

Westford Building Science Symposium
August 4, 2014

U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

The Quirkiness of Education

SAM RASHKIN
Chief Architect
Building Technologies Office

Planning a New Future...

U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

Building America Building Science Education Summit

2 | INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market

Buildings.Energy.gov

By 2020 Building Science is:

U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

- Fully Integrated with Design Classes
- Required Curriculum for Professional Degrees
- Required CE Courses
- State Licensing Exams
- High-School Text Books
- Fully Understood and Valued in the Market

DOE 'Race to Zero' Student Design Competition

Building America Building Science Education Task Force

Building America Building Science Translator

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U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

'Race to Zero' Student Design Competition


4 | INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market

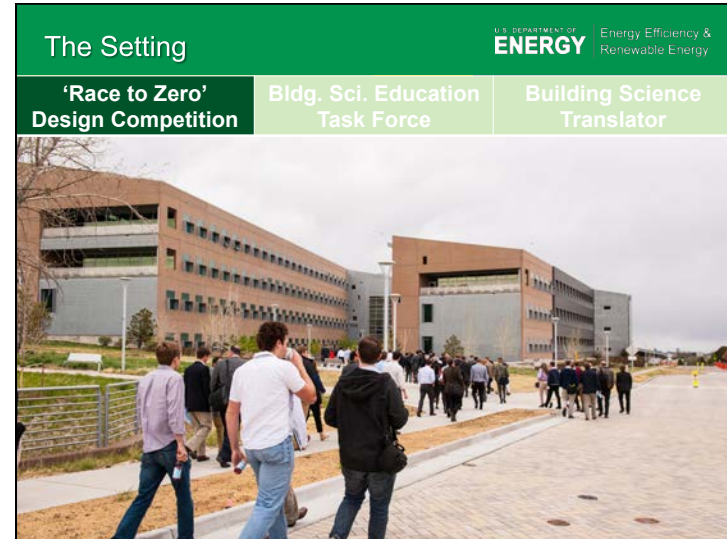
Buildings.Energy.gov

Vision		
U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy		
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
<p>Engage college students across the U.S. to integrate building science in design projects so they are better prepared for the future...</p> <p>zero energy buildings.</p>		
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Framework		
U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy		
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
<ul style="list-style-type: none"> • Annual competition • Teams sponsored by a collegiate institution • At least three students and a faculty advisor • Multidisciplinary team with industry advisor(s) • Options: <ul style="list-style-type: none"> - redesign existing floor plan, or - create a new house design to project requirements • Design target is DOE Zero Energy Ready Home 		
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Design Challenge		
U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy		
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
<ul style="list-style-type: none"> • Cost-effective from the buyer's perspective {P-I-T-I-U-M} • Demonstrate integration of building science principles • Building Science Competency – Take course (online or at school) and pass online test 		
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Submissions		
U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy		
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
 <p>2013:</p> <ul style="list-style-type: none"> • 340+ Students • 26 Universities • 28 Teams 		
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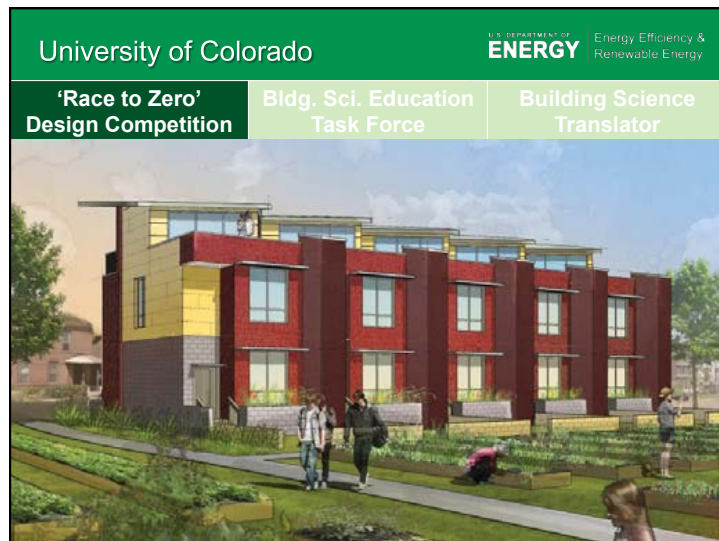



California State University Fresno			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			


