About Advanced Energy

• Independent, non-profit organization established in 1980, Headquartered in Raleigh, NC

• Mission: Create economic, environmental and societal benefits through innovative and market-based approaches to energy issues

• Provide research, training, consulting, testing, program services and outreach:
  • Building Sciences
  • Energy Efficiency
  • Renewable Energy
  • Transportation Initiatives
  • Motors and Drives
Agenda

• SystemVision Overview
• Keys to Success
• Other Applications
4379 Guaranteed SystemVision Homes in North Carolina.

Energy savings over $4.5 million!
SystemVision Guarantee

- Two-year guarantee
- Covers heating/cooling and comfort
- Guarantee expressed as annual kWh
- Based on energy modeling
- Typically guarantees average between $25 and $35 per month
Verified Savings

• Research conducted in 2005 found that SV homes achieved the following savings:
  – 15 percent more energy efficient than code-built homes
  – 30 percent more efficient in heating and cooling than code-built homes.
Keys to Success: Program Design

- Collaboration/Stakeholder Engagement
- Program Standards
- Quality Processes
- Training
- Feedback Loops
Finished Product
SystemVision History

• Guaranteed home program launched in 2001
• First key sponsor was NCCDI
• Based on the nationally-recognized mainstream program: Environments for Living.
• Focus on health, safety, comfort, durability, energy efficiency and environmental responsibility.
Key Partnerships

- North Carolina Housing Finance Agency
- Affordable Housing Builders
  - Habitat for Humanity
  - Housing Authorities
  - Community Development Corporations
- Home Energy Raters
- Building Contractors and Subs
- Manufacturers (e.g., DOW, Panasonic)
Program Implementation

• Program Standards
• Process (e.g., plan reviews, energy modeling, load reviews, 2-3 inspections per house)
• Builder/contractor training
• Ongoing technical support
• Third-party inspections
Process

- Contractor training
- Plan review
- HVAC load calculation review
- Energy modeling
- Field Inspections
- Ongoing technical support
- Energy data collection
Each bathroom must have an exhaust fan that exhausts a minimum of 50 CFM directly to the outside. This is the measured flow as installed, not the rated flow. There are three important areas to watch during the construction process. If all of the key factors on the next two pages are working properly, the bathroom fan should operate the way it was intended.

KEY AREAS
1. Fan
2. Duct
3. Exterior

Orientation: Orient the fan outlet so the duct will have the shortest and straightest route to the outside of the building.

Damper: Bath fans have back-draft dampers to keep outside air from entering the bathroom. Remove shipping tape from the damper and reuse it when closing.

Sealing: Caulk all of the holes between the drywall and the fan housing unit as well as all holes in the housing unit.

Rating: As a rule of thumb, to ensure that your bath fan will pull a minimum of 50 CFM once it is installed, test the fan with a fan rated for 70 CFM.
Third-Party Verification

• Quality Installation
Developer Benefits

• Reimbursement funds to offset costs of building to SV standards (NCHFA)
• Training and technical support.
• Third-party verification of quality installation.
• Supports their mission: helping to make their homes not only affordable to purchase, but affordable to operate.
• Additional certifications and incentives
Homeowner Benefits

- Healthy, Safe, Comfortable, Durable and Energy Efficient Home
- Homeowner Education
  - Habitat for Humanity requires homeowner to volunteer during the build process.
- SystemVision Guarantee
Other Applications

- Single-Family
- Multifamily
- Rental-Owned
- New Construction
- Rehab
- Urgent Repair
- Supportive Housing
Energy Efficient
Healthy
Safe
Durable
Environmentally Friendly
Comfortable
Thank You!

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