

Building America Pilot Program: Guaranteed Resource- & Energy- Efficiency Now

Research Report - 0217

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Building Science Corporation

Abstract:

A performance-based industry collaborative program in which energy, water, and maintenance guarantees can be translated into home buyer savings. The guarantees drive product performance, market demand, and environmental benefit. Collaboration among a wide variety of industry players ensures that the shared benefits of such a bold initiative outweigh the shared risks.

Building America Pilot Program

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Key Aspects of Program

- ◆ Champions - Artistic Homes, (Albuquerque, New Mexico), DOE Building America partner Building Science Corporation
- ◆ Stated period of annualized guarantees -
 - Energy (based on existing industry programs)
 - Water (based on empirical average local use)
 - Maintenance (based on AHS & NAHBRC)
- ◆ Escrow protection accounts - capped uncertainty protection linked to mortgage

Potential Partners

- ◆ Lenders
- ◆ Product Manufacturers
- ◆ Utilities
- ◆ Non-Governmental Organizations (NGOs)
- ◆ Government Agencies
- ◆ Others?

Program Roles

- ◆ Builders - Quality program with training
- ◆ Building America - pilot project management
- ◆ Product manufacturers - matching product warranties and escrow contribution
- ◆ Lenders - Account management
- ◆ Fannie Mae - pilot mortgage offering
- ◆ Homeowners - access to annual expenses
- ◆ Others - escrow contribution

Program Benefits

- ◆ Builder - easier home sales for higher price because of higher value, preferential home warranty rates(?)
- ◆ Lender - more loans with less chance of default
- ◆ Manufacturer - products featured as “guaranteed”
- ◆ Homebuyer - fixed costs, resale value, preferential mortgage, preferential homeowner’s insurance(?)

Energy basis

- ◆ Industry precedence - ComfortHome, Certified Plus Home™, LP's Engineered for Life, Masco's Environments for Living, individual builders (Bigelow Homes, Eid Construction)
- ◆ Modeling and testing required
- ◆ Conditions/limitations
- ◆ Caps and baseline

Water basis

- ◆ USGS county-level data
- ◆ Modeling usage (AWWA projects)
- ◆ Local water board data/participation
- ◆ Individual metering of indoor/outdoor use
- ◆ Adding hot water to energy guarantee
- ◆ Caps and baseline

Maintenance basis

- ◆ AHS and Housing Economics - SFD
Homes Routine Maintenance Annual Cost
By Year Built (per sq. ft.)

1990 - 1991: \$358 (\$0.16)

1992 - 1993: \$302 (\$0.15)

1994 - 1995: \$299 (\$0.12)

Consumer Practices Report

1999 NAHB Research Center (Upkeep & Improvements)

Built '90 - '94 (334)

Roof/gutter \$18 (4.8%)

Siding, etc. \$54 (14.5)

Windows \$28 (7.5)

Flooring \$67 (18.1)

Plumbing \$34 (9.2)

HVAC \$57 (15.4)

Electrical \$26 (7.0)

Painting \$87 (23.5)

Total \$371 (100)

Built '95 - '98 (261)

Roof/gutter \$32 (9.6%)

Siding, etc. \$23 (6.9)

Windows \$38 (11.4)

Flooring \$56 (16.8)

Plumbing \$21 (6.3)

HVAC \$58 (17.4)

Electrical \$37 (11.1)

Painting \$69 (20.7)

Total \$334 (100.2)

Program details & issues

◆ Energy -

- Plenty of precedent--Comfort Home, Certified Plus Home™, Engineered for Life, individual builders--Bigelow Homes, Eid Construction
- What's covered--heating, cooling, all utilities?

◆ Water -

- Plenty of data on southwest residential consumption and impact of conservation
- indoor and outdoor use (split metering)?

Program details & issues (cont'd)

- ◆ Maintenance - normal wear & tear
 - Coverage: 8 CPR areas or others?
 - Includes repair & replacement but not improvements
 - Coverage includes labor?
 - Region-specific database for annualized costs
 - Relationship (if any?) to homeowner insurance or builder warranty
 - Term of coverage & transferability

Program details & issues (cont'd)

◆ General

- Period of coverage--2, 5, 7, 10 years?
- Coverage & escrow determination: by sq. ft.?
- Guarantee & escrow coverage - per resource or sum total?
- Any allowance for number of occupants?
- Arbitration process necessary?
- Construction of written guarantee & legal review
- Quality: design, materials, installation for builder and selected trades

Program details & issues

◆ General (cont'd)

- Relationship between pilot period and annual funding for project management
- Dissemination of data, particularly on maintenance (relationship to PATH work on durability)
- Use of the term GREEN
- Scope of pilot limited to one builder and one Fannie Mae office
- Desirability of publicity at different stages of the pilot

About this Report

This presentation was produced in cooperation with the US Department of Energy's Building America Program.

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