



U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

“Window of Savings”

Highly Insulating (R-5) and Low-e Storm Windows

Volume Purchase Program

Grassroots Marketing Campaign

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- R-5 and Low-e Storm Windows: A Great Candidate
- Grassroots Marketing Campaign
- Regional Workshops
- Marketing Material





Great Products at the Right Time

R-5 and Low-E Storm Windows offer both superior cost and energy savings and are arriving on the mainstream market at the right time:

- The American Recovery and Reinvestment Act (ARRA)
 - HUD's Neighborhood Stabilization Program (NSP)
 - DOE's Weatherization Program
 - DOE's Increased R&D Funding for Windows
- The White House Middle Class Task Force
 - "Recovery through Retrofit" Initiative
- Focus of the White House
 - President Obama wants to weatherize one million homes annually
- The Energy Tax Credit
 - \$1,500 tax credit for qualified products
- The Homestar Program (still under consideration)
 - Instant \$1,500 or \$3,000 tax rebate
- BetterBuildings Initiative
 - Over \$450 Million awarded
- The Green Edge the public is looking for





Our Message

Our message will be consistent and memorable to the public:

The Windows Volume Purchase Program offers a “Window of Savings” with new ways for consumers to save money and energy.





“Boots on the Ground”

A strong grassroots organization will be crucial so that our message is delivered to the decision makers at the local level. This “Boots on the Ground” strategy will consist of national, state, local partnerships with key stakeholders.



Over the past year, the Volume Purchase has developed strong working relationships with various stakeholders that represent key buyer groups. These key stakeholders will help develop our “boots on the ground” strategy with their members, partners, and stakeholders.



Our Partners

- Pierce and Associates
- Commonwealth of Massachusetts
- Apartment and Office Building Association of Metropolitan Washington (AOBA)
- Building America Industrialized Housing Partnership (BAIHP)
- Clayton Homes
- Curtain Wall Design & Consulting (CDC)
- Davis Energy Group
- Fenestar
- IBACOS, Inc.
- NP Group, Inc
- Palm Harbor Homes
- The Window Man
- ZETA
- Jordan, Knauff & Company
- Consortium for Energy Efficiency (CEE)
- Energy Trust of Oregon
- Habitat for Humanity
- Midwest Energy Efficiency Alliance (MEEA)
- Northwest Power and Conservation Council
- Systems Building Research Alliance (SBRA)
- Youthbuild USA
- Community and Economic Development Association of Cook County, Illinois (CEDA)
- National Community Action Foundation (NCAF)



Our Audience: Buyer Groups

- Homebuilders
- Contractors
- Weatherization agencies
- Apartment owners/operators
- Non-profit agencies
- State/local governments
- Light commercial building owners
- Public and private education facility managers
- Public housing authorities



Working with Partners to Host 3 Regional Workshops

- 3 regional workshops will take place in targeted regions: Midwest, Northeast, Mid-Atlantic
- Each facilitated workshop will include:
 - Key presenters
 - Industry partners
 - Marketing partners
 - Buyer Groups
 - A press conference
- An effort will be made to educate the local media through multiple press releases and contacts
- Each event will be documented and updated to the Volume Purchase web site
- Current cities under consideration
 - Chicago
 - Boston
 - New York
 - Pacific Northwest
 - Philadelphia





Products to Grab Attention from Consumers

- **Fact Sheets**
 - Getting the Most Bang for your Buck from the Windows Volume Purchase Program
 - A Success Story: Supporters of the Volume Purchase Program
 - Windows Cost-Effective piece for weatherization agencies
- **Web sites** (www.windowsvolumepurchase.org and <http://www1.eere.energy.gov/buildings/windowsvolumepurchase>)
 - Continued updates and announcements
 - Continued enhancement for further educate our audience
- **Regular updates with media and trade publications**
 - Articles and cross-links to Volume Purchase web sites
 - Publications Partners include: National Building Institute (NBI), American Architectural Manufacturers Association (AAMA), Earth Advantage Institute, BuilderOnline, eBuild, Door and Window Manufacturer Magazine, CleanEfficientEnergy.org , and many others
 - Press releases for important Volume Purchase Events

