



Helping Home Fund: Weatherization and Health

Presented at the 2017 ACEEE
National Conference on Energy
Efficiency as a Resource

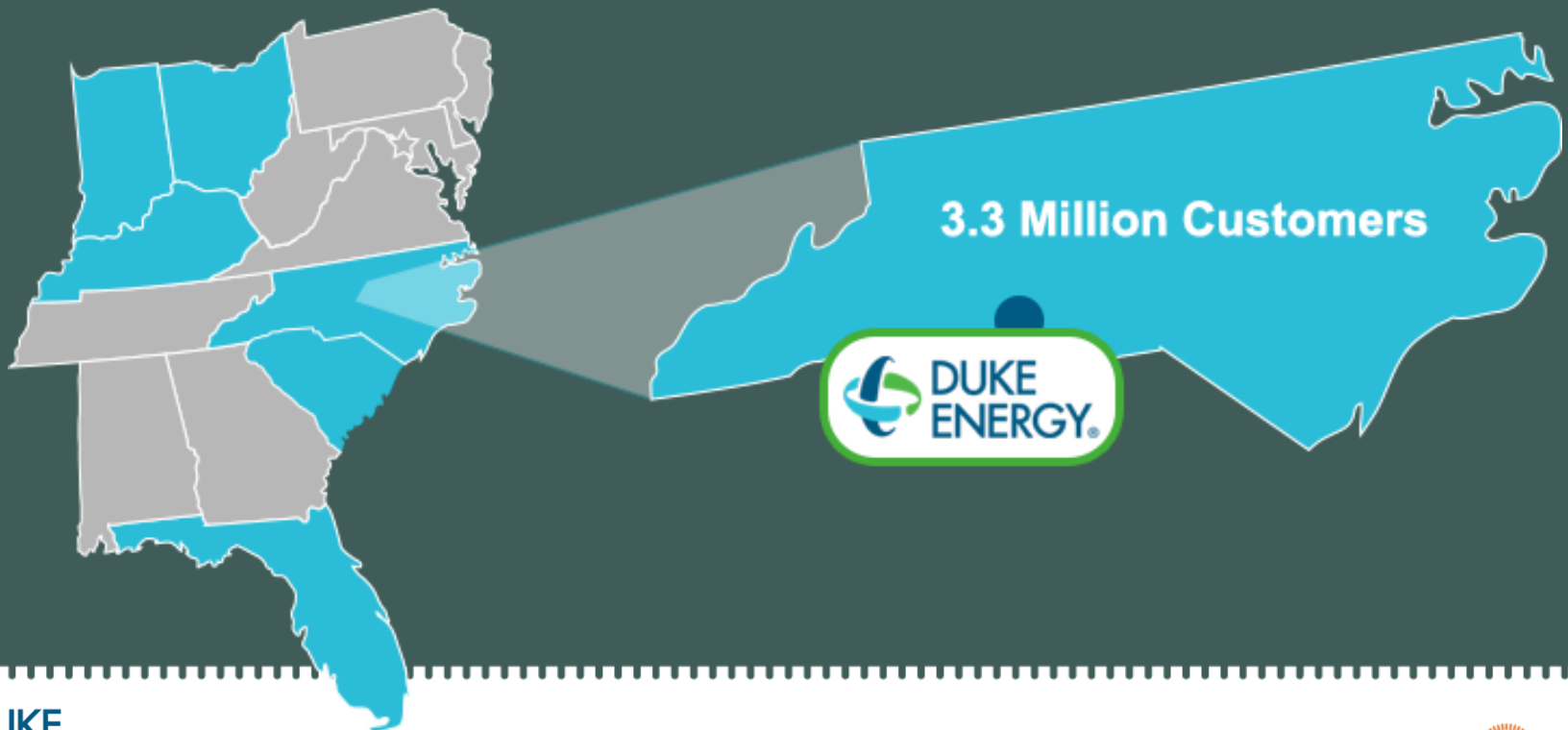
Agenda

- Duke Energy
- Helping Home Fund Overview
- Program Analysis
 - Overview of measures installed
 - Leveraged funds
 - Non-energy benefits
- Lessons Learned



Duke Energy

- Duke Energy Corporation is headquartered in Charlotte, NC
- Serve ~7.5 million retail electric customers in six states – NC, SC, FL, IN, OH and KY – representing a population of ~24 million people
- Serve ~3.3 million retail electric customers in NC



