



Sustainable Renovations Leadership Team

December 16, 2011

“Sustainability cannot happen if a sustainable approach is not found that works for all the parties involved.”

Sponsored by





AGENDA

December 16, 2011

1. Introduction of the Sustainable Housing Foundation and committee members
2. The Sustainable Renovation Leadership Team Purpose, and 2012 Objectives
3. Partnership with Scotiabank and deliverables



Introductions...

Sustainable Housing Foundation



Mission

The Sustainable Housing Foundation is dedicated to continuously increasing the number of sustainable homes in Canada. We will achieve this by working with builders, manufacturers, homeowners, academia and governments to identify the opportunities in the market place for sustainable development.

Vision

All Canadian homes are built and operated to minimize the adverse affects to the natural environment.

SHF Board of Directors

John Godden, President, Clearsphere Inc., Sustainable Consulting

Mark Salerno, National Sales Team Leader, CMHC

Lynn DaPra, President, Cadorin Homes

Paraic Lally, Residential Business Manager, Roxul Inc.

Craig Backman, President, Mclellan Group

John Bell, H2O Technologies

Jiri Skopek, Managing Director, Sustainability, Jones Lang LaSalle

Scott Debenham, Sales Rep, BP - Building Products of Canada

Executive Director - Gillian Lind

Leadership Teams



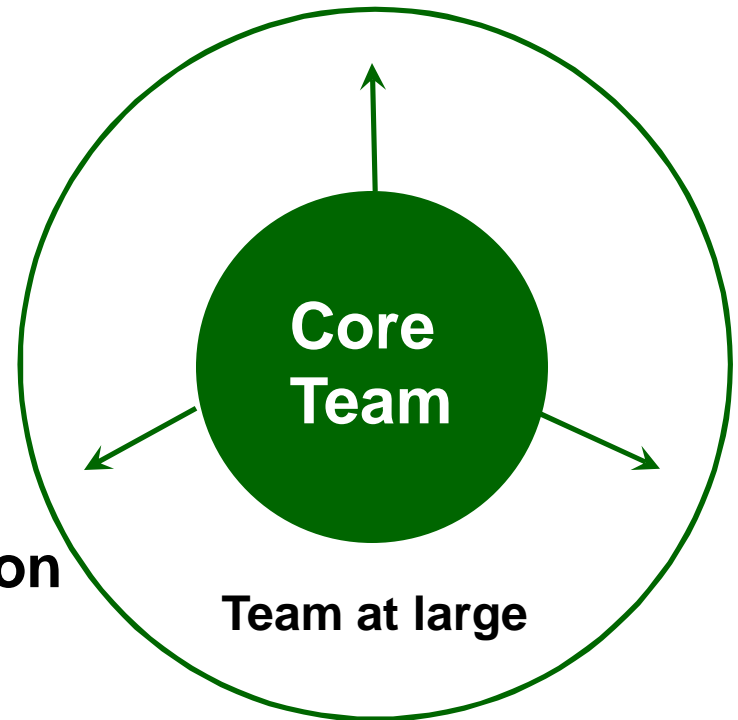
Sustainable Renovations Leadership Team

- Made up of renovators, existing home energy evaluators, educators and other stakeholders
- Form Relationships with other stakeholders to develop tools to increase sustainable upgrades and renovations

Building Relationships >> Tools >> Action

Core Team – committee

- What is needed?
- How can we work together?
- Provide feedback
- Participate on working committees to develop initiatives and programs that can be supported in the marketplace



What is happening now?



Enormous Potential for Improvement

- There are almost 7,000,000 existing homes in Canada
(6,708,259 houses in Canada, as of October 16th 2009)
- Over 35% are 40 years or older, and over 60% are 30 years or older - they are not energy efficient