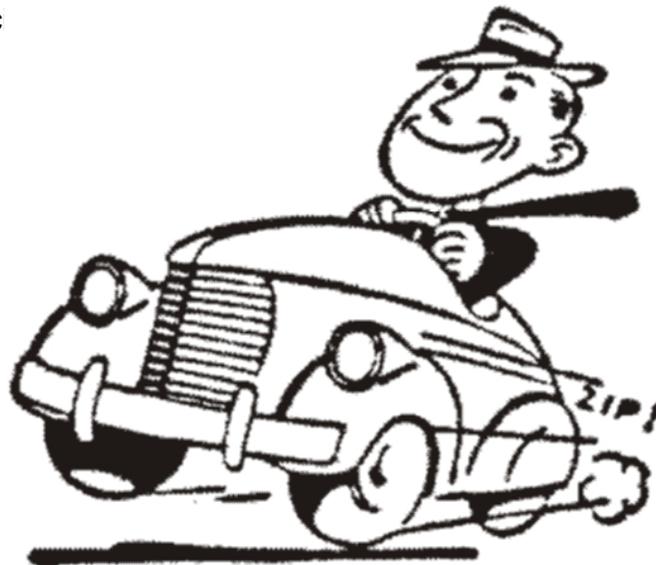




Marketing on the Road

The Volume Purchase Team will be attending important workshops and conferences for targeted audiences:

- American Homeowner Association
- American Institute of Architects
- Apartment Building Owners and Managers Association of Illinois
- Apartment and Office Building Association of Metropolitan Washington
- National Association of Counties
- Associated Builders & Contractors
- Association for Homeowners Across America
- Association of Condominium, Townhouse, and Homeowners Assoc
- Association of College and University Housing Officers
- Council of Large Public Housing Authorities
- International City/County Management Association
- National Association of Home Builders
- National Association of Residential Property Managers
- National Governors Association
- National League of Cities
- National Multi Housing Council
- National Property Management Association
- Public Housing Authorities Directors Association





Using RESFEN and NEAT to Support Weatherization

- Pennsylvania has shown significant interest in window retrofits, accelerating the adoption of energy efficiency window systems into its Weatherization Assistance Program.
- Lawrence Berkeley National Laboratory (LBNL) and Energetics Incorporated provided detailed analyses using the RESFEN and NEAT (ORNL approved weatherization tool) programs.
- Analyses include upgrading all single pane and metal framed clear double pane windows with low-e storm windows and updating to an R-5 window when a window must be replaced due to health, safety or structural concerns (Analyses derived a maximum average incremental cost of \$8.90 per ft² when using an R-5 window in this scenario).
- Price points were also derived for the replacement of an existing single pane wood frame or metal frame clear double pane window with an R-5 window.



New York vs. Pennsylvania

- **Normalized, population-weighted heating degree days (HDD)*:**
 - New York: 6119
 - Pennsylvania: 5906

Based on NOAA (<http://lwf.ncdc.noaa.gov/oa/documentlibrary/hcs/hcs.html>)

New York	NYC	Albany	Buffalo	Rochester
HDD's	4777	6438	6692	6728
Pennsylvania	Philadelphia	Harrisburg	Pittsburgh	Scranton
HDD's	4759	5201	5829	6291