Fund Design

- \$20M from 2013 rate case in NC
- Assistance for LI <200% of FPG
 - Provide health and safety repairs
 - Up to \$3,000 per home
 - Provide Energy Star® appliances
 - Up to \$2,000 per home
 - Refrigerators
 - Room A/C units
 - Clothes washers / dryers
 - Provide energy efficient HVAC systems
 - Weatherization assistance (Duke Energy Progress territory)



Fund Objectives

- Successfully **leverage relationships** with local agencies, non-profit organizations, and state government
- **Improve** the health, safety, and energy efficiency of low-income households, as well as increase their level of **disposable** income
- Leverage funding and resources from other federal, state, and local programs to **maximize program benefits** for low-income customers

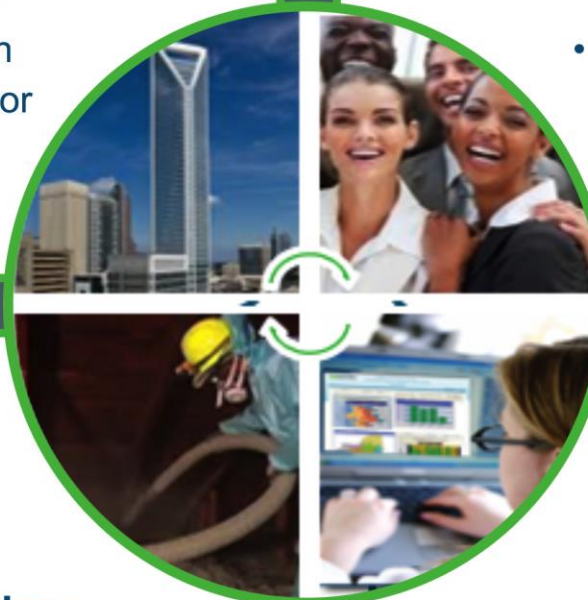
Program Operations



- Vision & Mission
- Program Sponsor



- HHF Management
- Budget Tracking
- Reimbursement
- Training



Service Providers

- Program Experience
- Field Implementation



- QA/QC
- Project Review & Processing
- Data Tracking & Reporting



Program Analysis

Overview of Measures Installed
Leveraged Funds
Non-Energy Benefits

Overview of Measures Installed



3,516 Customers assisted

7,096

Measures provided



1,676

appliances



2,731

health &
safety repairs



1,878

HVAC systems
(1,344 were non-
functioning)



801

Weatherization
assistance

Leveraged Funds

Source	Amount Leveraged
North Carolina Weatherization Assistance Program (Includes DOE & LIHEAP)	\$17,321,000
PNC Beautification	\$250,000
North Carolina Housing Finance Agency	\$234,000*

*Amount reported by NC Housing Finance Agency at the time of the report. Final amount expected to be higher.

