



**Residential
Energy
Efficiency**



Lisa Orr, Sustainability Program Coordinator
Frederick County Office of Sustainability and Environmental Resources





The Green Homes Challenge



Challenge 1: Be a Power Saver
Save Our Energy, Bank Your Money!
Helps residents reduce energy consumption and utility bills



**Funding: 3-year
EPA Climate
Showcase
Communities
Grant**



Challenge 2: Be a Green Leader
Green Your Lifestyle, Protect Our Resources!
Helps residents adopt environmentally-friendly practices

Challenge 3: Be a Renewable Star
Renew Your Energy, Clear Our Air!
Helps residents use renewable energy





The Green Homes Challenge

Special Initiatives

Power Saver

- **Power Saver Retrofits**
 - ~300 homes served
- **Refrigerator Exchange Program**
 - ~ 234 Households



Green Leader

- **Neighborhood Green**
 - ~ 51 acres of native trees and shrubs planted
- **Expanded Neighborhood Green**
 - ~ 150 households



Renewable Star

- **Solarize Frederick County**
 - 66 Solar Electric
 - 12 Solar Hot Water



Powerware Parties



Green Ambassadors



Workshops &
Green
Ambassadors

Online
Interactive
Site



The Green Homes Challenge makes it fun and easy to save energy, adopt environmentally-friendly practices, and use renewable energy.

- Learn about actions you can take
- Set goals and track your progress
- Join a Green Team to stay motivated

TAKE THE CHALLENGE



Workshops & Green Ambassadors

Online Interactive Site

160 Actions, Resources, Incentives in one place



ACTIONS

FREE Set up Power Management on desktop computers and laptops
★★★★★
[Read more](#) [Comments](#)

ADD TO MY CHALLENGE

ALREADY COMPLETED

NOT APPLICABLE

FREE Turn Off the TV When No One is Watching
★★★★★
[Read more](#) [Comments](#)

ADD TO MY CHALLENGE

ALREADY COMPLETED

NOT APPLICABLE

FREE Turn off computer peripherals when not in use
★★★★★
[Read more](#) [Comments](#)

ADD TO MY CHALLENGE

ALREADY COMPLETED

NOT APPLICABLE





Change HVAC filters on a regular basis



[Comments](#)

[ADD TO MY CHALLENGE](#)

[ALREADY COMPLETED](#)

[NOT APPLICABLE](#)

Air conditioning and heating can account for half of a household's energy consumption. Changing your heating, ventilating, and air conditioning (HVAC) system filters regularly will allow the systems to operate efficiently, and will keep the indoor air clean. Use [HEPA \(High Efficiency Particulate Air\) filters](#) on your HVAC system so that you have maximum filtration in your home.

The frequency recommended for filter changes can vary depending on your household environment. Most homes should have a filter change every 90 days, but more frequent changes may be needed for homes with pets or during peak seasonal usage. A monthly visual check is enough to see if the filter is dirty and needs replacement. Learn more about changing your filter from the [Service Experts guide](#) or [Energy Star® guide](#).

[Collapse](#)