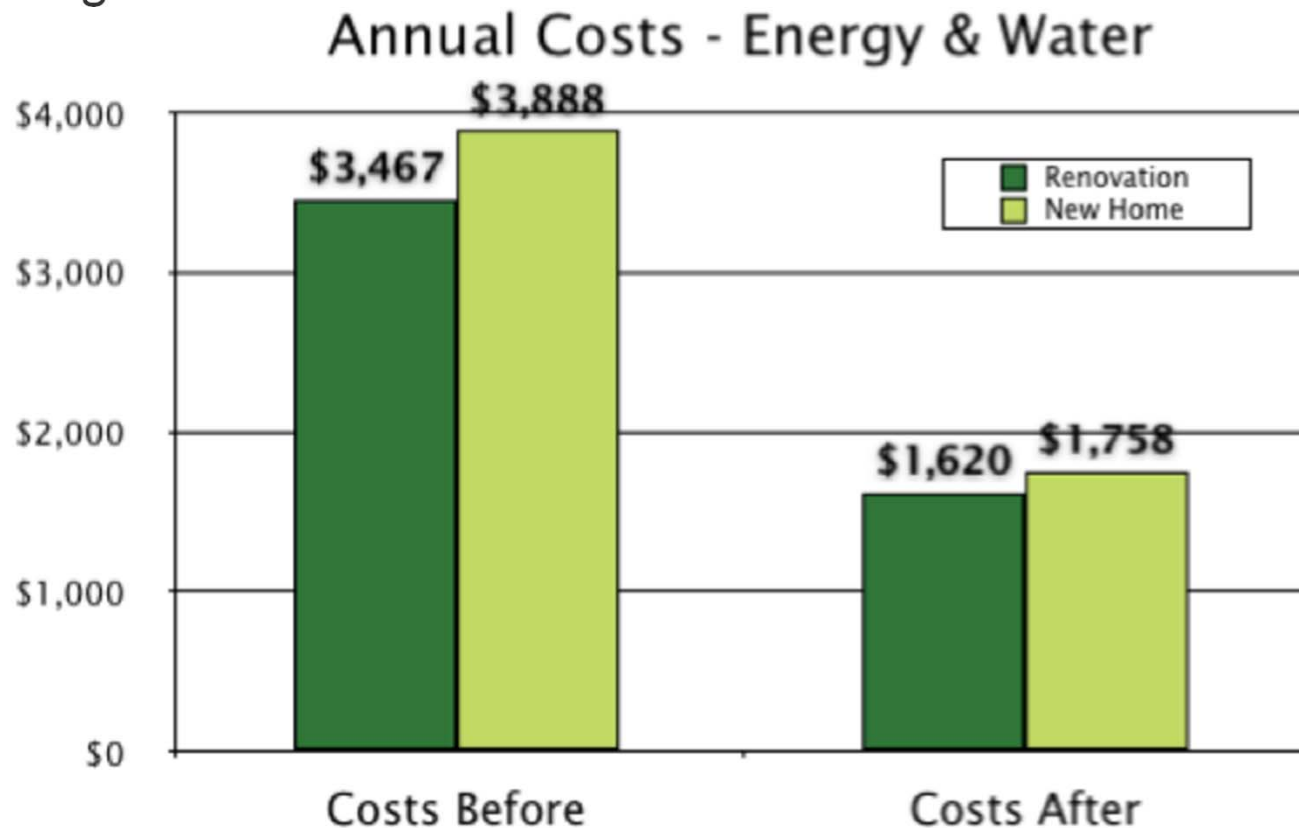
Current Programs/Tools for Existing Upgrades and Renovations

- 1) Incentive Programs - ecoENERGY & Ontario Home Energy Savings
 - Do not know if government incentives will be renewed
- 2) Certifications for Renovations – current programs for major reno only
 - EcoHabitation in Quebec is developing a credit based program
 - REGREEN, a residential online platform remodeling program that provides the information on possible strategies broken down by LEED framework. <http://www.regreenprogram.org>
- 3) EnerQuality's Green Renovation Training Program
- 4) Enbridge Gas 2012 programs

SHF Future Proofing Concept



- Energy & water costs in Canada are expected to grow by 8-10% per year
- Households will come under growing cost pressure
- Smart investments in sustainability will “future proof” Canadians against increasing costs



SHF Future Proofing Concept



Assumptions: Bell Residence

Complete Energy/Water Reno - Cost \$21,200; +3.5% Annual Increase in Energy Costs

Year	Annual EcoDividend	Cumulative EcoDividend
1	3300	3300
2	3416	6716
3	3535	10251
4	3659	13909
5	3787	17696
6	3919	21616
7	4057	25672
8	4199	29871
9	4345	34216
10	4498	38714
11	4655	43369
12	4818	48186
13	4987	53173
14	5161	58334
15	5342	63676
16	5529	69204
17	5722	74927
18	5922	80849
19	6130	86979
20	6344	93323
21	6566	99889
22	6796	106685
23	7034	113719
24	7280	121000
25	7535	128535
26	7799	136334

