



**Metro Washington COG  
IGBC Meeting  
July 8, 2010**

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# Buildings and Energy Use

Building sector responsible for:

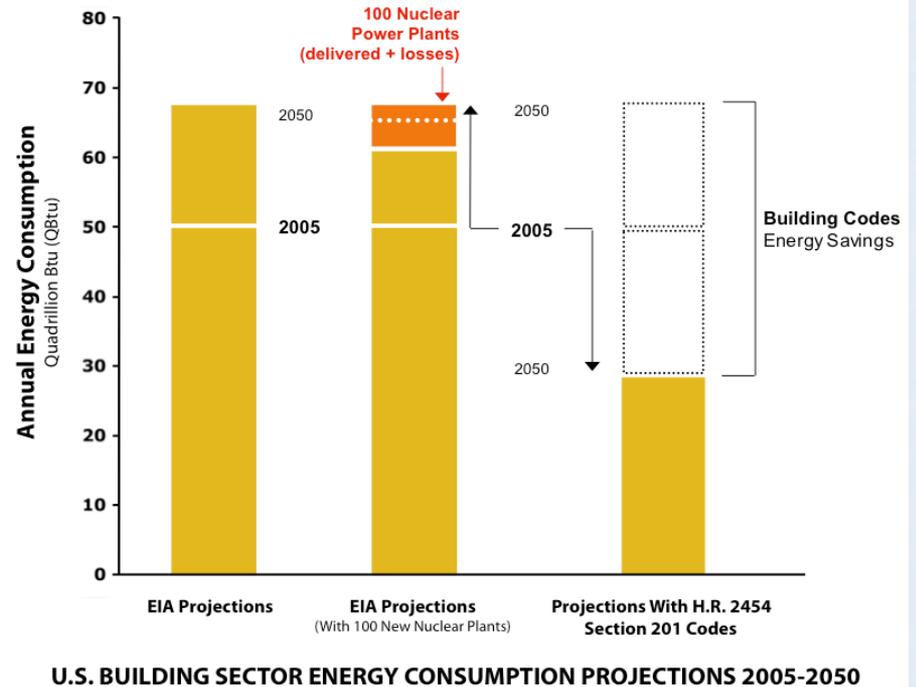
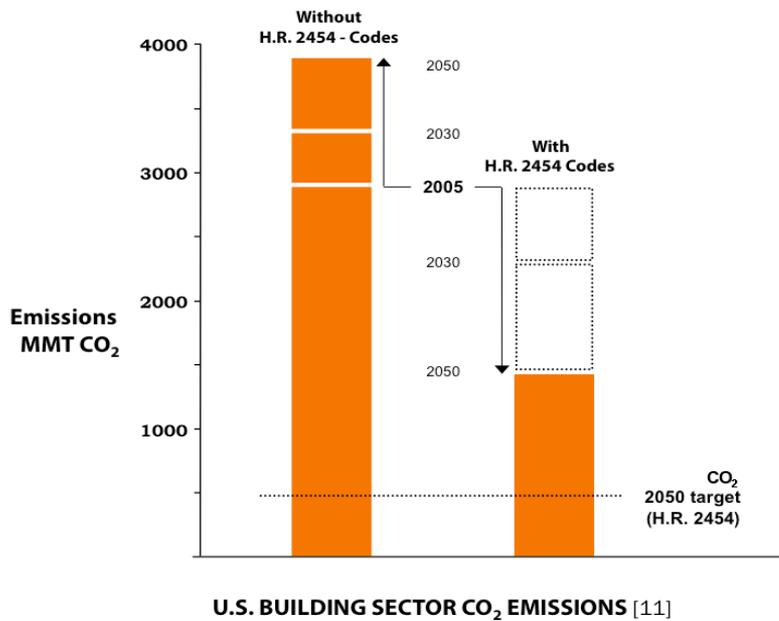
- 39% of total annual US energy consumption
- 38% of total annual US GHG emissions
- 72% of total annual US electricity consumption, and
- Most of the projected 7.34QBtu increase in US electricity consumption by 2030



# Potential for Reductions

- President Obama has called for 83% reduction of US GHG emissions below 2005 levels by 2050
- Federal legislation could support energy efficiency retrofits, building codes, and other initiatives that support this goal
- Clear federal policy would establish certainty needed by businesses and consumers to move forward with energy efficiency and other initiatives

