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City of Flagstaff, Arizona





# Residential Energy Retrofit Program

- City of Flagstaff, Arizona
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- Project Strategy





## City of Flagstaff, Arizona

The City of Flagstaff received funding from the Department of Energy's Energy Efficiency and Conservation Block Grant (EECBG) as part of the American Recovery and Reinvestment Act in the amount of \$587,100.

Funding supports integrated solutions for a sustainable Flagstaff for addressing resource conservation, economic development and social inclusion.





# EECBG Energy Efficiency Strategy

- Supports existing community-wide residential energy efficiency and climate management initiatives
- Residential energy efficiency and conservation
- Workforce stabilization and development
- Economic development throughout the community





# EECBG Energy Efficiency Strategy

- Reduce energy consumption by 15%-30% in 550 residential structures
- Save 5 million kilowatts of energy annually
- Save 1,100,000 gallons of water annually
- Offset 5,446,875 pounds of carbon dioxide annually
- Save \$195,000 in utility bills annually





# EECBG Energy Efficiency Strategy

- Retain and generate local green collar workforce  
8 - 12 jobs created/retained in the Flagstaff community
- Leverage ARRA funds with an income based sliding fee for service to maintain a fund to support beyond grant cycle
- Educate the residential sector on efficiency and promote behavioral change





# Project Strategy

- The program includes two tiers of building energy conservation services
- Services are provided on a first come, first served basis to eligible applicants
- The energy retrofits will be performed by building science professionals, contractors and the Energy Conservation Corps.





# Project Strategy

## Tier I Energy Retrofit Services

- Carbon monoxide detector installation
- Compact fluorescent light bulb installation
- High efficiency water fixture installations
- Insulation of first five feet of hot water lines
- HVAC filter replacement





# Project Strategy

## Tier I Energy Retrofit Services

- Carbon monoxide detector installation
- Structural air leak mitigation (weather stripping, outlet gaskets, caulking, plumbing penetration)
- Distribution of energy and water conservation educational and outreach information
- Structural savings and consumption tracking and certification





# Project Strategy

## Tier II Energy Retrofit Services

- Tier I Energy Retrofit measures
- Structural energy audit including blower door testing (pre and post treatment)
- Advanced building envelope mitigation including duct sealing
- Carbon monoxide safety testing
- Furnace inspection
- Hot water heater blanket installation





# Estimated Utility Savings

| Service Tier   | Energy Saved (Btu/yr) | Energy Saved (kWh/yr) | Water Saved (gal/yr) | Greenhouse Gas Emissions Reduced (lbs. CO <sub>2</sub> /yr) | Utility Cost Savings (\$/yr) |
|----------------|-----------------------|-----------------------|----------------------|---|------------------------------|
| <b>Tier I</b>  | 15,000,000            | 1,335                 | 2,000                | 6,225   | \$225                        |
| <b>Tier II</b> | 30,000,000            | 2,670                 | 2,000                | 12,450  | \$450                        |



# Eligibility Requirements

- Residence is within Flagstaff city limits
- Must be primary residence
- Homeowners and renters who have occupied residences for at least 12 months
- Renters must obtain landlord authorization
- Residence is not for sale
- Utilities must be in resident's name
- Legal US resident





# Cost for Services

| Fee Schedule             | Household Income  | Cost     | Service Packages Available |
|--------------------------|-------------------|----------|----------------------------|
| <b>Tier I Services</b>   |                   |          |                            |
| Estimated Value: \$150   | \$0.00 - 40,000   | \$0.00   | 100                        |
|                          | \$40,001 - 70,000 | \$50.00  | 75                         |
|                          | \$70,001 +        | \$75.00  | 50                         |
| <b>Tier II Services</b>  |                   |          |                            |
| Estimated Value: \$1,250 | \$0.00 - 49,999   | \$25.00  | 100                        |
|                          | \$50,000 - 64,999 | \$125.00 | 75                         |
|                          | \$65,000 - 79,999 | \$375.00 | 75                         |
|                          | \$80,000 +        | \$625.00 | 75                         |

# Flagstaff Residential Energy Retrofit Program

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