Clemson University			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			

University of Minnesota			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			


Penn College			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			

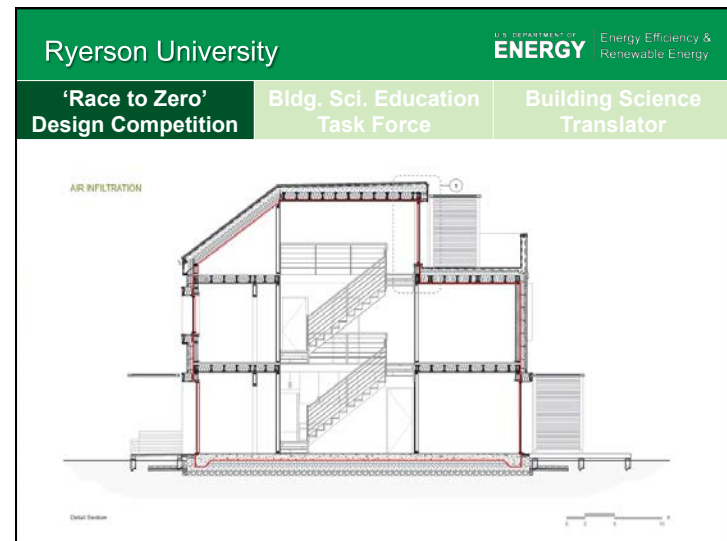
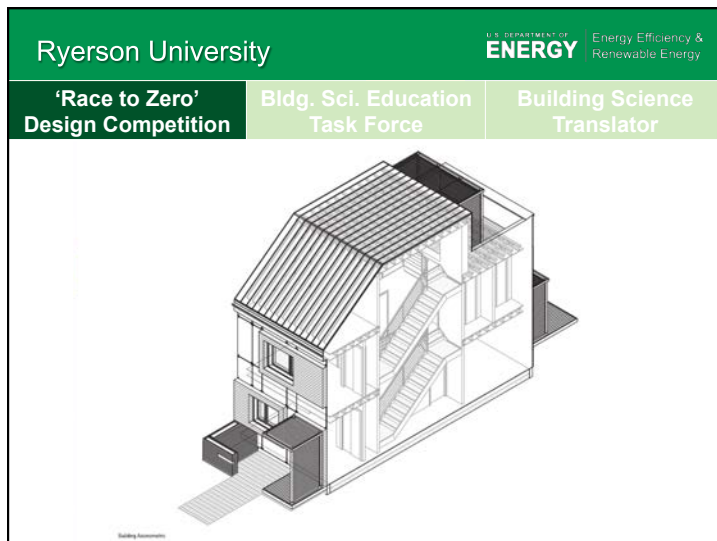
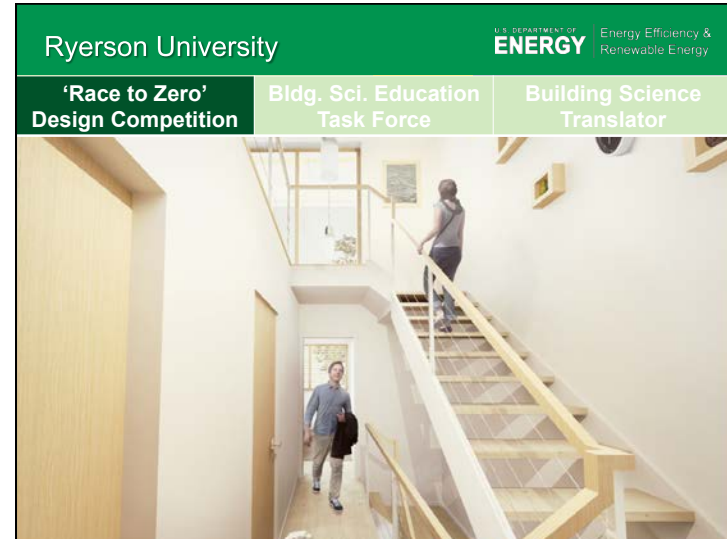
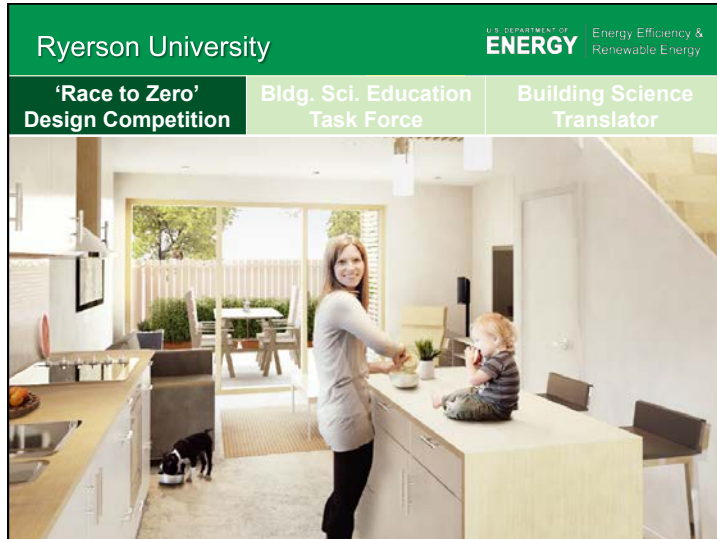



