



## Building America

### Opportunities in Large Data Collection and Analysis

April 16, 2014

---

**Moderator:**

**Stacey Rothgeb - National Renewable Energy Laboratory**

**Panelists:**

**Omari Faakye - Steven Winter Associates, Inc.**

**Noel Merket - National Renewable Energy Laboratory**

**Chuck Booten - National Renewable Energy Laboratory**

**Paul Norton – Norton Energy R & D**

**Cheryn Metzger - National Renewable Energy Laboratory**

# Stacey Rothgeb, Senior Engineer, National Renewable Energy Laboratory



**Stacey Rothgeb** joined NREL in 2009. She has a diverse background in engineering design, construction project management, and energy consulting. Stacey is a Research Coordinator for the Building America Program. Her research efforts include performance testing and analysis for both new and existing homes. Prior to joining NREL, Stacey worked as the energy manager at the U.S. Air Force Academy. She also owned and operated her own residential energy consulting firm. Stacey is a licensed Professional Engineer (PE) and a Certified Energy Manager (CEM).

# Some Housekeeping Items

## Two Options for Audio (select audio mode):

### ***1. Listen through your computer.***

Please select the “mic and speakers” radio button on the right hand audio pane display

### ***2. Listen by telephone.***

Please select the “telephone” option in the right-hand display, and a phone number and PIN will display.

### ***3. Panelists - Please mute your audio device when not presenting***

### ***4. Technical Difficulties:***

***Contact the GoToWebinars Help Desk: 888.259.3826***

# Some Housekeeping Items (cont'd)

## To ask a question:

- Select the 'questions' pane on your screen and type in your question

## Having trouble viewing the webinar:

- A video/audio recording of this Webinar and the slide decks will be made available after the webinar at:  
<http://energy.gov/eere/buildings/building-america-meetings#current>

# Agenda

- ✓ Welcome and Introductory Remarks
- ✓ Overview of Building America ([buildingamerica.gov](http://buildingamerica.gov))
  - Stacey Rothgeb: National Renewable Energy Laboratory
- ✓ Presentations
  - Omari Faakye: CARB
  - Noel Merket: NREL
  - Chuck Booten, Cheryn Metzger: NREL and Paul Norton: NERD
- ✓ Questions and Answers
- ✓ Closing Remarks
- ✓ Survey

# Overview of Building America



# Who we are?





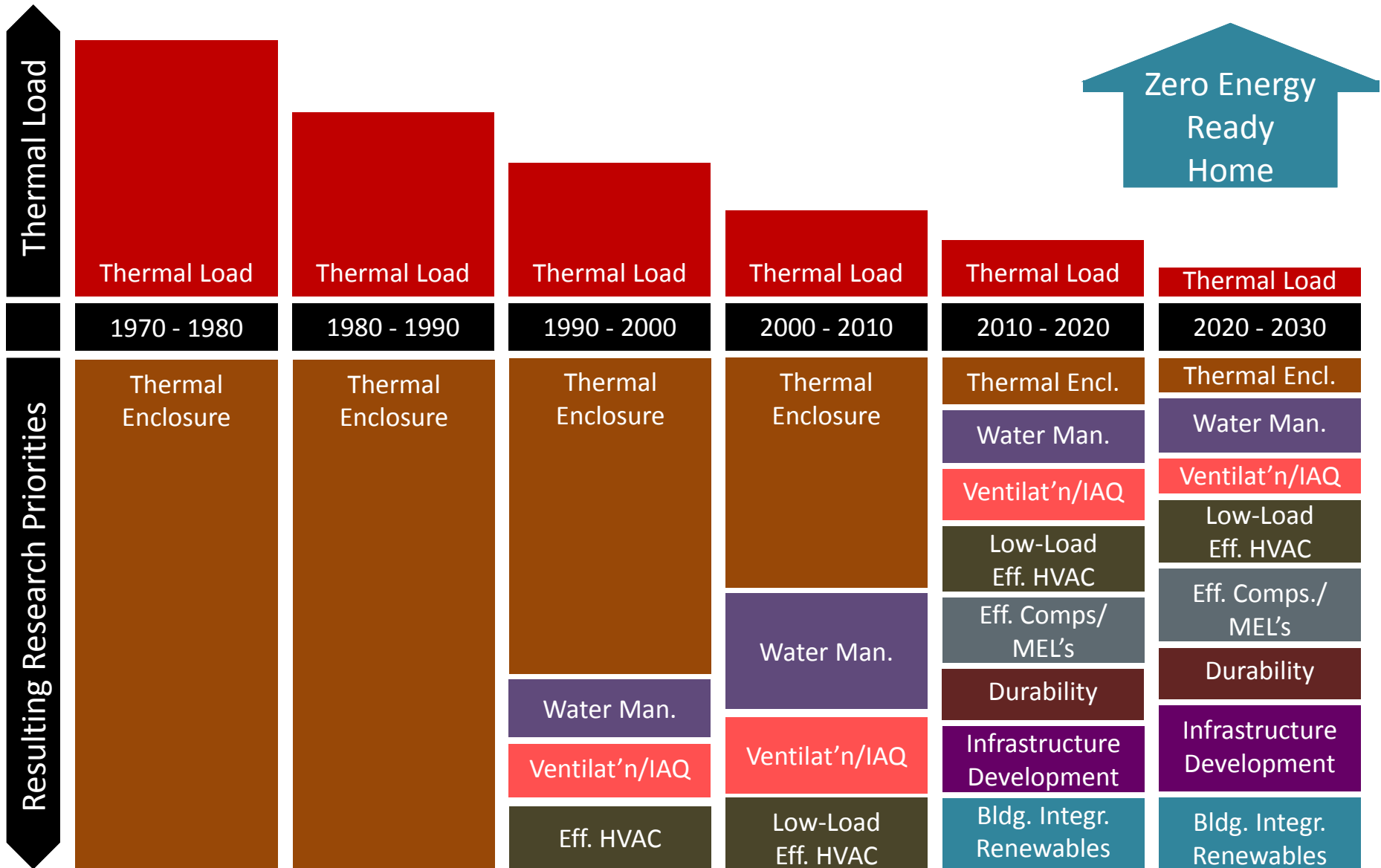
# What we do?

