

A Market Transformation for Windows

The Volume Purchase Program



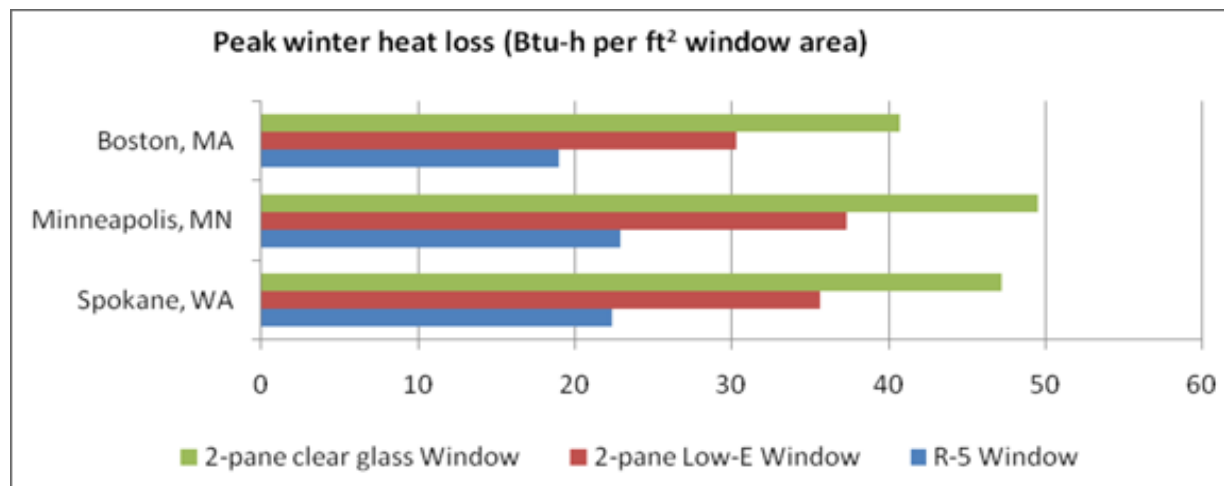
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Public Service of Colorado Ponnequin Wind Farm

U.S. Department of Energy Building
Technologies Program
for the
Consortium for Energy Efficiency
September 16, 2010

