

# Encouraging Energy Efficiency Improvement in New and Existing Homes in Arlington County

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LEED AP**

**EPA Webcast  
May 21, 2009**



- Arlington Initiative to Reduce Emissions
- Program launched January 1, 2007
- Collaborative effort between County Government, businesses, and residents to reduce green house gas emissions through:
  - energy efficiency measures
  - green building techniques
  - alternative transportation
  - improved recycling, and
  - water conservation

- Government emissions less than 4% of total, so community outreach also critical
- Program paid for through residential utility tax

- Five components of AIRE Program:
  - Internal commitment to reduce the **government's energy usage** by 10% by 2012
  - Recognize, assist and encourage **businesses** to reduce emissions and energy needs
- Encourage **residents** to reduce their energy usage
- Work with other **localities** around the region and nation to share best practices
- Keep the community updated through a **Web site and blog**

- County government reductions are focused on:
  - energy efficiency in buildings
  - employee engagement and education, and
  - vehicle fleet efficiency

- Energy Audit Program - Over 300 energy audit applications, winners chosen at random, 20 performed in 2007 and 20 in 2008 (lessons learned)
- Coming Soon:
  - Communitywide Climate Action Plan
  - Incentives for energy efficiency using EE block grant funds (beyond the energy audit)



- Fresh AIRE and Green Home Choice program overlap in their outreach missions
- Fresh AIRE - public outreach for energy efficiency in general
- GHC - public outreach for energy efficiency in construction projects and in existing homes
- More staff can target larger audiences, leveraging resources



## •Conduct workshops on home energy savings



# Green It ARLINGTON

A series of FREE workshops to help you make environmentally friendly choices for home, work, and community!  
SPRING/SUMMER 2009

### MARCH

**Friday, March 27, 9:00 - 1:00 pm**  
**EnviroYard Workshop**  
Join us to learn about controlling invasive plants, landscaping with native plants, and creating rain gardens and wildlife habitat.  
Arlington Central Library, 1011 North Quincy St., Arlington, VA  
FREE! Free registration required. Please call (703) 228-7636 to register.

### APRIL

**Saturday, April 11, 9:00 - 4:00 PM**  
**Appliance Energy Use Demonstration**  
Compare the energy use of various everyday household appliances, and see how much "wasted" energy is being used by some of these appliances. This demonstration will be taking place as part of Arlington's Home Show and Expo at the Home Show and Expo, come and get your questions answered about home improvement projects, building permits, zoning, home ownership, and related topics from county agencies and more than 10 businesses. The Home Show and Expo takes place from 10 am - 4 pm.  
Water Reed Community Center, 2909 S. 16th St., Arlington, VA  
For more information, please call 703.228.8827 or visit <http://www.arlingtonhomechoice.org>.

**Wednesday, April 22, 7:00 - 8:30 pm**  
**Greening Your Apartment or Condo**  
Come to this Earth Day workshop to hear from residents who have been leaders to help their apartment or condo buildings go green, by expanding recycling, installing water gardens, rainwater, or reducing energy consumption. Call ideas and receive a tour of your own apartment!

**Saturday, April 25, 11:00 am - 12:30 pm**  
**Rain Barrel Workshop**  
Water Reed Community Center, 2909 16th St., South, Arlington, VA  
Cost: \$10 per barrel (does include your household faucet)  
For more information, to register, or see the full list of rain barrel workshops: <http://www.arlingtonhomechoice.org/RainBarrel>

**Thursday, April 30, 7:00 - 9:00 pm**  
**Speed Greening**  
Every great thing starts with the "great greenery" which is built around several green topics at one event! Topics include Top 10 Ways to Go Green at Home, Review of Tax Incentives for Energy Efficiency, and Green Green to Help your Home, attend one session or all three.  
Water Reed Community Center, 2909 S. 16th St., Arlington, VA  
For more information or to register, please email [teresa@arlingtonva.us](mailto:teresa@arlingtonva.us) or call 703.228.4762.

### MAY

**Saturday, May 2**  
**Virginia Invasive Plant Removal Day**  
Native plants contribute to be threatened by non-native species that crowd them out and reduce biodiversity. Join in the 18th Annual Invasive Plant Removal Day - Final event! In your area.  
<http://www.virginiaconservation.com/activities/InvasivePlantRemovalDay>

### MAY continued

**Saturday, May 2, 9:30am - 11:30 am**  
**Bike Maintenance 101**  
Does your bike shake, rattle, and rattle? This FREE bike maintenance class at Center Cycle in Ballston will help you take control! You'll learn how to tune, fix, and maintain your bike and essential tools, and how to patch and change your own tires, service your drive chain, and perform preventative maintenance that will prolong the life-span of your bike.  
3022 Wilson Boulevard, Arlington, VA. For more information or to register, email [oregel.arlington@arlingtonva.us](mailto:oregel.arlington@arlingtonva.us) or call 703.228.2066.

