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# EITF Programs Overview

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## EITF Program Committee Purpose

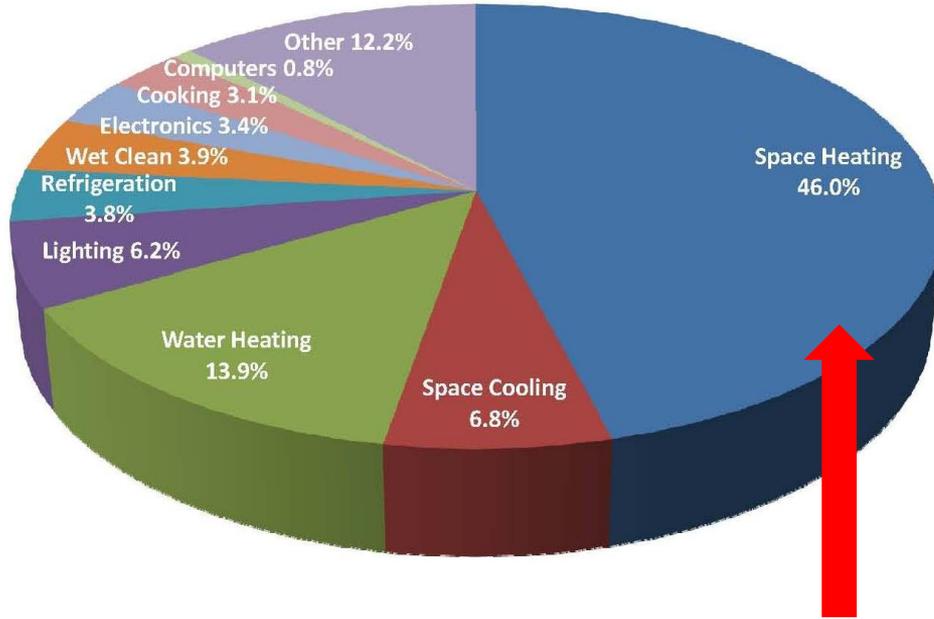
Research and identify ways to increase subscription rates of Duke Energy Progress' existing programs AND create new programs that reduce energy demand and use across all sectors.

## EITF Program Committee Goal

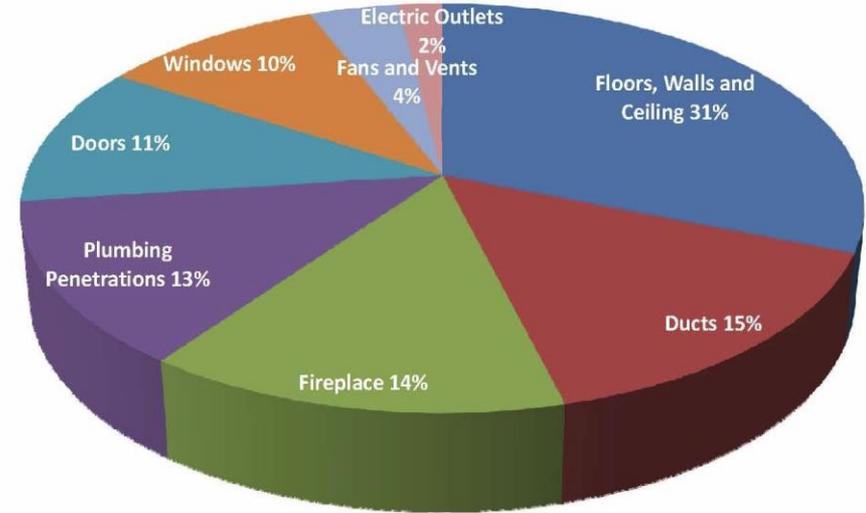
Design and implement programs to eliminate the need for an additional 186 MW peaker plant and significantly reduce energy use per DEP customer served.