← Breakeven

SHF Partnership with Scotia



2012 Initiatives

- Energy Savings Calculator with Upgrade Recommendations
- Developing an assessment and auditing program
 - 2012 objectives: overall, long term concept and focus on energy and water as a “tier” focus
 - Launch the energy and water pilot for Earth Day, April 22nd

Developing a Renovation Certification



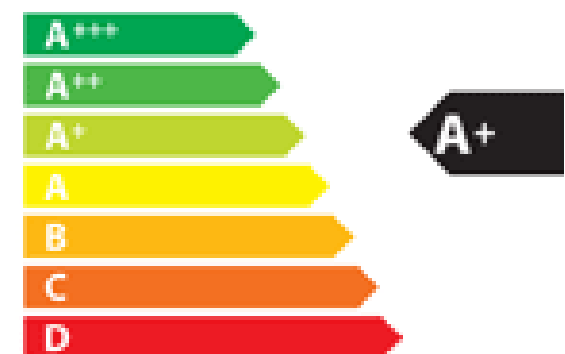
- an online assessment tool was developed by Jiri Skopek, developer of Green Globes
- originally for the NAHB Research Centre (for-profit) for New Residential Construction – now called the **Green Scoring Tool**
- SHF is exploring the purchase of the online assessment tool as a basis for redevelopment to use for renovations in Canada

SHF held a mini Workshop to Review the Assessment Tool with Chris Phillips and Paul Caverly

Feedback:

- The online assessment which brought you through the process like a questionnaire was helpful, available to all and people can self qualify
- Should be based on project type and environmental goals
- Benchmarking is important to mark improvement

Exploring a tiered approach rather than the current rating system blanket approach





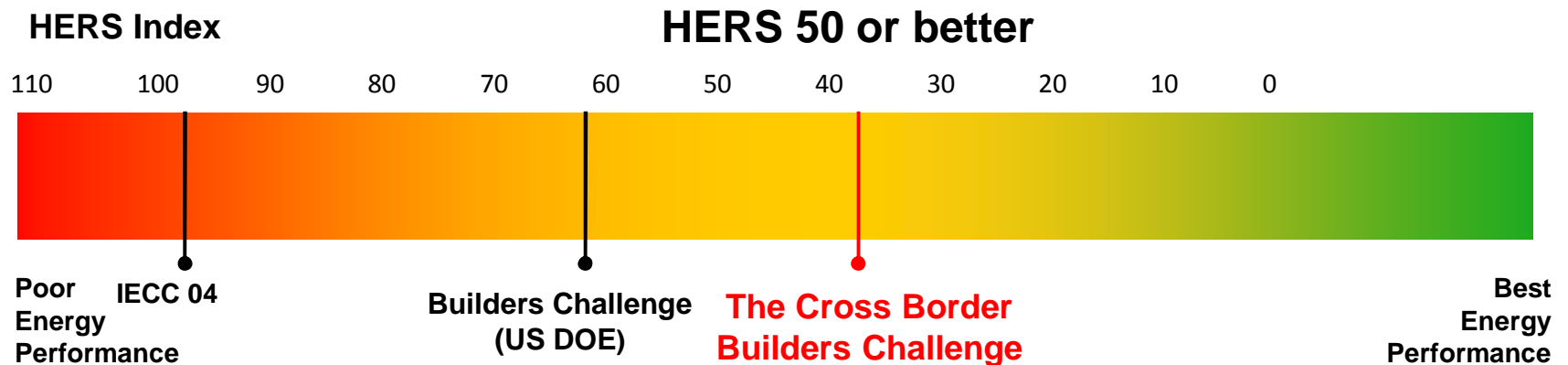
Comments and next steps



The Cross Border Builders Challenge



“Challenging builders from Canada and the United States to build more energy efficiently”





The Cross Border Builders Challenge



HERS

45

SAVINGS*

41%

* Benchmarked to OBC 09

Builder: Doug Tarry Homes

Estimated Annual Energy Usage

Natural Gas: 1,831 cu.m

Electricity: 5,626 kWh

Average Monthly Bill: \$ 125.70



Name: Livingston
Location: London, ON
Rating Company: Building Knowledge
Rater: Rob Johnston
Rating Date: September 2011



OBC 2012 Compliance Paths



OBC 2012 Part 12

Energy Efficient Design 12.2.1.1.