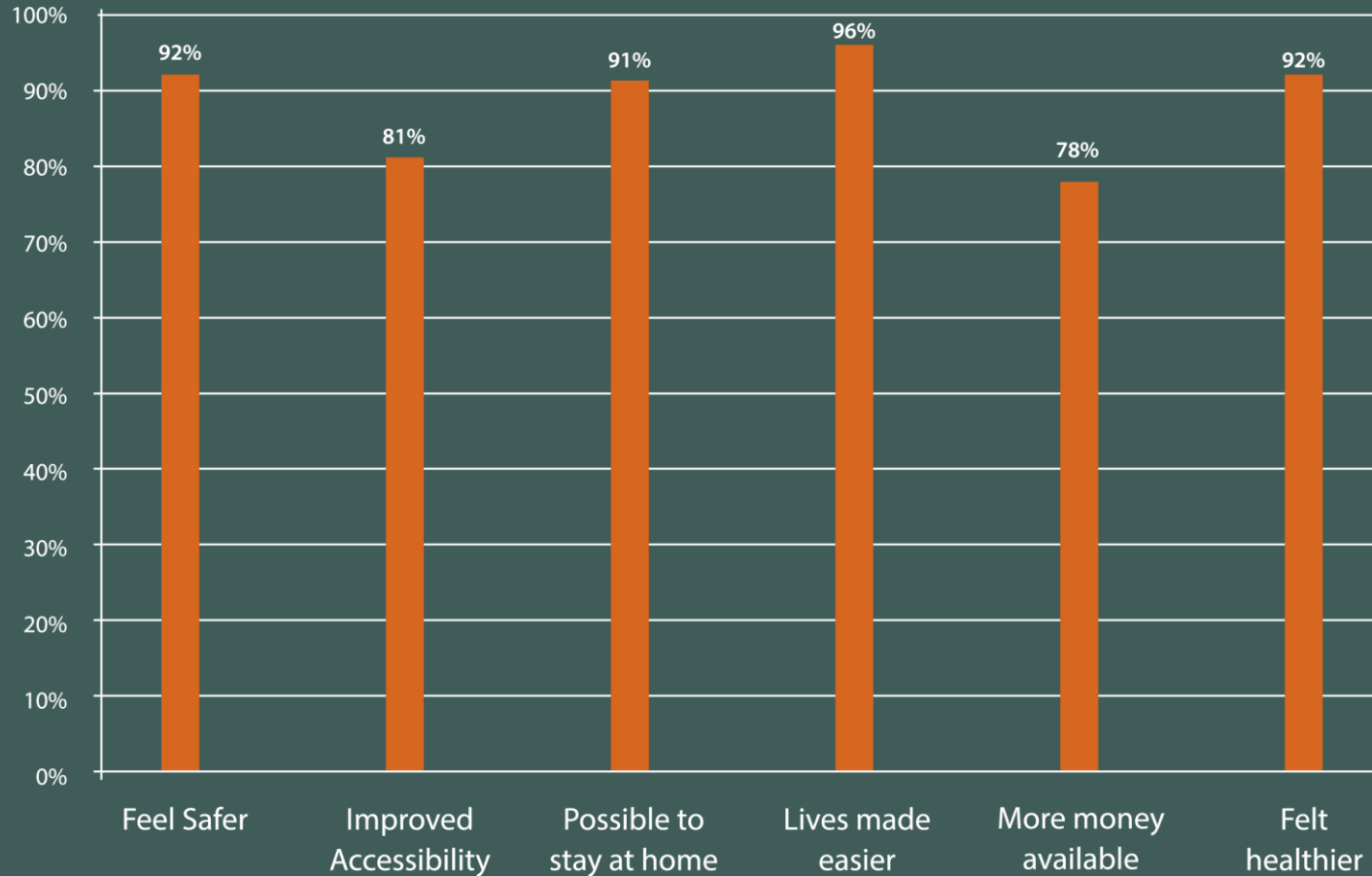
Assessing Non-Energy Benefits

- Homeowner Survey
- Service Provider Survey
- Literature Review

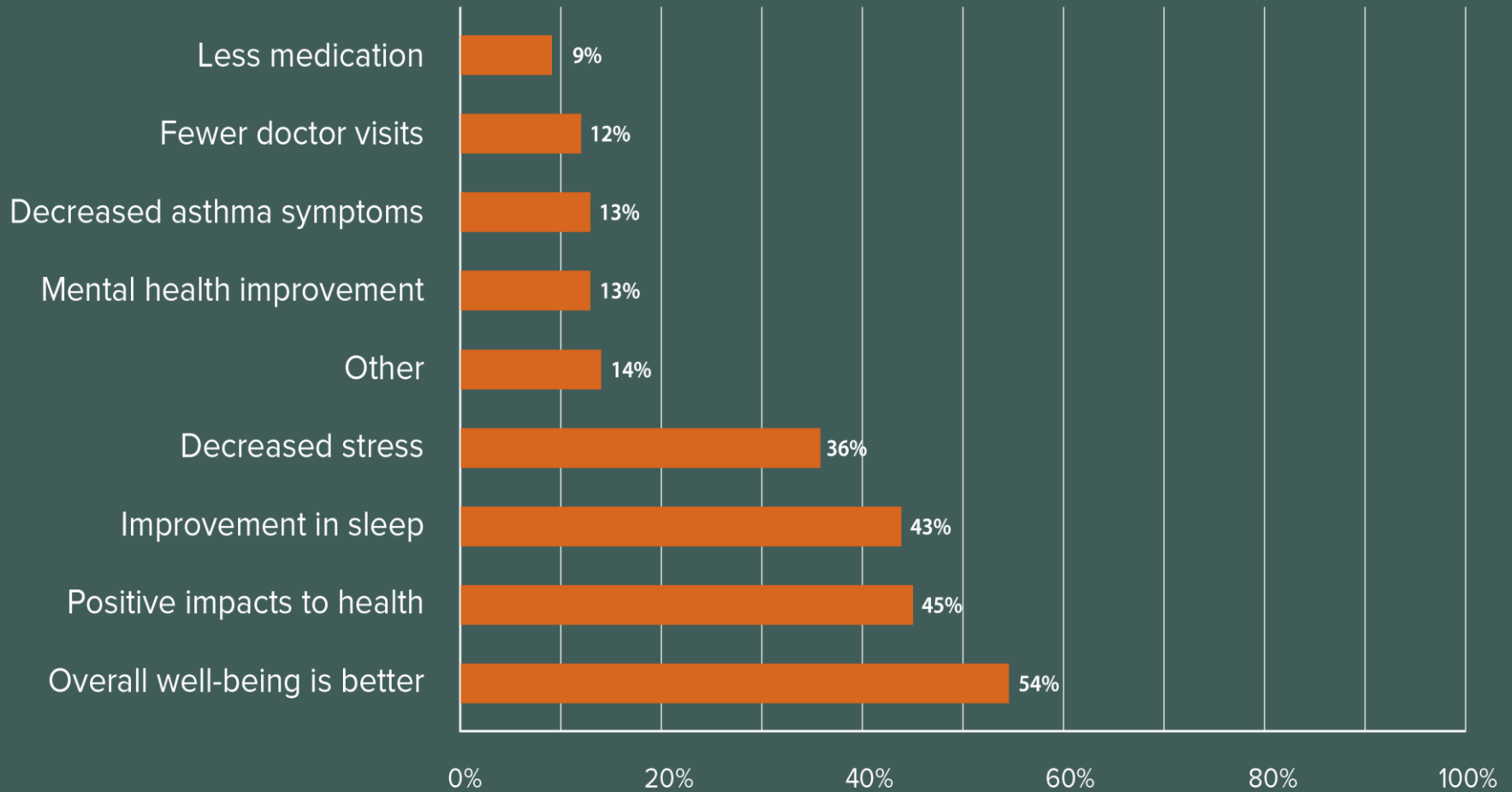


Homeowner Surveys

Of 3,516 homes, called ~900 homeowners, 317 responses



Health Impacts





Janet Lutz

Homeowner Stories



**Janet Lutz,
Hickory, NC**

Service Provider Surveys

- Twenty-four service providers
 - Overall positive responses
 - **Key takeaway:** Reported that an average of 44% of homes would have been deferred if not for the Helping Home Fund



Literature Review

- Monetizing non-energy benefits
- Relied on two papers
 - 2014 Oak Ridge Nat'l Lab's analysis of the national Weatherization Assistance Program
 - 2003 review of ~25 articles
- Robust analysis
- Range of non-energy benefits



Non-Energy Benefits



- Economic and Social
 - Increased property value
 - Fewer missed days at work
 - Water/sewer savings



- Health and Safety
 - Fewer fires
 - Thermal stress (heat and/or cold)
 - Asthma related



Non-Functioning CO Detector

Non-Energy Benefits



- Utility Service
 - Reduced gas service emergency calls
 - Avoided shutoffs and reconnections



- Environmental
 - Air emissions



Old System

New Energy Efficient System

Summary of Costs and Benefits

	Average Present Value Per Home	Present Value for Total Homes
Energy Benefits (Cost Savings)¹	\$5,115.33	\$17,985,500
Non-Energy Benefits²	\$10,312.83	\$36,259,910