# Total Energy Use, not just Electric

## 2010 Residential Energy Usage

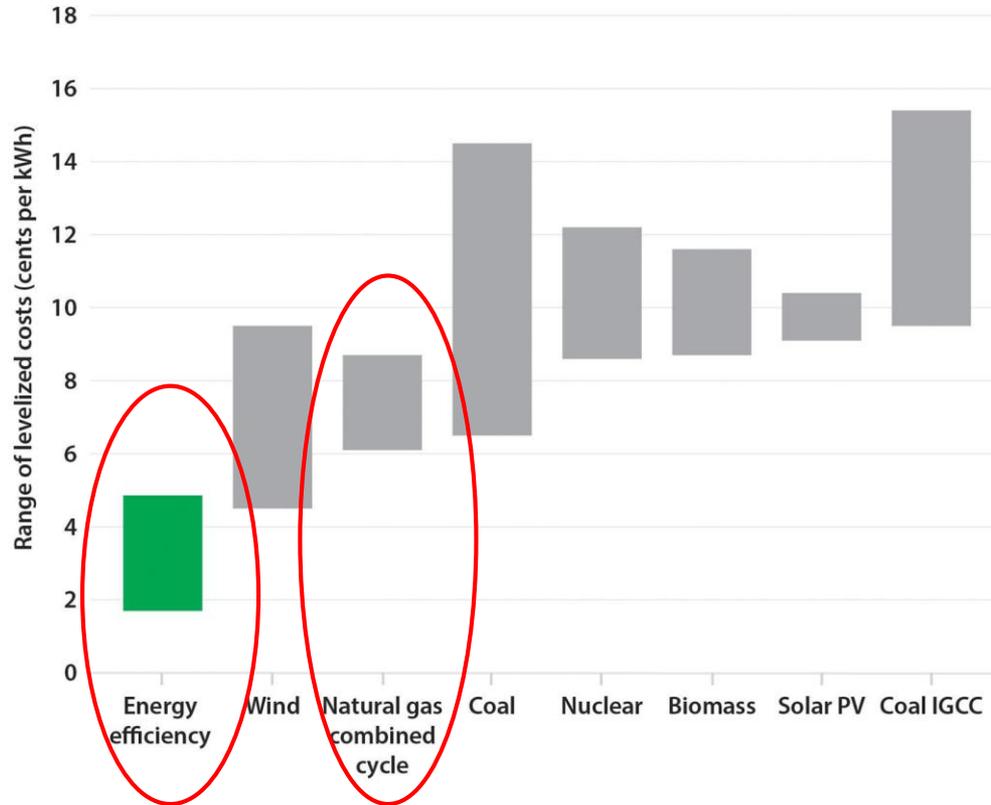


## Residential Energy Loss



National Averages Source: EPA

# Average Costs of New Energy Sources



- Energy Efficiency Costs Utilities 2 to 3 Times Less Than Traditional Power Sources; Average of 2.8 cents/ kWh
- 6-8.5 cents for natural gas
- 16 -21 cents /kwh for peaker plant

# Buncombe County Housing Snapshot

- 61% of Buncombe County homes are built before 1990: 30% less efficient code
- 58% of ALL homes have electric heating
- Mortgage expenses are more than 30% of income for 27% of homeowners
- Rental expenses are more than 30% of income for 59.5% of renters
  - These folks likely cannot afford energy improvements, existing rebates do not set off enough of the cost.
- On average low income households pay 7.2% income on utilities, more than twice as much as median household.
- 18,000 mobile homes in Buncombe County

# Program Committee Priorities

- Recommendations to improve existing DEP residential programs
- Recommendations to improve existing DEP commercial programs
- Buncombe Extreme Energy Makeover

# Existing DEP Programs: Improvement Opportunities

- Existing suite of programs to help customers save energy and money--**But participation is low**
- Underperform compared to other utilities- Ceres Benchmarking ranks Duke 22nd out of 32 biggest utilities for EE
- DEP goals to PUC show less energy savings over next few years
- Barriers to participation:
  - Up front costs are high, incentives cover small % of upgrade costs
  - Uncoordinated siloed programs, customer service and marketing
  - Process is not as user friendly as it could be

# Remove Barriers to Participation

Redesign how energy saving programs are marketed, deployed and supported following industry best practices. Sample goals:

- Energy advisor/coach
- Whole house approach: Engage customers to do multiple upgrades that relate to each other
- One stop customer service
- One simple application for all programs
- Multiple “on ramps”: Home Energy Housecall, online portal
- Streamline participation and incentives for contractors
- Coordinate and cross promote all programs