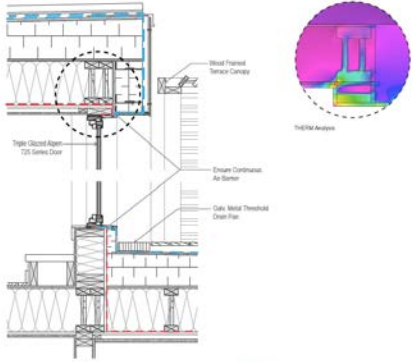
University of Las Vegas			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			


SUNY ESF, Syracuse, Onondaga CC			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			


SUNY ESF, Syracuse, Onondaga CC			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			
Pattern Language			THE MONTAGE


Ryerson University			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			






Ryerson University			 U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
			


Lessons Learned			 U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
<p>Everything Exceeded Expectations:</p> <ul style="list-style-type: none"> • Number of Entries (28 teams, 26 schools) • Number of Competing Students (340) • Quality of Entries • Juror Panel Presentation Process • 'Vision' Expert Presentation Session • Speed Dating BA Top Innovations • NREL Venue 			
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Areas for Improvement			 U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
<p>Area for Improvement:</p> <ul style="list-style-type: none"> • Consistent Cost Analysis • Judging Burden • Building Science Course • Additional Design Training • Link Competitors to Jobs • Food 	<p>Planned Improvement:</p> <ul style="list-style-type: none"> • Provide Std. Cost Data • Submission Templates • Joe Lstiburek Course • Add Design Webinar • Add Job Fair • ? 		
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2015 Race To Zero Key Dates			 U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
<p>Registration Deadline: November 27, 2014</p> <p>Bldg. Sci. Competency: December 31, 2014</p> <p>Submissions Due: March 31, 2015</p> <p>'Race to Zero' Event: Early April, 2015</p>			
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Summary		
		
'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
<p>High Impact: Transform Architectural, Engineering, and Construction Management College Education to Include Building Science</p> <p>Low Cost: ~\$100K per competition incremental ~\$300K per competition total</p>		
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Summary		
		
		
<p>Building Science Education Task Force</p>		
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Define Terms		
		
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
<ul style="list-style-type: none"> • Building Science • Workforce Classifications • Proficiency Level • Competencies • Proficiency Guideline 		
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Develop Guidelines		
		
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
<p>Workforce Classifications</p> <ul style="list-style-type: none"> High School Students Builders/Contractors Program/Project Man. Transaction Process Architects/Engineers Building Science Pros Home Energy Pros Code Officials 		

Develop Guidelines		U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy					
DOE CH Student Design Competition		Bldg. Sci. Education Task Force			Building Science Translator		
Workforce Classifications	Competencies	Systems Thinking	Building Enclosure	Building Services	Operation & Maint.	Building Testing	Systems Integration
	High School Students						
Builders/Contractors							
Program/Project Man.							
Transaction Process							
Architects/Engineers							
Building Science Pros							
Home Energy Pros							
Code Officials							

Develop Guidelines		U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy					
DOE CH Student Design Competition		Bldg. Sci. Education Task Force			Building Science Translator		
Workforce Classifications	Competencies [1-6]	Systems Thinking	Building Enclosure	Building Services	Operation & Maint.	Building Testing	Systems Integration
	High School Students						
Builders/Contractors							
Program/Project Man.							
Transaction Process							
Architects/Engineers							
Building Science Pros							
Home Energy Pros							
Code Officials							