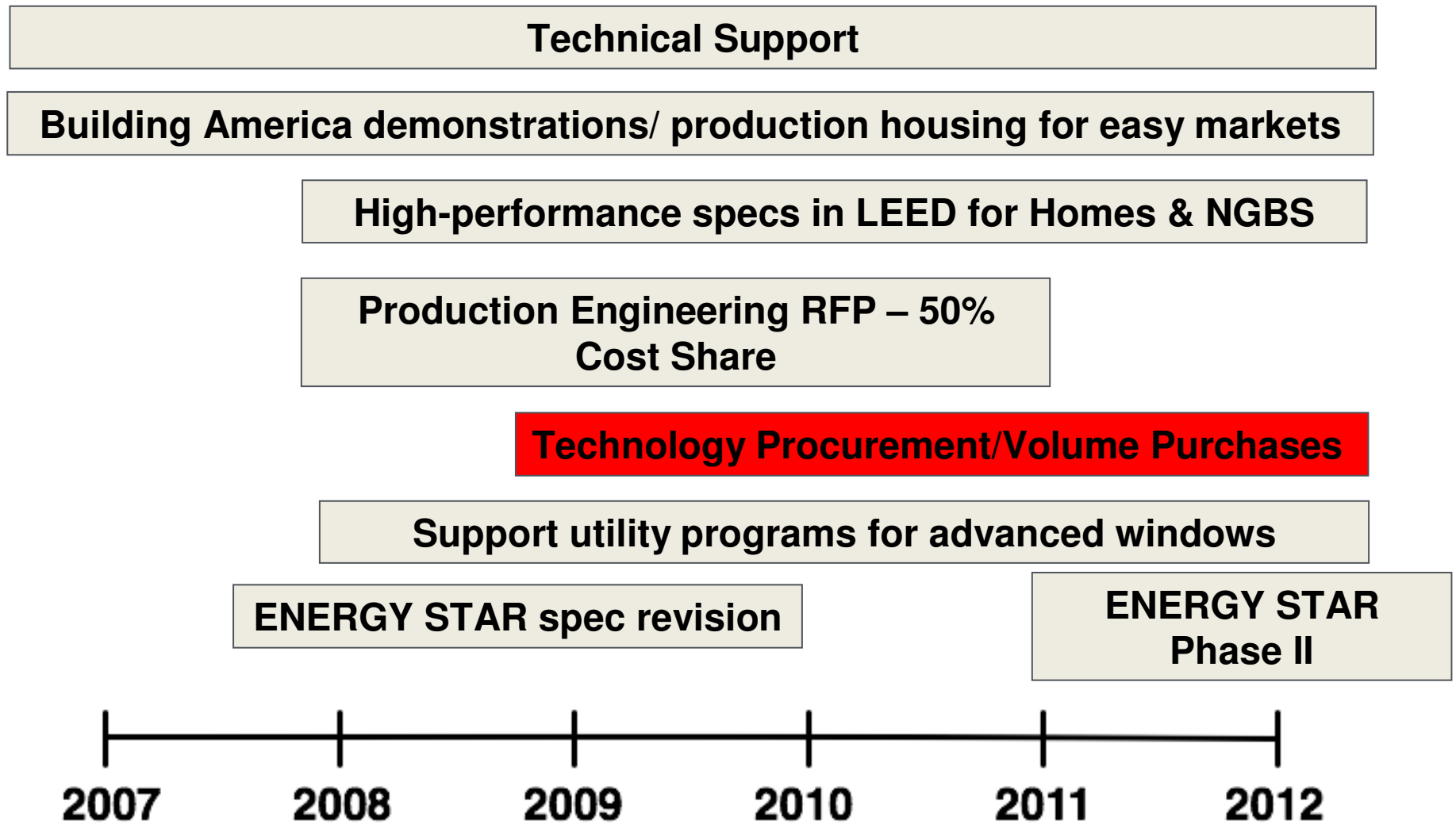
Highly-Insulating R-5 Windows

- Whole-window R-value of 5 (a U-factor of ~ 0.2).
Currently the top tier of energy-efficient windows for cold and mixed climates.
- Typical ENERGY STAR® windows have an R-value of ~ 3 .
- Increasing the R-value from 3 to 5 reduces average heat loss through the window **by over 30% and improves occupant comfort.**
- Depending upon their structure, three pane R-5 windows can moderately to **significantly lower noise levels** compared to standard two pane windows.



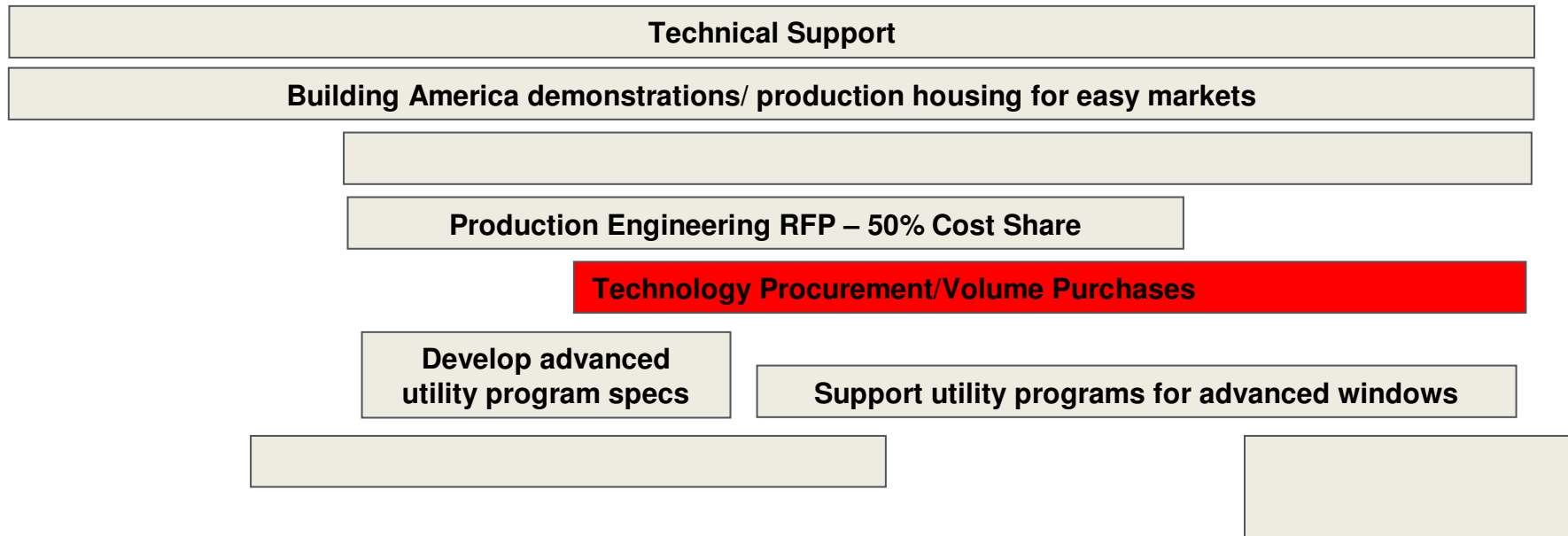
- Storm windows can reduce heat loss through the windows by **25% to 50%** compared to single pane windows with a U-value of 1.1. Low-e storm windows save even more energy.
- HUD's PATH program (with DOE and industry partners) sponsored a field evaluation concluded that low-e storm windows reduced heating load by 20% and achieved less than a **5 year simple payback**.
 - Chicago weatherization agency identified 6 older homes with single pane windows (U-value of 1.1) for evaluation.
 - <http://www1.eere.energy.gov/buildings/windowsvolumepurchase/storms.html>
- Retrofitting of low-e storm windows can be a very cost effective solution in select residential and commercial buildings even in moderate/mixed climate zones.