Economic and Social	\$3,883.38	\$13,653,964
Health and Safety ³	\$4,775.32	\$16,790,025
Utility Service	\$473.29	\$1,664,088
Environmental ⁴	\$1,180.84	\$4,151,833
Total Benefits	\$15,428.16	\$54,245,410
Total Costs	\$10,124.37	\$35,597,294
Helping Home Fund	\$5,151.68	\$18,113,294
Leveraged Funds	\$4,972.69	\$17,484,000



Lessons Learned

Insights

- Monies filled a gap – spending \$20M in 30 months!
- Initial funding levels too low (H&S - \$800; Appliances - \$800)
- Service provider buy-in varied
- Spending had a direct correlation with DOE/LIHEAP funding, causing delays
- Service providers did not always communicate Helping Home Funding to customers

Summary

- Far reaching impacts!
- Opportunity to change lives: 3,516 households!

Homeowner Stories

“I have been so afraid of falling “again” in the winter with 2 inches of ice on my stairs, not even able to get out of my home.

“THANK YOU, so much, All of you, for my new A/C unit and the free installation of same. I’ve worked hard all my life and it is so much appreciated.”

Homeowner Stories

“After living over a decade without heat and air, it had pretty much become a way of life for us to live in one room during cold and hot days.”



Old Unit



New Energy Efficient Unit

Next Steps

- Sharing final report with the NC Public Utilities Commission
- Extension of program with additional funds
- Report available as a reference



Thank you!

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