## Building America Top Innovations





# What we researching?



# What we achieve?

Before Building  
America  
Pre-1995

- 3 times the energy
- IAQ, comfort & durability problems

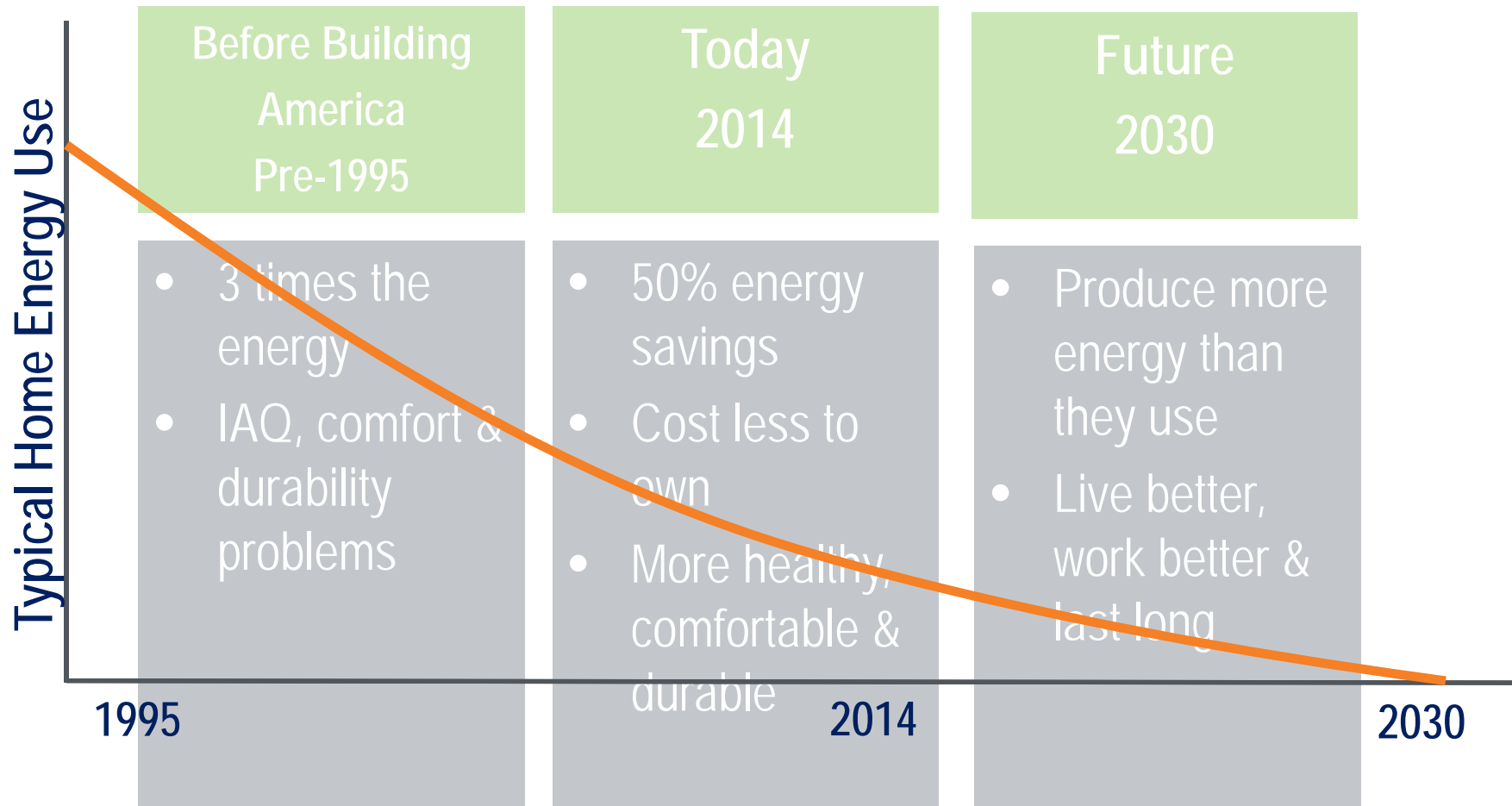
Today  
2014

- 50% energy savings
- Cost less to own
- More healthy, comfortable & durable

Future  
2030

- Produce more energy than they use
- Live better, work better & last long

# What we achieve?



# Where can you find resources?

## Building America Solution Center:

Proven Innovations from  
World-Class Research  
... at Your Finger Tips



<https://basc.pnnl.gov/>





## **Building America Webinar Series**

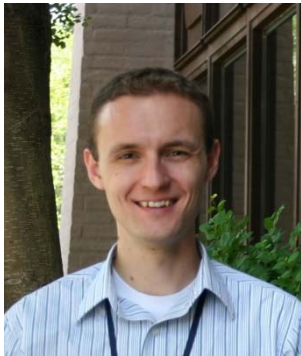
### **Topic 2: Opportunities in Large Data Collection and Analysis**

# Omari Faakye, Building Systems Engineer, Steven Winter Associates, Inc.



**Omari Faakye** is an Building Systems Engineer at Steven Winter Associates Inc (SWA). Omari joined SWA in 2012. His current research is investigating ways to predict air leakage to the outside in low-rise multifamily units and how that could be used to better model the energy penalty of these units. His prior experience in the area of data mining comes from his previous company where he analyzed data to obtain actionable intelligence on credit card fraud behavior.

# Noel Merket, Engineer, National Renewable Energy Laboratory



**Noel Merket** joined NREL in 2010. His current work at NREL includes the National Residential Efficiency Measures Database, the Field Data Repository, and building energy optimization software development. His prior research experience was on two-phase liquid vapor heat transfer for thermal management of small satellites.



# Cheryn Metzger, Chuck Booten and Paul Norton



**Chuck Booten** joined NREL in 2010. His research is focused on experimental and numerical heat transfer and fluid mechanics for envelope and HVAC technologies. Prior to working at NREL, Chuck was a project manager at Protonex Technology, LLC where he directed the development of kilowatt-scale solid-oxide fuel cell (SOFC) systems for both military and civilian customers. His background is in experimental heat transfer and fluid mechanics.