Performance
12.2.1.1.(3)c)
EnerGuide 80

Prescriptive/Performance
12.2.1.1.(3)d)
Conform to 1 of 3 paths in SB-12

Prescriptive
2.1.1.
Comply with 1 of the prescriptive compliance packages

Performance
2.1.2.
Demonstrate equivalent end annual energy use (HERS software recognized)

Prescriptive/Performance
2.1.3.
Comply with ENERGY STAR for New Homes

Ontario Building Code 2012



OBC 2012 SB-12 Compliance Packages (Toronto)

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
Ceiling with Attic	R50	R50	R50	R50	R50	R50	R50	R50	R50	R50	R50	R50	R50
Ceiling without Attic	R31	R31	R31	R31	R31	R31	R31	R31	R31	R31	R31	R31	R31
Exposed Floor	R31	R31	R31	R31	R31	R31	R31	R31	R31	R31	R31	R31	R31
Walls Above Grade	R24	R27	R27	R24	R24	R24	R24	R24	R22	R22	R22 ICF	R24	R24
Walls Below Grade	R20	R20	R20	R20	R20	R12	R12	R12	R20	R12	R22 ICF	R22 ICF	R20
Below Grade Slab	R5	-	-	-	-	-	-	-	-	-	-	-	-
Edge of Below Grade Slab	R10	R10	R10	R10	R10	R10	R10	R10	R10	R10	R10	R10	R10
Windows & Sliding Glass Drs (U value)	1.6	1.6	1.8	1.8	1.8	1.8	1.8	2.0	1.8	1.8	1.8	1.8	1.8
SHGC	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4
Skylights (U value)	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Space Heating (AFUE)	90%	90%	94%	94%	90%	94%	92%	94%	92%	94%	90%	94%	90% combo
Minimum HRV Efficiency	-	-	-	-	55%	60%	60%	70%	55%	60%	-	-	-
Domestic Hot Water Heater (EF)	0.57	0.57	0.62	0.67	0.57	0.57	0.62	0.67	0.62	0.67	0.57	0.57	0.80 combo

OBC 2012 Additions



Table 2.1.1.10.
Thermal Performance Requirements for Additions to Existing Buildings⁽³⁾
Forming Part of Sentence 2.1.1.10.(2)

Component	Zone 1 Less than 5000 Degree-Days	Zone 2 5000 or more Degree-Days	Electric Space Heating Zones 1 and 2
Ceiling with Attic Space Minimum RSI (R)-Value ⁽¹⁾	8.81 (R50)	8.81 (R50)	8.81 (R50)
Ceiling Without Attic Space Minimum RSI (R)-Value ⁽¹⁾	5.46 (R31)	5.46 (R31)	5.46 (R31)
Exposed Floor Minimum RSI (R)-Value ⁽¹⁾	5.46 (R31)	5.46 (R31)	5.46 (R31)
Walls Above Grade Minimum RSI (R)-Value ⁽¹⁾	4.23 (R24)	4.23 (R24)	5.46 (R31)
Basement Walls Minimum RSI (R)-Value ⁽¹⁾	3.52 (R20)	3.52 (R20)	3.52 (R20)
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value ⁽¹⁾	1.76 (R10)	1.76 (R10)	1.76 (R10)
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value ⁽¹⁾	1.76 (R10)	1.76 (R10)	1.76 (R10)
Windows and Sliding Glass Doors Maximum U-Value ⁽²⁾	1.8	1.6	1.6
Skylights Maximum U-Value ⁽²⁾	2.8	2.8	2.8
Column 1	2	3	4

Notes to Table 2.1.1.10.:

- (1) The values listed are minimum RSI-Values for the thermal insulation component only. RSI-Values expressed in (m²· K)/W.
- (2) U-Value is the overall coefficient of heat transfer expressed in W/(m²· K).
- (3) The *building* need not conform to minimum efficiency requirements for HRV's, domestic hot water heaters and space heating equipment required in Article 2.1.1.2. or 2.1.1.3.