http://www.nyserda.org/energy_information/nyepch.asp

<http://www.worldclimate.com/cgi-bin/data.pl?ref=N41W075+1306+369705C>

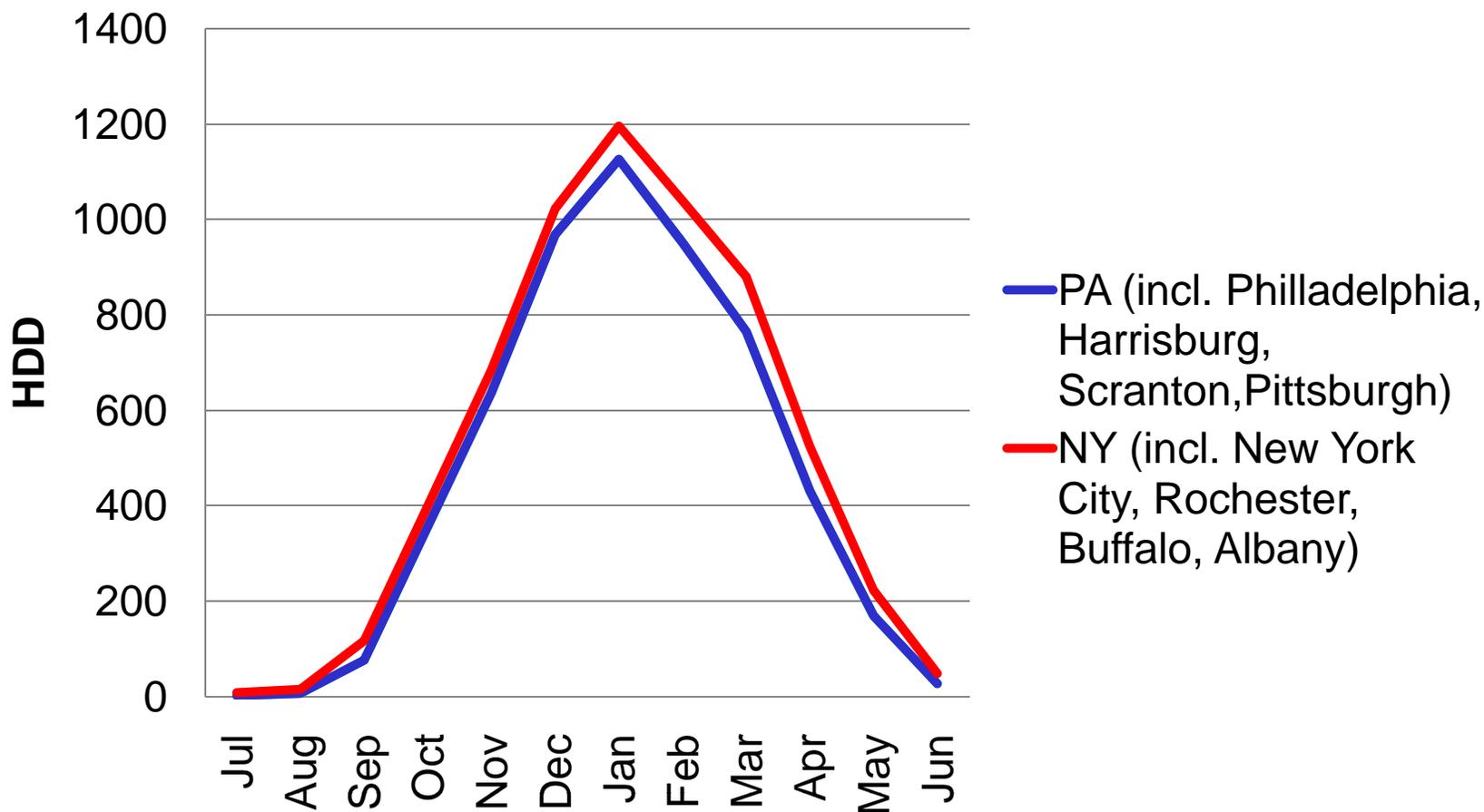
<http://www.nrcc.cornell.edu/ccd/nrmhdd.html>

Energy Prices	Natural Gas	Electricity
New York	\$1.35/therm	\$0.19/kWh
Pennsylvania	\$1.34/therm	\$0.12/kWh

Based on www.WindowsVolumePurchase.org R-5 Savings Estimator Tool 3- year average



NY vs PA 30-Year Normalized HDD by Month





Results: Low-E Storm Windows

- Parameters
 - Same pricing as the LBNL analysis (average \$7.85 per ft², plus \$15 per window for other installation costs) across Scranton, Harrisburg, Philadelphia and Pittsburgh
 - Glass emissivity – 0.22
 - Center-of-glass SHGC = 0.74
 - 15 year lifetime
 - Both furnace efficiencies of 94.7% and 80%
 - Natural Gas Heating
- For all cases in 37 homes modeled across four cities, low-e storm windows were selected as a qualified measure with SIR values substantially higher than 1.
 - SIR values over single pane wood frame windows with a furnace at 80% efficiency ranged from 1.4 to 2.2, with an average of 1.7.
 - SIR values over metal frame clear double pane windows with a furnace at 80% efficiency ranged from 1.3 to 2.1, with an average value of 1.6.



Results: R-5 Windows

- Parameters for replacing a degraded window with an R-5 window
 - \$5 incremental cost over a basic code window across Scranton, Harrisburg, Philadelphia and Pittsburgh, 94.7% Furnace Efficiency, Natural Gas Heating, 20 year lifetime
 - U-factor = 0.22, SHGC = 0.3
- For all cases in 37 homes modeled across four cities, R-5 windows were selected as a qualified measure with SIR values substantially higher than 1.
 - SIR values ranged from 1.6 to 3.0.
- Price Point for SIR of 1 and upgrade to R-5 Windows over Single Pane Wood Frame Windows for worst case homes

City	Scranton	Harrisburg	Pittsburgh	Philadelphia
Installed Window Cost \$/ft ²	\$26.45	\$22.35	\$25.55	\$25.15

- Price Point for SIR of 1 and upgrade to R-5 Windows over Metal Frame Double Clear Pane Windows for worst case homes

City	Scranton	Harrisburg	Pittsburgh	Philadelphia
Installed Window Cost \$/ft ²	\$25.45	\$21.50	\$24.55	\$24.35



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Want to help? Please contact us!

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