**Paul Norton** researches residential energy efficiency options through testing, monitoring, and analysis of zero energy new homes and deep energy retrofits. Paul was with NREL for 15 years where he participated in both residential and commercial building energy research and launched NREL's current existing homes research effort. He now leads Norton Energy R&D where he engages in residential building energy topics with a variety of clients.



**Cheryn Metzger** joined NREL in 2009. In addition to being one of the Research Coordinators for the Building America Program, she is also involved in research surrounding the residential construction benchmark development. Cheryn is a Professional Engineer (PE), Project Management Professional (PMP), and LEED Accredited Professional (LEED AP).

# Time for Q&A

Multifamily Blower Door Testing  
Omari Faakye  
ofaakye@swinter.com



Building America Field Data Repository  
Noel Market  
Noel.market@nrel.gov

Indoor Temperature and Humidity Protocol  
Chuck Booten  
Chuck.booten@nrel.gov

# Survey

- How did we do?
- Your feedback is important!

Up Next...

May 21<sup>st</sup>, 2014 3pm ET

# High Performance Building Enclosures for Existing Homes, Part 1

Presenters will answer tough questions like:

- How can builders deal with increasing exterior foundation insulation without an excavator?
- What strategies can be used to improve energy performance of building envelopes while dealing with issues like ice damming during exterior "overcoat" insulation retrofits?
- How can deep energy retrofits be conducted with spray foam strategies; what works and what doesn't?

# Thank You!

PDF copies of the presentations in this Webinar will be available following the webinar

Please visit:

<http://energy.gov/eere/buildings/building-america-meetings#current>