Integrated Programs to Reduce Price of Highly Insulating Windows



Examples of Integrated Programs

- Efficient Windows Collaborative
- Demonstrations
- Technical Support
- Product Engineering
- [Volume Purchase Program](#)



Efficient Windows Collaborative (Alliance to Save Energy)

- DOE provides support to the development of utility incentive programs through the Efficient Windows Collaborative:
 - Technical advice on window technologies:
 - Savings estimates and a savings calculator
 - Market characterization information
 - Incremental cost estimates
 - Maintain a database of current incentive programs for consumers



www.efficientwindows.org

Demonstrations and Technical Support

Whole Building Demonstrations

- System affects – central ducts, reduced HVAC capacity, improved comfort
- Next projects include highly insulating (>R5) and dynamic solar control, using products from production engineering solicitation. Factory-built housing in Pacific Northwest (joint funded by BPA)



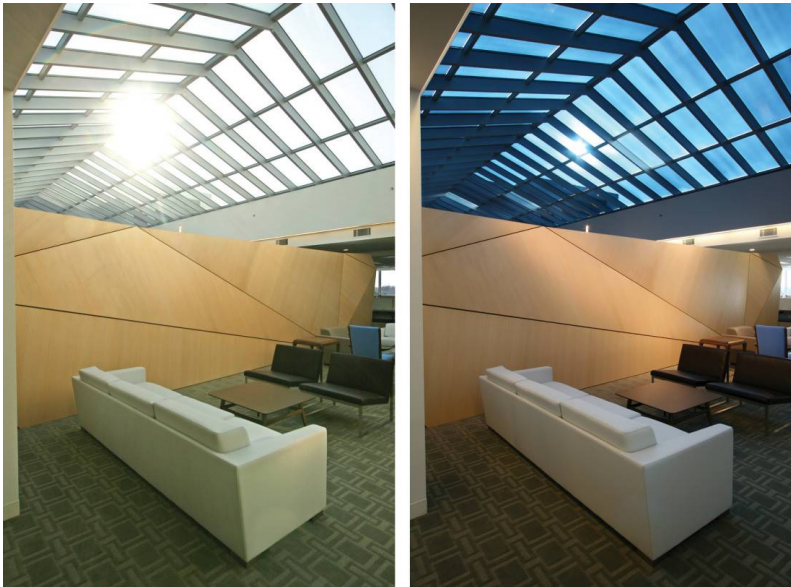
DOE Assists with Technical Support Activities

- Full range of software support tools, education materials and expansion to new product categories
- Continued financial support to assist industry in rating and promoting efficient products



Next Generation of Windows: Production Engineering

- Highly Insulating
 - Goal is U-factor 0.10
 - Possible vacuum glazings
- Market-Based Approach
 - Avoid use of codes and standards
 - Many new projects underway in 2012 - 2014



Prototype – Concept Window
Highly Insulating and Dynamic
U-factor 0.18
SHGC 0.04 – 0.34
Low cost unsealed center lite