**Saturday, May 9, 2:00 - 4:00 pm**  
**Air Flow and Energy Leaks in Your Home**  
Did you ever wonder how air flows through your house and where the bills end up? Come to this workshop to learn how energy flows through a house, where air leaks typically occur, and to see a variety of products or methods that can fix these problems.  
Holladay Community Center, 1208 S. Holladay St., Arlington, VA  
For more information, or to register, please email [teresa@arlingtonva.us](mailto:teresa@arlingtonva.us) or call 703.228.4762.

**Friday, May 15th**  
**Bike to Work Day**  
Join thousands of area commuters for a celebration of anything as a clean, fun and healthy way to get to work! Meet up with your neighbors at one of 27 bike stops all over the region.  
**Red out more or register for the event!** <http://www.miles.org/>

**Saturday, May 16, 11:00 am - 1:00 pm**  
**Composting Essentials**  
Come to this workshop to learn how to transform leaves, grass, and weeds into compost - the great gardener's gold. This session includes a hands-on compost demonstration featuring several types of compost bins.  
Purinton, Chesapeake Regional Park, 2847 N. Military Rd., Arlington, VA, 7030  
Call 703.228.4762 or email [oregel@arlingtonva.us](mailto:oregel@arlingtonva.us) to register to host one.

### JUNE

**Monday, June 7, 9:00 - 5:00 pm**  
**Green Home and Garden Tour**  
Take part in this tour to see homes with solar elements, green roofs, recycled materials, and energy efficient technologies. Some homes will feature gardens full of native plants, companion, rain barrels and other, permeable pavement, wildlife habitat, and other environmentally friendly features.  
The tour brochures will be online at [www.arlingtonhomechoice.org](http://www.arlingtonhomechoice.org) by May 1st.

**Wednesday, June 24, 8:00 - 10:00 am**  
**Greening Your Small Business**  
Operating a green business is not only good for the environment but good for your business's bottom line. Come to this seminar to learn how FREE AIRE (Arlington Initiative to Reduce Emissions) can help you add value to your business through a variety of green measures. This seminar will also feature Arlington based small businesses that have reduced their environmental footprint and achieved savings.  
Arlington Economic Development, 1100 N. Glebe Road, Suite 1300, Arlington VA, FREE. Registration required. To register visit [www.arlingtonva.us/businessgreen](http://www.arlingtonva.us/businessgreen). For more information, contact Dorcas Boudreau: 703.228.0813 or [dboudreau@arlingtonva.us](mailto:dboudreau@arlingtonva.us).

Sponsored by:

Virginia Cooperative Extension

TAKE THE CHALLENGE [www.arlingtonenvironment.org/jpledge](http://www.arlingtonenvironment.org/jpledge) [www.arlingtonva.us/des](http://www.arlingtonva.us/des)





- Make presentations at civic associations and other community and business groups on energy savings
- Distribute information and ENERGY STAR CFLs at community events (>2,000 so far)
- Partner with local non-profit to connect with residents on green living tips and on Green Building Directory
- Maintain website and blog





- Voluntary single-family residential program began in 2003
- 77 homes have been or in the process of being certified
- Of these, 48 are new homes and 36 have or will be ENERGY STAR certified (voluntary)
- Program currently going through significant revisions



- Expedited plan review
- Builder/designer name appears on County website
- Annual awards ceremony
- Builders doing well in slow market with green home advantage



- Energy efficiency is primary objective of program
- Current program requires 75-85 of 175 minimum points related to energy
- New proposed program requires 75-100 energy points and ENERGY STAR certification for any new homes

- Input on revised rating system through e-mail, large and small meetings with program builders, regional industry groups, and product suppliers
- Not sure how builders would react to ENERGY STAR requirement for new construction
- Need to balance cost/ability of builders to requirements



- Air Sealing Measures
- Insulation
- Windows and Doors
- Passive Solar Design/Heat Island
- Heating and Cooling Equipment
- On-site renewable energy sources
- Energy Efficient Lighting and Appliances
- Resource Efficient Design



- New Home





- SIPs construction
- Partial green roof
- Geothermal heating, cooling, and assisted hot water
- Desuperheater on hot water
- Energy Recovery Ventilator (ERV)
- Ultra-efficient windows
- Solar PV (4 kw)
- Essentially no net annual energy usage
- GHC, LEED Homes, and Energy Star





## Home Renovation/Addition





- Spray foam closed cell insulation (also achieves air sealing)
- Energy-efficient windows
- Radiant floor heating
- ENERGY STAR wood burning fireplace
- 15 SEER air conditioning unit
- ENERGY STAR appliances and lighting
- Energy Recovery Ventilator (ERV)



- Renovation increased square footage by 72%
- And yet, the electricity used prior to the addition was 8,066 kWh and after the renovation was 7,544 kWh (overall decrease of 6%)
- The kWh per square foot dropped 46%

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