

Having trouble viewing this email? [Click here](#)

You're receiving this email because of your relationship with Building Science Corporation. Please [confirm](#) your continued interest in receiving email from us.

You may [unsubscribe](#) if you no longer wish to receive our emails.

information consulting bookstore seminars

building science.com e-news

Changing the way the world builds. People. Ideas. Integrity.

August 17, 2010 Issue # 25

Dear Jeffrey,

To effectively measure energy performance in the buildings we retrofit, design or build we need a common reference point. Then, energy savings across similar structures must be quantified to compare results. This in an effort to have us all speak the same language in establishing goals...the only question remains is, who gets to pick the language?

In this months featured article: *Building Energy Performance Metrics*, Kohta Ueno gives our take on the whole subject. Read below!

Our last session of The Three R's: Repairs, Renovations and Retrofits seminar is coming up on [September 21-22 in Chicago. We have seats available.](#) In this seminar Dr. Joseph Lstiburek and Dr. John Straube discuss building science principles (such as the control of heat, air and moisture and IAQ) and show you how to apply them to the repair and retrofit of existing buildings: residential, commercial and institutional.

The Three R's is designed for builders, architects, engineers, building science consultants, building code officials, facility managers, building product manufacturers, government officials, and disaster and damage restoration professionals who specialize in water loss.

Below the featured article, see a brief list of what is new at buildingscience.com. To view a list of past newsletters, click [here](#) for our archives.

Happy reading!



Jeff Melvin
Editor, buildingscience.com e-news

[Forward buildingscience.com e-news to a friend!](#)

Featured Article by **Kohta Ueno**

Building Energy Performance Metrics

Building Science Digest No. 152

"If you can not measure it, you can not improve it."

-Lord Kelvin (William Thomson)

Putting a measurement on building energy performance: you would think that it isn't that hard of a problem, right? Unfortunately, this is a topic that is simultaneously complicated, controversial (at times) ... not to mention lethally dull (possibly).

So why do we need building energy metrics? Most everyone in the building profession talks about energy savings, carbon emissions, and "green" buildings-but all of this is just smoke and mirrors until it can be quantified: "Are we saving energy-and if so, how much?" (sadly, sometimes the answer to that question is "No"-see [Building Science Insight 007: "Prioritizing Green-It's the Energy Stupid"](#)).

In order to quantify savings, or create targets/goalposts, we need to speak a common language. In other words, when we throw around phrases like, "50% savings," we need to specify, "Compared to what?" These difficulties are the core of this document; the key topics to understand are:

- Site and source energy-the difference between what comes out of the gas pipe, the electric cable, and the power plant. For details, see [BSD-151: "Understanding Primary/Source and Site Energy."](#)
- Savings shown by models and simulations vs. savings shown by actual use
- Calculations of United States average usage
- Normalization methods-unless you have two houses that are identical, with the same number of identical people, and in the same climate, you need to "normalize" to compare House A with House B. But once you start doing that, you start distorting the results-understanding those distortions are vital for looking at the "normalized numbers" with a critical eye. [article continues]

To read the entire feature article and find a downloadable PDF version, [here](#) to visit our web page.

New at buildingscience.com

[BSD-151: Understanding Primary/Source and Site Energy](#) 2010/08/10 -By Kohta Ueno/John Straube

The difference between site and source energy is a vital concept to understand when looking at the energy performance of buildings-failing to account for the difference will result in an apples-to-oranges comparison that does not give the true picture of a building's energy consumption.

[BSD-030: Rain Control Theory](#) 2010/08/10 -By John Straube

The design of building enclosures to control rain penetration and control rain shedding is typically based on experience and rules of thumb that make use of traditional details. Unlike heat flow, vapor diffusion, air leakage, etc. there is no theory of rain control to aid the designer or analyst of building enclosures.

[Hot-Humid Climate: Green Dream II](#) 2010/07/07 -By Building Science Corporation

The Green Dream 2 is a single-family home built on the site of a hurricane-damaged house that stood for 3 years before being demolished by the city of New Orleans. Staff and students from Portland Community

College met the homeowner and his family on a trip to New Orleans and wanted to help them by building a new home; one that would be durable, healthy, comfortable, energy-efficient and affordable.

[Cold Climate: Concord Cape Prototype](#) 2010/07/09

The design of the Concord Cape began in August of 2008. Architects and engineers at BSC developed the drawing set and specifications for the high performance custom home to be built in Concord, Massachusetts. The house is a Cape Cod style design with 5 bedrooms, 4 full bathrooms, 2 stories plus a finished basement. It is built into an existing neighborhood close to public transportation, restaurants, shops and other community resources.

Sign Up For This Newsletter!

About BSC

Building Science Corporation along with its Canadian partner company, Building Science Consulting, Inc., is a building science consulting and full service architecture firm with clients throughout North America. Building Science Corporation specializes in building technology consulting for all types of buildings including commercial, institutional and residential. Our focus is preventing and resolving problems related to building design, construction and operation. We are internationally recognized for our expertise in moisture dynamics, indoor air quality, and building failure forensic investigations. We are also on the leading edge of the design of sustainable buildings and communities. We believe in promoting energy efficiency and environmental responsibility within the constraints of marketable and affordable building technology.

Read More About Us: www.buildingscience.com



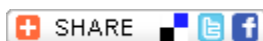
You are receiving this newsletter either because you have requested it or because of your relationship with Building Science Corporation.

To opt out any time from receiving this newsletter, click on the "unsubscribe" link below. Otherwise, to ensure that you continue to receive this newsletter, please add newsletter@buildingscience.com to your address book now.

Your privacy matters to us.
We are not going to sell, rent, lend or share your information with others.

Copyright © 2010 Building Science Corporation, All rights reserved

You may reproduce this article by including this copyright.



[Forward email](#)

 **SafeUnsubscribe®**

This email was sent to jeff@buildingscience.com by newsletter@buildingscience.com.
[Update Profile/Email Address](#) | Instant removal with [SafeUnsubscribe™](#) | [Privacy Policy](#).

Email Marketing by



Building Science Corporation | 30 Forest St | Somerville | MA | 02143