Proficiency Level*

- 1 = Remember (knowledge)
- 2 = Understand (comprehension)
- 3 = Apply (application)
- 4 = Analyze (analysis)
- 5 = Evaluate (synthesis)
- 6 = Create (design)

* Based on Revised Bloom's Taxonomy

Develop Guidelines		U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy					
DOE CH Student Design Competition		Bldg. Sci. Education Task Force			Building Science Translator		
Workforce Classifications	Competencies [1-6]	Systems Thinking	Building Enclosure	Building Services	Operation & Maint.	Building Testing	Systems Integration
	High School Students		1	1	N.A.	N.A.	1
Builders/Contractors		2	3	5	2	1	2
Program/Project Man.		2	1	2	2	1	1
Transaction Process		1	1	1	1	1	1
Architects/Engineers		6	6	4	4	3	5
Building Science Pros		6	6	6	6	6	6
Home Energy Pros		5	5	4	4	6	4
Code Officials		2	1	2	1	3	3

Develop Guidelines		U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy						
DOE CH Student Design Competition		Bldg. Sci. Education Task Force			Building Science Translator			
Workforce Classifications	Competencies [1-6]	Systems Thinking	Building Enclosure	Building Services	Operation & Maint.	Building Testing	Systems Integration	
	High School Students		1	1	N.A.	N.A.	1	1
Builders/Contractors		2	3	5	2	1	2	
Program/Project Man.		2	1	2	2	1	1	
Transaction Process		1	1	1	1	1	1	
Architects/Engineers		6	6	4	4	3	5	
Building Science Pros		6	6	6	6	6	6	
Home Energy Pros		5	5	4	4	6	4	
Code Officials		2	1	2	1	3	3	

Develop Guidelines		U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy					
DOE CH Student Design Competition		Bldg. Sci. Education Task Force			Building Science Translator		
Workforce Classifications	Competencies [1-6]	Systems Thinking	Building Enclosure	Building Services	Operation & Maint.	Building Testing	Systems Integration
	High School Students	1	1	N.A.	N.A.	1	1
Builders/Contractors	2	3	5	2	1	2	
Program/Project Man.	2	1	2	2	1	1	
Transaction Process	1	1	1	1	1	1	
Architects/Engineers	6	6	4	4	3	5	Guideline
Building Science Pros	6	6	6	6	6	6	
Home Energy Pros	5	5	4	4	6	4	
Code Officials	2	1	2	1	3	3	

Develop Guidelines		U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy					
DOE CH Student Design Competition		Bldg. Sci. Education Task Force			Building Science Translator		
Workforce Classifications	Competencies [1-6]	Systems Thinking	Building Enclosure	Building Services	Operation & Maint.	Building Testing	Systems Integration
	High School Students	1	1	N.A.	N.A.	1	1
Builders/Contractors	2	3	5	2	1	2	Guideline
Program/Project Man.	2	1	2	2	1	1	Guideline
Transaction Process	1	1	1	1	1	1	Guideline
Architects/Engineers	6	6	4	4	3	5	Guideline
Building Science Pros	6	6	6	6	6	6	Guideline
Home Energy Pros	5	5	4	4	6	4	Guideline
Code Officials	2	1	2	1	3	3	Guideline

Strategy for Social Change		U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy	
DOE CH Student Design Competition		Bldg. Sci. Education Task Force	Building Science Translator
<p>Collective Impact: The commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem.</p> <p><i>“Collective Impact”</i> by John Kania and Mark Kramer Stanford Social Innovation Review Winter 2011</p>			

Strategy for Social Change		U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy	
 <p>Building Science Translator Sales Tool</p>			

Power Words:			<small>U.S. DEPARTMENT OF</small> ENERGY Energy Efficiency & Renewable Energy
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
<h1>Words Matter</h1>			
<small>49 INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market</small>		<small>Buildings.Energy.gov</small>	

Power Words:			<small>U.S. DEPARTMENT OF</small> ENERGY Energy Efficiency & Renewable Energy
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
<p>It's really difficult to sell...</p> <p>Patagonian Toothfish</p>			
<small>50 INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market</small>		<small>Buildings.Energy.gov</small>	