Workshops
& Green
Ambassador
s

Online
Interactive
Site

160 Actions,
Resources,
Incentives in
one place

Earn Points,
Medals, &
Certify

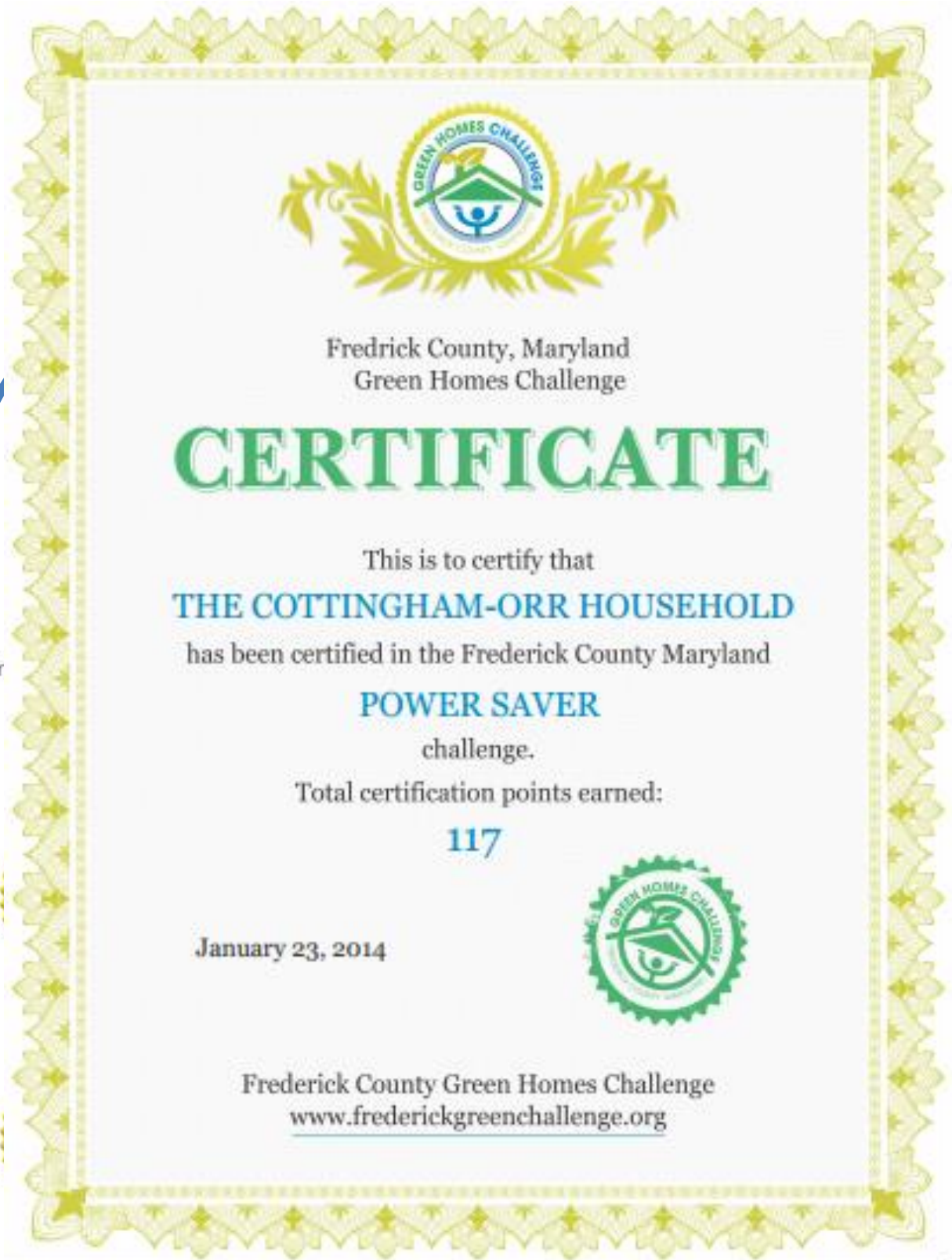
How are you earning medals you can earn from Renewable Star actions.



Biggest Saver



Super Sealer



Workshops & Green Ambassadors

Online Interactive Site

160 Actions, Resources, Incentives in one place

Earn Points, Medals & Certify

See Impact of Actions

MY PROGRESS



The Cottingham-Orr Household

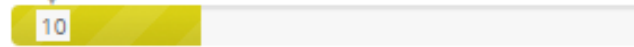
POWER SAVER certified (124)



GREEN LEADER certified (219)



RENEWABLE STAR certified (44)