Highly Insulating (R5) Windows and Low-e Storm Windows Volume Purchase Program

Primary Window Certifications

Thermal – NFRC

Label to appear on window

Structural – NAFS '05

Performance Grade=R25+



Authorized Certification Organizations

AAMA, Keystone, NAMI, WDMA



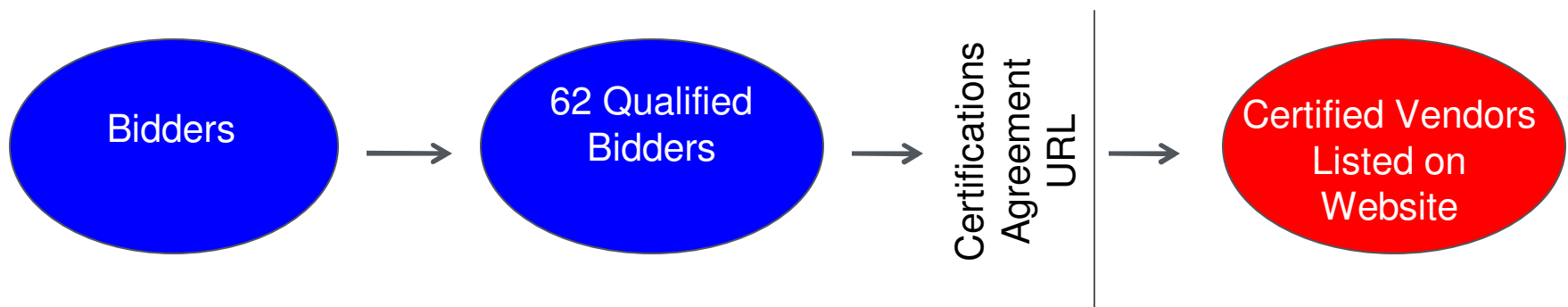
Storm Window Certifications

- ANSI/AAMA 1002.10-93
- Registration in International Glazing Database (LBNL)
 - Used to verify emissivity value of 0.22
- No certification programs required
 - Thermal value verified by glass type.
 - Structural value not as important for secondary window.



Certified Vendors

- Vendor's products are listed on the website with the vendor's URL.
- There are currently 40 certified vendors listed on the website. More vendors and certified vendor's products are added each month.



Purchasing Windows Products www.windowsvolumepurchase.org

- Minimum orders (15/20) required.
- Prices listed are maximum for each UI category.
- Prices are not listed by vendor.





Exploring options such as:

- Online Bid Request Form
 - Tier pricing
 - Requiring visible prices in phase II
- Price does not include shipping, installation or added features.
 - Anyone meeting the minimum order requirement may use the website.

High Performance R-5* Windows & Low-E Storm Windows Volume Purchase Products

Frequently Asked Questions Complete Vendor Listing Utility Incentives Learn more about Windows Volume Purchase

Order Windows

-  New Construction R-5 Windows (Minimum order: 20)
-  Retrofit Construction R-5 Windows (Minimum order: 15)
-  R-5 Patio Doors (No minimum order)
-  Low-E Storm Windows (Minimum order: " 20)

High Performance Windows: Advancing Technology. Saving Energy.

About this Website

You have accessed this website because you are interested in purchasing high performance windows or low-e storm windows that are available through a U.S. Department of Energy (DOE) volume purchase program.

High performance (R-5*/U-factor 0.22 or less) windows and low-e storm windows are available for purchase through this website from a number of vendors who have qualified to participate in the volume purchase program.


Each qualified vendor of windows products on this site has met the minimum specifications established by DOE. The qualified vendors have agreed to sell window products to customers that meet the minimum purchase quantities shown.

Customers should be aware that not all vendors offer all window types nor do all vendors sell to all parts of North America. This website will assist purchasers to identify windows products and vendors for their particular location and application. Please be aware that the prices shown for the window products are 'base' prices bid into the program and do not include delivery, installation, and other features such as grids. Vendors may also offer high performance (R-5/U-0.22) windows with other frame materials and/or colors, and the price for those windows may be different than the price offered through this program

Site Updates

- 08.2010 - High Performance Windows Utility Incentives
- 07.2010 - Frequently Asked Questions

Learn More...

- Windows Volume Purchase Midwest Regional Workshop  September 22-23, 2010 Chicago, Illinois

- Response to solicitation was outstanding because entry requirements were simple
- Some vendors don't market aggressively
- Made many entities in the window industry uncomfortable
 - Resistance to showing prices
 - Requirement of certification programs and sales reports
 - Involvement in selling procedure and communication with dealerships
- Sales reports
 - Through August, five companies have reported sales totaling \$100k+
 - Economy still looms
- We believe impact will still be made

- Website attracting many residential homeowners. Ideally it would include more contractors, builders, weatherization agencies, etc. These are currently being targeted via:
 - Mass mailings
 - Social Media
 - Onsite Workshops
- Workshops planned in Midwest, New England, Pacific Northwest. Hosts for additional workshops are currently being sought.

For more information contact:

jbogovich@energetics.com

Activities

- Phase II Volume Purchase Program
 - Engage industry, stakeholders, buyers and utilities in fall 2010 to discuss Phase I and the scope and products for Phase II.
 - Consider adding additional window types.
 - Consider windows for punched commercial applications.
 - Coordinate with ENERGY STAR windows program.