Power Words:			<small>U.S. DEPARTMENT OF</small> ENERGY Energy Efficiency & Renewable Energy
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
<p>It's much easier to sell an...</p> <p>Chilean Sea Bass</p>			
<small>51 INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market</small>		<small>Buildings.Energy.gov</small>	

Power Words:			<small>U.S. DEPARTMENT OF</small> ENERGY Energy Efficiency & Renewable Energy
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	
<p>It's difficult to rally public opinion against an...</p> <p>Estate Tax</p>			
<small>52 INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market</small>		<small>Buildings.Energy.gov</small>	

Power Words:			<small>U.S. DEPARTMENT OF</small> ENERGY <small>Energy Efficiency & Renewable Energy</small>
<small>DOE CH Student Design Competition</small>	<small>Bldg. Sci. Education Task Force</small>	Building Science Translator	
<p>It's much easier to rally public opinion against a...</p> <h1>Death Tax</h1>			
<small>53 INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market</small>		<small>Buildings.Energy.gov</small>	

Power Words:			<small>U.S. DEPARTMENT OF</small> ENERGY <small>Energy Efficiency & Renewable Energy</small>
<small>DOE CH Student Design Competition</small>	<small>Bldg. Sci. Education Task Force</small>	Building Science Translator	
<p>It's really difficult to sell an...</p> <p>Energy Audit</p>			
<small>54 INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market</small>		<small>Buildings.Energy.gov</small>	

Power Words:			<small>U.S. DEPARTMENT OF</small> ENERGY <small>Energy Efficiency & Renewable Energy</small>
<small>DOE CH Student Design Competition</small>	<small>Bldg. Sci. Education Task Force</small>	Building Science Translator	
<p>It's much easier to sell an...</p> <p>Energy Check-up</p>			
<small>55 INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market</small>		<small>Buildings.Energy.gov</small>	

Power Words:			<small>U.S. DEPARTMENT OF</small> ENERGY <small>Energy Efficiency & Renewable Energy</small>
<small>DOE CH Student Design Competition</small>	<small>Bldg. Sci. Education Task Force</small>	Building Science Translator	
<p>It's really difficult getting lenders excited about...</p> <h1>High-Performance Homes</h1>			
<small>56 INNOVATION & INTEGRATION: Transforming the Energy Efficiency Market</small>		<small>Buildings.Energy.gov</small>	

Power Words: U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
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It's much easier getting lenders excited about...

Low Risk Homes

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Power Words: U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
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It's really difficult to sell a...

Transfer Grill



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Power Words: U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
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It's much easier to sell a...

Comfort Vent




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Power Words: U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
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It's really difficult to sell a...

Ventilation System




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Power Words: U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

DOE CH Student Design Competition | Bldg. Sci. Education Task Force | **Building Science Translator**

It's much easier to sell a...

Fresh-Air System



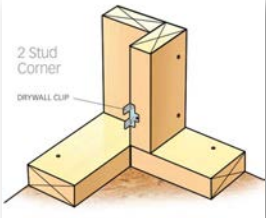
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Power Words: U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

DOE CH Student Design Competition | Bldg. Sci. Education Task Force | **Building Science Translator**

It's really difficult to sell a...

2-Stud Corner with **Drywall Clip**



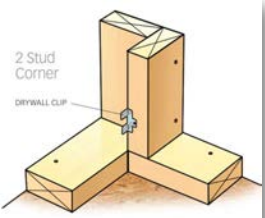
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Power Words: U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

DOE CH Student Design Competition | Bldg. Sci. Education Task Force | **Building Science Translator**

It's much easier to sell a...

Crack-Free Corner



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Power Words Summary: U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy

DOE CH Student Design Competition | Bldg. Sci. Education Task Force | **Building Science Translator**

It's hard to sell the...

Technical Function

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Power Words Summary:			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	

It's much easier to set the...

Customer Experience

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Power Words Summary:			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	

It's difference between...