# Potential for Energy Savings and Emissions Reductions with American Clean Energy and Security Act (HR 2454) Building Codes Section



Source: Architecture 2030 Fact Sheet

# Job Creation in Construction Sector

- January 2010 unemployment at 9.7% overall but 24+% in construction industry
- National and state programs can provide leadership in retraining workers and providing incentives for energy efficiency retrofits
- Job retention and/or creation in manufacturing, retail, and construction sectors essential to revitalizing the industry



# How Big is the Opportunity in the Residential Sector?

## ■ **In 2006:**

The U.S. had approximately 113 million residential buildings

- Residential buildings account for: • 21% of primary energy consumption; • 37% of electricity consumption; and • 20% of carbon dioxide emissions
- \$225.6 billion was spent on energy for residences;
- 59% of residential buildings were built in 1979 or before.

## • **By 2020:**

Residential buildings built before 1995 will use approximately 70% of all energy consumed in residential buildings.

Sources: DOE Building Technologies Program's 2008 Buildings Energy Data Book; and Pacific Northwest National Laboratory Analyses



Virginia Sustainable  
Building Network

# Advantages of Home Retrofits

- **For every \$1 invested, retrofitting a home returns \$2.73 in benefits**
  - \$1.67 in energy-related benefits; and
  - \$1.06 in other benefits such as reducing pollution, unemployment, and adverse health concerns.
- Families can save approximately \$350 or more annually on energy bills after retrofitting.

**Source: DOE Weatherization and Intergovernmental Program Fact Sheet**



# Commercial Building Retrofit Potential

- Represent 18% of total US energy consumption and 35% of electricity use.
- Retrofit potential of nearly 6 trillion BTUs of primary energy use, equivalent to over 1 million barrels of oil a year by the year 2020.
- If this level was achieved - annual savings of nearly \$300 billion and lowering greenhouse gas emissions by 360 megatons per year.

# New Green Building Market Potential

- Non-residential and residential Green market activity is likely to more than double from \$36-49 billion in 2009 to \$96-140 billion by 2013
- Sectors expected to have Green Building growth: education, governmental, industrial, office, healthcare, hospitality, retail

# Green Building-Related Jobs

## Short term

- Energy audits and retrofits
- Green Building design and engineering
- Greening of construction trades
- Clean energy technology installation and maintenance
- Greening building operations and maintenance

## Longer Term

- Clean Energy Research and Development
- Alternative Energy Equipment Manufacture
- Alternative Energy Power Generation
- Research and Development – New Products



# Green Building-Related Jobs

Training programs should create opportunities that range from entry-level jobs to middle-skill jobs to professional positions.

Most of the Green-Collar Jobs will be middle-skill jobs in such areas as renewables, efficiency, building construction and operation, transportation and biofuels.

*Potential for job creation with 35% energy efficiency retrofits in residential and commercial buildings over the next three decades -  
81,000 Green Jobs with  
energy savings of more than 32 million kilowatt-hours each year*

*For DC metro area – all green jobs could increase eight fold over  
next 30 years*

*Source: Green Jobs in US Metro Areas. Conference of Mayors and  
Mayors Climate Protection Center*



Virginia Sustainable  
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**Only statewide, member organization promoting  
Green Building and Sustainable Development  
in Virginia**