# Example: TVA's eScore

- Highly personalized customer experience
- Easy to understand 1-10 scoring
- Tracking and reporting tools are housed in one place
- Results:
  - Improved cost effectiveness
  - **31% increased customer spending**
  - **80% fewer incomplete applications**
  - **76% less processing time**
  - **High customer satisfaction**
  - **35 GWh savings**
  - **35,000 upgrades**
  - **\$138M customer spending**

Online portal eliminates need for paperwork

Energy Advisors use tablet during audit

Self Audit app in iTunes and Google Play store

Includes photos of actual home and easy tips



# Remove Financial Barriers

- Provide on-bill financing
- Allow rebate to go directly to contractor, so services can just be sold at lower cost (like “midstream” contractors for commercial side)
- Increase whole house upgrade rebate amounts:
  - Maximum DEP rebates: \$1,940
  - Maximum PG&E rebates: \$6,500
- Connect with financing to help with up front costs:
  - HEAL model loans through employers
  - On-bill tariff pilot program
  - Create a revolving loan fund, microloans, other?

# *Sample of Residential Program-Specific Improvements*

- **Peak Reduction (Energy Wise and Time of Use Rates)**
  - Promote via all other incentives
  - Default new customers to Time of Use Rates--pilot study shows promise
    - 80% wanted to continue, 53% made significant behavior changes
  - Energy Wise home water heater control program expansion
  - TOU: Education and visual prompts for homes
  - Add smart thermostat control program for HVACs
    - Address 20-40% of heating devices don't respond and cycle
- **Neighborhood Energy Saver**
  - Increase number of homes served per year
  - Add more measures: air sealing, insulation, retrofit heating equipment and hot water heaters
  - Target those receiving winter heating assistance

# Commercial Program-Specific Improvements

- **Peak Reduction**
  - Increase incentives for DSM
  - Work with facility managers to understand what actions to take in a “peak event”
  - Alert facility managers and CFOs 24 hours before the peak event to implement peak event plan
- **Comprehensive Upgrades**
  - Contractors promote extensive upgrades
  - Increase incentives for heating systems from 10 to 25%
  - Increase performance incentives for customers over 100kW
- **Better Buildings Challenge**
  - Motivate high energy users with goals, trainings, incentives, etc.
- **New Construction**
  - Promote incentives for new buildings that exceed the energy code by 15%

# Buncombe Extreme Energy Makeover

## Model: TVA-funded Knoxville Extreme Energy Makeover

- Total program budget: \$15 million
- Target # of homes to be served: 1,200
- Homes served to date: 612
- Total construction costs per home: \$7,473
- Deemed annual savings to date: 3,741 MWh
- Average savings per home in completed jobs: 33%

# Buncombe Extreme Energy Makeover

- Targeted, high impact, free, whole house energy upgrades for qualifying households:
  - Building energy intensity (kWh/sf)
  - Electric heat
  - 20% or more modeled energy savings
  - Income qualified
  - Participated in energy education workshop
- Pre upgrade audit, post upgrade quality assurance, track utility data.
- Enroll in Energy Wise (DR switch), Time of Use rate (with education and visual prompts for in home)
- Broad community engagement and education (canvassing, workshops, neighborhood events)

# BEEM Implementation Model

- Build on/coordinate with existing Neighborhood Energy Saver program (Extreme Energy Makeovers) and/or Home Energy Housecall (Energy Coach Track)
  - Both would need expansion
- Build on, utilize local efforts and partners
  - **Data support:** Modeling, targeting customers and measures, quality assurance, tracking
  - **DEP:** provide incentives, program funding, marketing support
  - **Community Action Opportunities:** Perform makeovers
  - **MountainTrue:** Coordinate community engagement and workshops
  - **Green Opportunities:** Canvassers and contractor training
  - **WNCGBC:** Contractor training, Energy Coaches, Better Buildings Challenge

# Next Steps

Engage data support for calculation potential for EE & DSM savings

Set targets

Determine specific roles

Coordinate with Community Engagement Committee

Determine the no-regrets programs

Identify funding sources

Develop funding proposal

Deliver detailed proposal to the full EITF

Engage DEP Program Development process