Technical Jargon and a Language of 'Value'

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Building Science Translator			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	

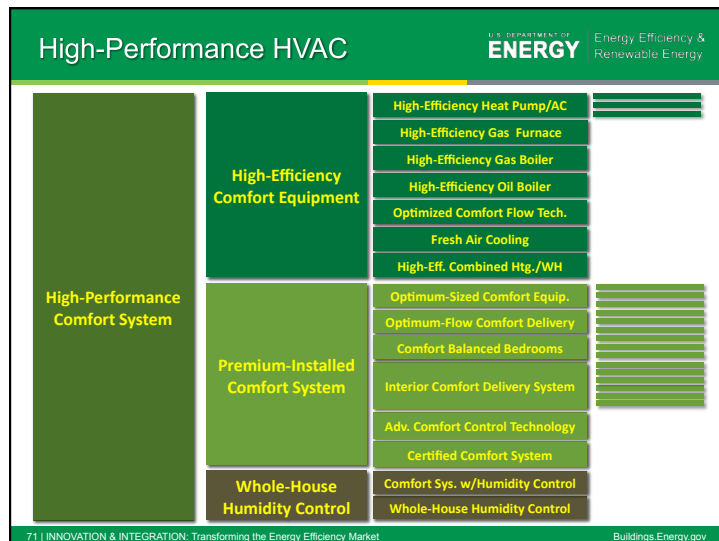
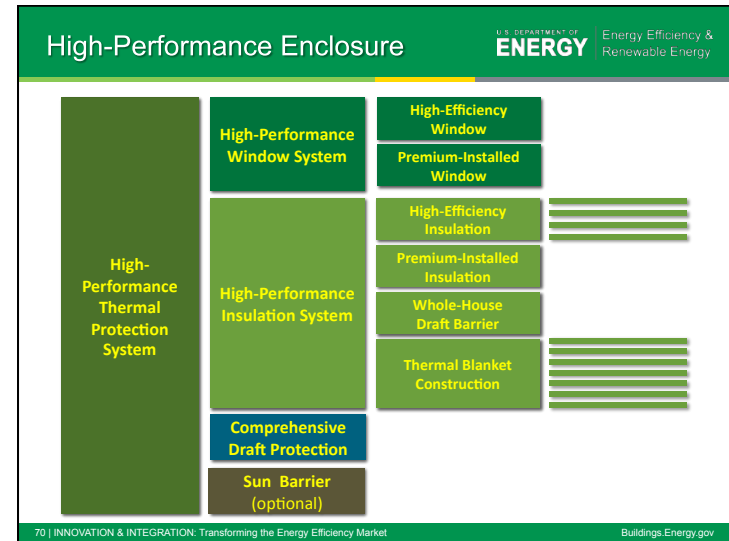
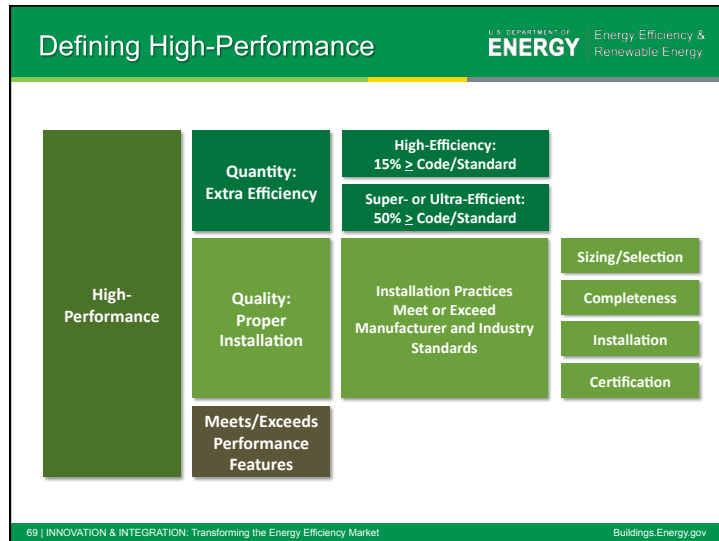
- 1. List:** High-Performance Home Measures
- 2. Expert Meeting:** Translate Measure Names into Power Words
- 3. Translator:** Prepare and Vet Draft Versions and Complete Final Glossary
- 4. Collective Impact:** Stakeholder Campaign to Implement New Building Science Translator

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Goals			U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy
DOE CH Student Design Competition	Bldg. Sci. Education Task Force	Building Science Translator	