ESTIMATED ANNUAL SAVINGS



\$ 5,315



56



19,147

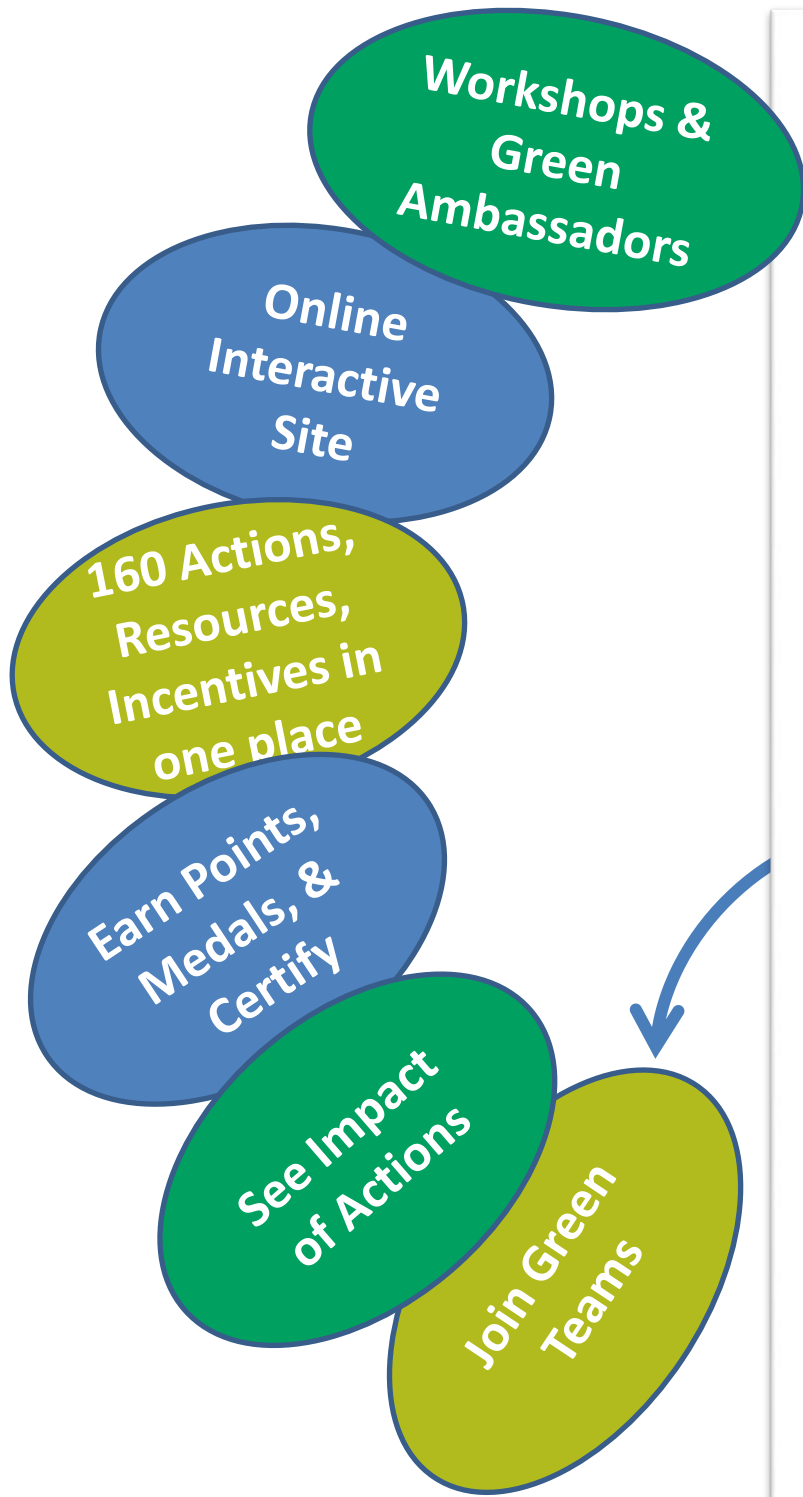


134,436



805





Members		5 participants	
	1. Green Homes Challenge (leader) Frederick, MD		
	2. Harder Family Middletown, MD		
	3. Moore-Dellyannis		
	4. The Cottingham-Orr Household Burkittsville, MD		
	5. The Cliber Household New Market, MD		
Actions taken	369		
Total CO ₂ savings	126 tons		
Total dollar savings	\$14,714		

Myersville Green Team led by Green Ambassadors
Received GHC Mini-Grant to buy and install energy efficiency measures in each
member's home.





