

# Home Energy Performance



Energy Efficiency

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# Energy Efficiency

Energy efficiency represents a significant largely untapped opportunity for meeting the dual goals of financial returns and environmental protection. By eliminating wasted energy, the U.S. can reduce its fossil fuel use, move toward energy independence, and reduce its greenhouse gas (GHG) emissions by almost 40% by 2030.

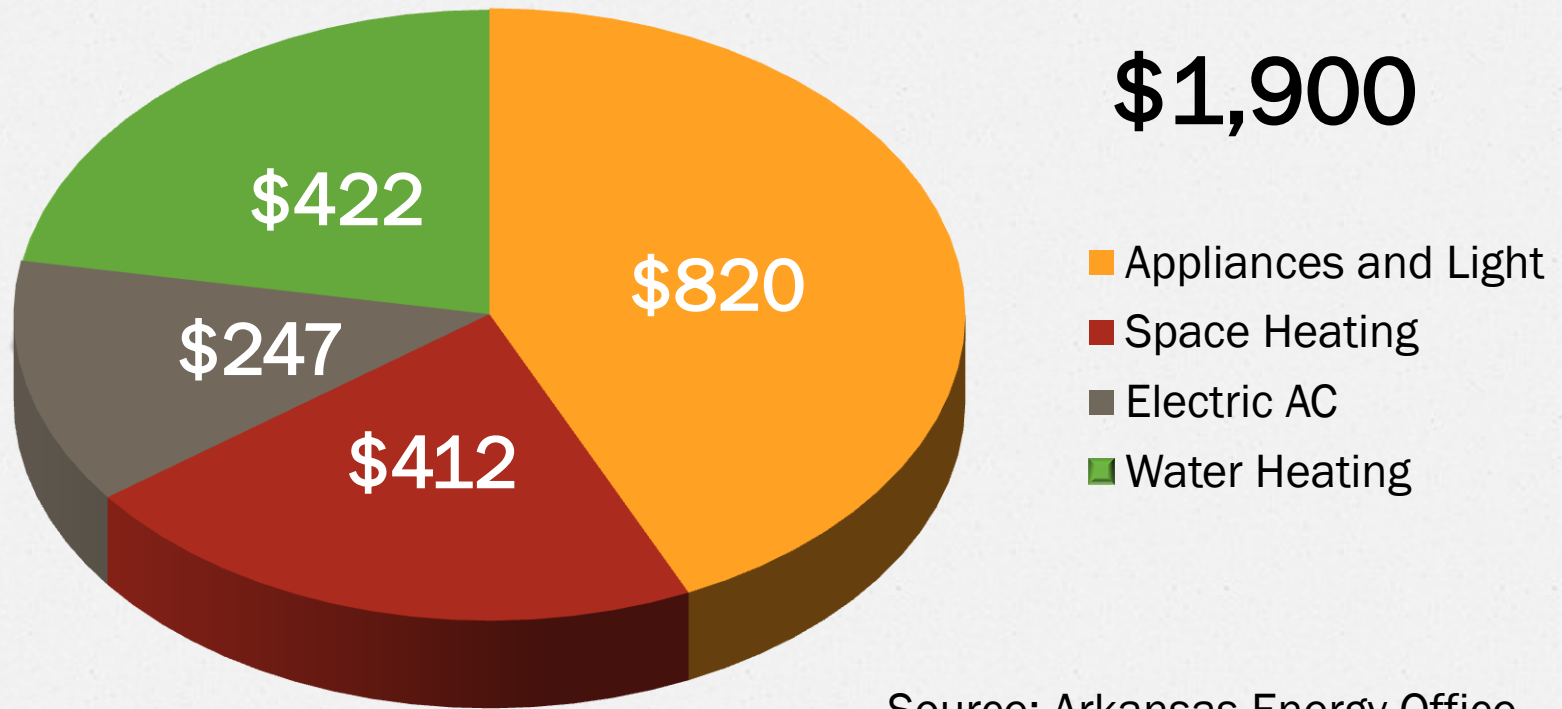
Source: Rocky Mountain Institute

# Arkansas Home Energy Cost

- o 1,115,000 Households in Arkansas
- o Average utility cost of \$1,900 per year
- o 62% are below \$50,000 median household income spend 23% of their after tax income on energy



# Arkansas Average Annual Utility Costs



Source: Arkansas Energy Office

# Value of Energy Efficiency

- o Approximately \$2,000,000,000 spent annually on household utilities
- o \$200 million dollars can be saved annually with just a 10% improvement



# Barriers to Energy Efficiency Implementation

1. Uncertainty of Savings
2. Lack of Awareness and Knowledge
3. Access to Capital
4. Availability of Service Providers
5. Complicated Process



# Uncertainty of Savings

- o Concepts of energy efficiency are complex and the science is confusing to consumers
- o Who do you trust?
- o No standardization of energy performance reporting





# Lack of Awareness

- o You can't fix what you don't measure
- o Most home owners aren't aware if they have a energy efficiency problem
- o What uses energy in my home?



# Lack of Knowledge

Customers don't understand the science of energy performance.

kwh

CFM 50

SEER RATING

BTU

AFUE

Infiltration

U Values

# Capital



- o Lenders don't recognize the value of energy efficiency savings
- o Many energy efficiency measures don't result in an increase in property values
- o Individuals with the most energy poverty have the least access to funding.
- o Audit costs and improvement cost are often too costly
- o Rebate incentives may not be available
- o Low cost of energy in Arkansas leads to longer payback periods and less ROI

# Availability Of Service Providers

- o Who do I call?
- o Very few trained home energy auditors in the state of Arkansas



# Service Providers

## Traditional Providers

- HVAC Contractors
- Insulation Contractors
- Window Installers
- Remodel Contractors



## New Service Providers

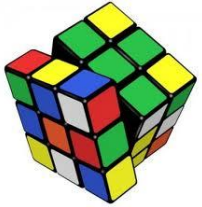
- Certified Energy Auditors
- Home Performance Contractors
- Duct and Air Sealing Professionals



# Traditional Process

1. Contact utility provider for rebate programs
2. Contact approved utility auditor
3. Schedule home energy audit
4. Review home energy audit recommendations
5. Contact approved utility contractors for bids
6. Obtain financing
7. Hire multiple contractors
8. Complete rebate documentation





# Problems with this Process

- o Complicated and overwhelming to customers
- o Limited to small list of utility approved contractors
- o Many approved contractors are not cross trained in whole house energy performance (focused on HVAC, insulation, windows, etc.)
- o Comprehensive low cost solutions are often overlooked

# Progress

- o Some Arkansas utilities are providing incentives for home energy audits to increase education and awareness.
- o New service providers are starting to offer comprehensive solutions to simplify the process.
- o Utilities have adopted standardized building science protocols to measure performance (blower door, duct blaster, etc)
- o Many of the utility incentives for energy efficiency measures are robust



# What We Need

- o More public awareness on the financial impact of energy efficiency
- o More utility rebate incentives for comprehensive home energy audits
- o More trained home energy professionals
- o Lenders to recognize the value of energy efficiency
- o PACE legislation for the state of Arkansas