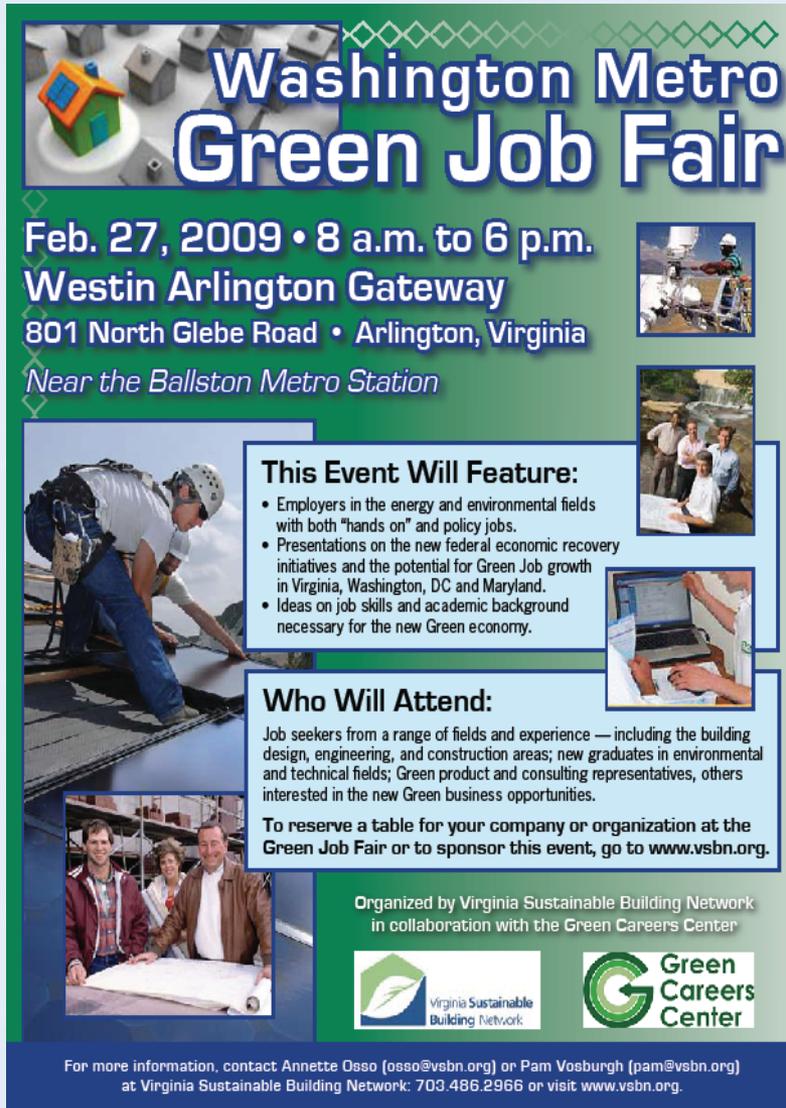
**WHAT HAS VSBN BEEN DOING FOR 15 YEARS?**

Connecting green building professionals with their  
clients and each other

Providing green job and career training

Promoting energy efficiency and clean energy use in  
all types of buildings

Providing technical support services to communities, schools,  
colleges, and other building owners.



**Washington Metro  
Green Job Fair**

Feb. 27, 2009 • 8 a.m. to 6 p.m.  
Westin Arlington Gateway  
801 North Glebe Road • Arlington, Virginia  
*Near the Ballston Metro Station*

**This Event Will Feature:**

- Employers in the energy and environmental fields with both "hands on" and policy jobs.
- Presentations on the new federal economic recovery initiatives and the potential for Green Job growth in Virginia, Washington, DC and Maryland.
- Ideas on job skills and academic background necessary for the new Green economy.

**Who Will Attend:**

Job seekers from a range of fields and experience — including the building design, engineering, and construction areas; new graduates in environmental and technical fields; Green product and consulting representatives, others interested in the new Green business opportunities.

To reserve a table for your company or organization at the Green Job Fair or to sponsor this event, go to [www.vsbn.org](http://www.vsbn.org).

Organized by Virginia Sustainable Building Network  
in collaboration with the Green Careers Center




For more information, contact Annette Oso ([osso@vsbn.org](mailto:osso@vsbn.org)) or Pam Vosburgh ([pam@vsbn.org](mailto:pam@vsbn.org)) at Virginia Sustainable Building Network: 703.486.2966 or visit [www.vsbn.org](http://www.vsbn.org).

# Green Job Fair February 2009

-28 businesses and organizations

-800 attendees

-Workshops and presentations

-Green collar to professional jobs

# Home Performance

## Residential Energy Auditor Training

- Energy Auditor Training – workshops around the state
- Work with vocational programs
- And community colleges



# Home Performance Residential Energy Auditor Training





## Current Partners

Astracor, People Inc., Sustainable Design Consulting

Goal: Provide Green Building training directly and provide gateway for partner groups to bring training into Virginia and DC metro area.

BPI Auditor Training  
Green Retrofits and Remodeling  
Green Sub-Contractor Training  
Solar Installer Training



# Canterbury Woods Community Audit Demonstration



Six models of homes  
built in 1960's and  
1970's

Full audit and reports

Presentation at  
community meeting



- **LAUNCHED** – June 2010
- Goal: The premier green building product and service directory for the mid-Atlantic region
- Builds on the SBRD's success which already had over 900 entries
- [www.smartbuildingdirectory.org](http://www.smartbuildingdirectory.org)



# Contact information

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