FrederickGreenChallenge.org

Replicable & Available:

- ❖ No charge from Frederick County
- ❖ Nominal prep fees from Strativia Software





Special Initiatives

Power Saver Challenge

2014

No-Cost! Refrigerator Exchange Program

- 234 Low- & Moderate-Income Households
- 2001 and older models recycled and replaced with Energy Star
- Estimated Savings: 285,000 kWh/year
- Funding: 2 MEA grants; Leveraged Potomac Edison rebates to increase participation by 1/3.



FrederickFridgeExchange.org



Special Initiatives

Power Saver Retrofits



- Energy audits and energy efficiency retrofits using 2 contractors
- Three Years: 2013 - 2015 (funded by DHCD & MEA)
 - ❖ Low- and Moderate-Income Households
 - ❖ No homeowner Cost Share!
 - ❖ Up to \$5,000 or \$8,000 for audit and retrofits
- Utilize Potomac Edison EmPower MD \$100 audits and direct installs BUT no rebates



Special Initiatives

Power Saver Retrofits: Who?

For Low- and Moderate Income Households

The gross income of all household members together may not exceed 85% of the median income for Frederick County.

2015 LIMITS:



Household Size	Total Gross Income
1 Person	\$63,650
2 People	\$72,750
3 People	\$81,850
4 People	\$90,950
5 People	\$98,250
6 People	\$105,550
7 People	\$112,800





Special Initiatives

Power Saver Retrofits: What?

For Low- and Moderate Income Households

- **Up to \$5,000 in services and equipment; or up to \$8,000 if HVAC upgrades are needed**
 - ✓ Home Performance with Energy Star audit and report
 - ✓ Combustion devices testing
 - ✓ Attic/basement/wall air sealing and insulation
 - ✓ Door and window weatherstripping
 - ✓ Duct testing, sealing, insulation (Aeroseal and traditional)
 - ✓ Energy Star heat pump water heaters
 - ✓ Energy Star fridges, dishwashers, clothes washers, dryers, and window A/C units
 - ✓ LED and CFL light bulbs,
 - ✓ Low flow showerheads and aerators; pipe insulation
 - ✓ HVAC tune-ups
 - ✓ Energy Star HVAC upgrades: furnaces, boilers, heat pumps, AC systems



X No window, door, or stove replacements





Special Initiatives

Power Saver Retrofits: What?



- Up to \$1,000 can go towards Health & Safety Repairs
 - ✓ Rerouting bathroom fan vents from attic to outside
 - ✓ CO detectors
 - ✓ Increasing ventilation
 - ✓ Roof and plumbing leaks
- Work beyond financial limit can be contracted separately
- Usually June – December/January
- Project Criteria: 10 year payback (energy savings over 10 years = or > than total cost of project)



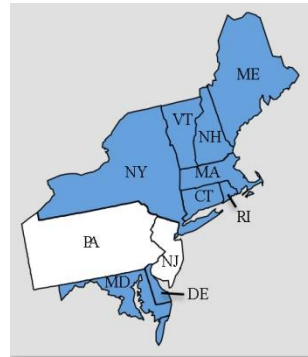
Special Initiatives

Power Saver Retrofits: How?

For Low- and Moderate Income Households



Grant Funded: MEA Annual Clean Energy Communities Statewide Competitive Grant



Source: Maryland Strategic Investment Fund through RGGI

No Taxpayer Dollars!

Staffing: 0.75 FTE? (50 – 90 % of time)

\$500,000 in 2014 (87 Homes)

\$728,000 in 2015 (125 Homes)

\$931,000 in 2016? (requested) (150 Homes)





Power Saver Retrofits: Results

- 300 households served since 2013
- Average annual cost savings: ~\$700/yr/home
- Many HVAC crises mitigated
- Safer homes: Identified many critical safety hazards and code violations
- Partnerships with Habitat and Rebuilding Together and municipal housing zero-interest, deferred rehab loan programs
- More affordable and comfortable homeownership
- Reward: Helping people living with extremely limited incomes and difficult circumstances





Contacts

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If interested in replicating FrederickGreenChallenge.org:

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