- Consistency
- Effectiveness
- Inclusiveness

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Alternate 'Value' Terms

U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

Bldg. Sci. Term	Healthful Living	Engineered Comfort	Ultra-Efficient	Advanced Technology	Quality Built	Durability
High-R Window	Quiet Window	Enhanced Comfort Window	High-Efficiency Window	Advanced Window Technology		UV Damage Control Window
Sealed and Flashed Window	Moisture Managed Window Installation	Draft-Free Window Installation	High-Efficiency Window Installation	Advanced Window Installation Technology	Premium Installed Window	Weather-Protected Window Installation
High-R Insulation	Enhanced Quiet Insulation	Enhanced Comfort Insulation	High-Efficiency Insulation	Advanced Insulation Technology		
Water Managed Construc.	Dry-by-Design Construc.	Moisture Managed Construc.			Premium Installed Water Protection	Whole-House Water Protection

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Building America Building Science Translator - Page 1a

Building Science Measure	New Building Science Terminology	Alternate Terms					
		Lives Better Engineered Comfort	Healthful Environment	Works Better Ultra-Efficient	Advanced Technology	Quality Built	Lasts Better Enhanced Durability
High-Performance Thermal Enclosure	High-Performance Thermal Enclosure	Enhanced Comfort Enclosure	Moisture Managed Enclosure	High Efficiency Enclosure	Advanced Enclosure Technology	Premium Installed Enclosure	Low Maintenance Enclosure
High-Performance Window System	High-Performance Window System	Enhanced Comfort Window System	Moisture Managed Window System	High Efficiency or Super Window	Advanced Window Technology	Premium Installed Window System	Enhanced Protection Window System
High-R Window	High-R Window	Enhanced Comfort Window	Moisture Managed Window	High Efficiency or Super Window	Advanced Window Technology	Premium Installed Window	UV Damage Control Window
High-Performance Window	Premium Installed Window	Enhanced Comfort Window	Moisture Managed Window	High Efficiency or Super Window	Advanced Window Technology	Premium Installed Window	Window Installation
High-Performance Insulation System	High-Performance Insulation System	Enhanced Comfort Insulation System	Enhanced Quiet Insulation System	High Efficiency or Super Insulation System	Advanced Insulation Technology	Premium Installed Insulation System	Window Installation
High-R Insulation	High Efficiency or Super Insulation	Enhanced Comfort Insulation	Enhanced Quiet Insulation	High Efficiency or Super Insulation	Advanced Wall Insulation	Premium Installed Insulation	
High-R Wall Insulation	High Efficiency or Super Wall Insulation	Enhanced Comfort Wall Insulation	Enhanced Quiet Wall Insulation	High Efficiency or Super Wall Insulation	Advanced Wall Insulation	Premium Installed Insulation	
High-R Floor Insulation	High Efficiency or Super Floor Insulation	Enhanced Comfort Floor Insulation	Enhanced Quiet Floor Insulation	High Efficiency or Super Floor Insulation	Advanced Floor Insulation	Premium Installed Insulation	
High-R Attic Insulation	High Efficiency or Super Attic Insulation	Enhanced Comfort Attic Insulation	Enhanced Quiet Ceiling Insulation	High Efficiency or Super Attic Insulation	Advanced Attic Insulation	Premium Installed Insulation	
High-R Foundation Insulation	High Efficiency or Super Foundation Insulation	Enhanced Comfort Foundation Insulation	Enhanced Quiet Foundation Insulation	High Efficiency or Super Foundation Insulation	Advanced Foundation Insulation	Premium Installed Insulation	
Insulation Quality Installation	Premium Installed Insulation	Enhanced Comfort Insulation Installation	Enhanced Quiet Insulation Installation	Enhanced Efficiency Insulation Installation	Advanced Insulation Installation Practices	Premium Installed Insulation Installation	Moisture Control Air Barrier
Fully Aligned Air Barriers	Whole-House Draft Barrier	Whole-House Draft Barrier	Outdoor Contaminant Air Barrier	Energy Saving Air Barrier	Advanced Air Barrier Technology	Premium Installed Draft Barrier	Moisture Control Air Barrier

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Integrating Power Words in Sales

Front Cover

Inside Spread

Flap

Back Cover

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Customizable POS Material

Garson Homes
Lives Better: Healthful Environment

Garson Homes
Lives Better: Engineered Comfort

Garson Homes
Works Better: Ultra-Efficient

Garson Homes
Works Better: Advanced Technology

Garson Homes
Lasts Better: Quality Built

Garson Homes
Lasts Better: Durability

- Fresh Air
- Quiet
- Moisture
- Pest Control
- Outdoor
- Chemical
- Fume Control
- Natural
- On-Demand
- Water

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Building Science Translator Homepage

Primary categories will be organized by "Sales Theme" (see alternate terms of BST master matrix)

From the BST homepage, users can opt to create customized content immediately, without browsing through the tool.

