshments are included in your registration. Dress is casual.

**Travel:** Manhattan (MHK) is served by American Eagle Airlines with several flights daily between Manhattan and Dallas/Fort Worth (DFW) and Chicago O'Hare (ORD). Participants may also fly to Kansas City International Airport (MCI), then travel to Manhattan via ground shuttle or rental car. Manhattan is two hours west of Kansas City on I-70. Complete travel, lodging and weather information can be at <http://kansasbuildingscience.com/links.htm>.

### What you will receive



- ❑ Home Energy Rater Manual including all lecture slides and many supplemental resources.

- ❑ *Residential Energy*, 6<sup>th</sup> edition, by John Krigger and Chris Dorsi

- ❑ 7.5 percent discount on Minneapolis Blower Door equipment purchased from The Energy Conservatory.



- ❑ Up to one year free use of REM/Rate™ energy analysis software.



- ❑ Follow-up technical assistance.

- ❑ Well-designed, comprehensive training delivered by experienced, dedicated trainers.

- ❑ NOTE: *Residential Energy* and study resources (including the daily study questions assigned during the training) will be sent to each registrant upon full payment for the course.

### Certification requirements

To receive your energy rater certification, you must meet the following requirements:

- ❑ Passing scores on RESNET's four certification exams.
- ❑ Satisfactory completion of two ratings and performance tests during the training.
- ❑ Sign Memorandum of Agreement with a RESNET-accredited Quality Assurance Provider after completing a minimum of three probationary ratings with the Provider.

### Registration Fee Policies

Registration fee is refunded only if notice is received seven days before the start of the workshop. Prior to seven days, there is a \$150 cancellation fee. Substitutions and transfers may be made without penalty. No refund is available for a cancellation after transferring to another date. Pre-paid exam fees are fully refundable.

For questions, please call:

**785-537-2425**

Kansas Building Science Institute is committed to making services, activities and programs accessible to all participants. If you have special requirements due to disabilities or dietary restrictions, please contact KBSI at least two weeks before the start of the workshop.

## Registration Form - Home Energy Rater Training and Certification

_____		
Name		
_____		
Company/Agency		
_____		
Address		
_____		
_____	_____	_____
City	State	Zip
_____		
_____	_____	
Work Phone	Work Fax	
_____		
Cell Phone (for last-minute or emergency contact only)		
_____		
e-mail address		

Register by returning this form to:

Kansas Building Science Institute  
PO Box 1264  
Manhattan, KS 66505-1264

Or fax to: 866-220-3704

Please indicate choice of session. Registration fee is \$1,250 per person (\$50 discount per person for more than one registration from same company).

\_\_\_ Oct. 2-6, 2017

More 2017 dates will be announced soon.

You can pay the exam fees directly to RESNET at the time you log in to take the exam. As a convenience, you can pay now and not have to provide credit card information at the time of the exam.

\_\_\_ Sign me up for Rater exam (\$100)  
\_\_\_ Sign me up for the Work Scope exam (\$50)

Please indicate method of payment:

\_\_\_ Check enclosed payable to KBSI  
\_\_\_ Send invoice\*  
\_\_\_ Charge to: \_\_\_ VISA \_\_\_ MC \_\_\_ Amex \_\_\_ Disc.

\_\_\_\_\_

Print Cardholder's Name as it appears on card

\_\_\_\_\_ / \_\_\_\_\_

Card Number

Exp. Date

\* If e-mail address is provided, invoice will be sent electronically