Navigation page will include filters allowing the user to filter out content based on building science measures

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BST Integration into BASC Guides U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

PDF/Print and Field Kit functionality

A Translator tab will be added to BASC guides

These will be live links to BASC guides where applicable.

Create Customized "Sales Tools" U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

Users can also pick and choose specific measures to create detailed point-of-sale material.

Users can download/print lists based on program or sales theme. These lists are pre-prescribed.

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Garson Homes
Lives Better: **Healthful Environment**

Certified Formaldehyde-Free Board Products:
All of the board products used throughout the home have been carefully selected to eliminate dangerous formaldehyde. This means your family can breathe easier knowing they are safe from one more harmful chemical.

Certified VOC-Free Paint:
All of the paints used throughout your home have been carefully selected to eliminate dangerous volatile organic chemicals. This means your family can breathe easier knowing they are safe from one more harmful chemical.

Certified VOC-Free Carpet:
All of the carpets and pads used throughout your home have been carefully selected to eliminate dangerous volatile organic chemicals. This means your family can breathe easier knowing they are safe from one more harmful chemical.

Advanced Filtration:
Specially designed air filters can effectively eliminate air particles that

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Garson Homes
Lives Better: **Engineered Comfort**


Enhanced Comfort Walls:
Thicker wall insulation properly installed will provide the greatest protection from extreme weather and noise. What this means to you is a lifetime of superior comfort and low utility bills locked in the day you move in.

Comprehensive Draft Protection:
Comfort vents at each bedroom ensure a continuous flow of heating and cooling even when the doors are closed. What this means to you is that you will no longer have to compromise comfort when you keep your bedroom doors closed.

Comfort Vents:
Comfort vents at each bedroom ensure a continuous flow of heating and cooling even when the doors are closed. What this means to you is that you will no longer have to compromise comfort when you keep your bedroom doors closed.

High-Performance Comfort System:
Your high-performance Home is so energy efficient, smaller right-sized

U.S. DEPARTMENT OF **ENERGY** Energy Efficiency & Renewable Energy



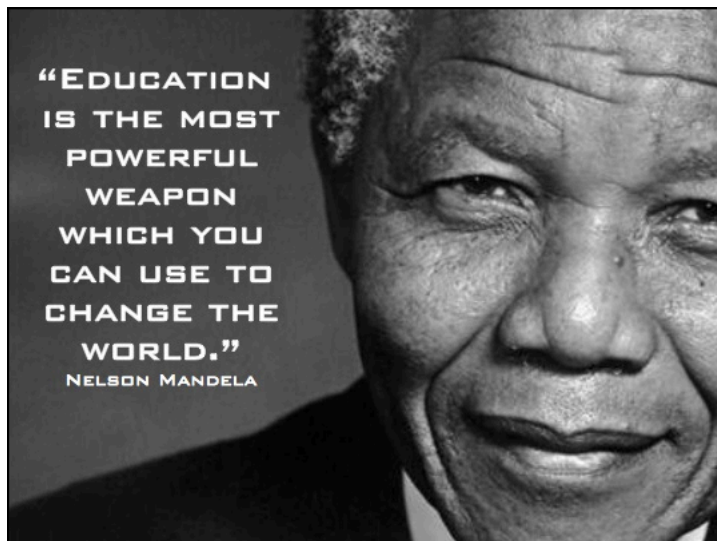
Building Science Education Homework

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'Race to Zero' Design Competition	Bldg. Sci. Education Task Force	Building Science Translator
<ul style="list-style-type: none"> Recommend Academic Friends and Colleagues Participate in 'Race to Zero' Participate in EEBA Pre-Conference (9/22) Translator and Task Force Meetings; be a 'Race to Zero' juror Support 'Collective Impact Process' 		

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Questions?



Thank You

For More Information:

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

<http://energy.gov/eere/buildings/us-department-energy-race-zero-student-design-competition>

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