

Sector Breakout Summary – 11/18/19 EE Workshop

Efficient Buildings

Goal 1: Expand the coordination, engagement and education of thought leaders, policy makers, and all levels of consumers on energy efficiency issues.

Benefit Analysis

- Increased code enforcement
- Consumers/homeowners would have more disposable income
- Healthier buildings, improved comfort
- Educated owners/buyers will make EE decisions
- Consumer savings
- Workforce development
- Cooperating with pre-existing programs plus pushing for more partnering projects (e.g. nonprofits and state housing)

Regulatory Reform

- Adopt current energy codes
- Balance affordable with efficient (consumers and policy makers)
- Smarter / more efficient regulations
- Legislative education to lead to better options
- EE in IRP (Integrated Resource Plan) planning
- Better compliance when better understanding
- EE standards for landlords who receive state funding

Education/Outreach

- Defining current standards and identifying room for improvement
- Solar / EE coordination
- Consumers/homeowners will make better choices
- Coordinated approach to industry training for EE and solar professionals
- Homeowner expectation / understanding of EE
- Promoting the need for EE building and rehab
- Accountability for the “real” steps for EE
- Voice for non-lobbyist
- EE Education to the non-interested consumer to understand benefits of EE

Financing Models

- OBF (on-bill financing)
- Work with lenders to offer better rates for efficient homes (mortgage/financing)
- Direct rebates
- Support for Green Bank programs

- ESCOs (Energy Service Companies)
- Banks – low interest loans
- Great use of incentives from education
- Current grants – why they work / don't work
- Stakeholder coordination to develop better financing mechanisms

Grid Integration

- Battery storage
- EVs
- Grid resiliency benefits
- This is opaque to general public – need education
- Performance incentives
- Reductions can be made to peak demand

Equity

- One stop shop / portal
- Toolkit for renters
- More programs for low-income ratepayers / better access to EE opportunities
- Need purposeful outreach to underserved communities
- People understand what is available to them

Goal 2: Create accessible and adequate funding mechanisms for cost-effective efficiency investments

Benefit Analysis

- Energy efficiency = Save \$\$
- Lower out of pocket costs / lower energy burden
- Accessible programs to make EE upgrades more affordable

Regulatory Reform

- Grandfather existing manufactured homeowners \$ into bans
- Up front funding aid to broader demographic
- Reform utility cost-effectiveness test
- More funding dedicated to weatherization programs
- Create tax and/or rebate incentives for EE in all sectors
- Upfront cost of updating IECC for new homes vs. payback over 30 years
- Residential and Commercial PACE (Property Assessed Clean Energy)
- Extend requirement for state agency EE with dedicated funding mechanisms or ability to retain savings

Education/Outreach

- Legislative education re: needs (all sectors)

- Educating congress on barriers to better loans for workforce housing
- Make specific efforts to communicate re: what is available – one stop shop expansion
- EE label program for consumers
- Regulatory - manufactured home land owners
- Foster community partners that have EE goals
- Better appraisals for EE buildings

Financing Models

- State dollars vs. IOU dollars
- Work with lenders to recognize and reward EE buildings with lower rates/faster pay down
- Tax credits for existing building EE upgrades
- Co-op / rural programs
- More networking and support for non-profits
- Funding to protect community \$ while upgrading
- Incentives for homebuilders to balance costs of EE in new homes
- Grants for places of worship – scipl.org

Grid Integration

- EVs
- GEBs
- Batter storage
- Make sure storage batteries included in funding

Equity

- More attention to unintended consequences (e.g. mobile home bans)
- More programs from co-ops
- Low cost energy efficient home options
- Gentrification

Goal 3: Employ equitable and transparent processes to reduce energy burdens for vulnerable communities by pursuing an equitable and just transition to an energy efficiency economy

Benefit Analysis

- Protection for renters and pre-existing home owners
- Decreased air emissions, health benefits
- Train/deploy energy auditors at low or no cost to resident
- Healthier and safer buildings
- EE buildings cost less to maintain over the entire life of the structure – save \$\$
- Community improvement, more uptake of available resources or incentives

Regulatory Reform

- Adopt up to date codes and standards
- At least minimal codes for rental property
- Incentivize use of EE certification programs like LEED, CHiP, etc. (voluntary, not mandatory)
- Lessen the gap between EE goal and minimum standards while protecting residents / business owners
- Tax implications for multifamily rental, etc.
- Multifamily for profit buildings – existing code standards
- Allow homes/building to be truly off-grid if desired (no mandate to connect to utility)

Education/Outreach

- Use of energy auditors to determine best way to spend improvement \$\$
- EE “Roadshow”
- Net zero home options and education

Financing Models

- Direct rebates
- Manufacturing credit – direct rebate
- “Cash for clunkers” for old mobile homes
- Increase participation across income levels, sectors, etc. leads to more effective design
- Combine renewable, EE and housing rules for best outcome
- Identify grants – what works? What doesn’t? What’s needed?

Grid Integration

- Grid efficient buildings

Equity

- EE for rental housing
- Workforce development
- More low-cost ownership choices for low income
- Staff projects with unemployed or underemployed SC residents
- Local zoning that traps homeowner in inefficient homes (inadvertently)

Energy Equity / Energy Burden

Goal 1: Expand the coordination, engagement and education of thought leaders, policy makers, and all levels of consumers on energy efficiency issues.

Benefit Analysis

- Rebates
- Workforce development in low income communities

Regulatory Reform

- Media campaign w/funding
- Leased property standards

Education/Outreach

- PLAIN LANGUAGE
- Public service announcements (PSAs)
- Community forums / meeting
- Bill inserts
- Sticker disclosures (e.g. w/car purchase or scate(?) system)
- Videos, social media
- Marketing w/specific demographics (generally)
- Legislator education (consumers, lobbyists)
- Energy democracy
- Energy equity partnering with Housing Trust Fund and Weatherization Assistance Program

Financing Models

- Public benefit fund
- Stacking of financing/grants (e.g. housing, energy)

Grid Integration

- Community energy grid

Equity

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Goal 2: Create accessible and adequate funding mechanisms for cost-effective efficiency investments

Benefit Analysis

- Workforce development assistance for new small business startups both for- and non-profit

Regulatory Reform

- Transparent fees on bills

Education/Outreach

- What is available?

Financing Models

- Partnerships / coordinated efforts (ex. Dept of Education and Energy)
- On bill financing
- Public Benefit Fund

Grid Integration

- Educate on process (transparency)

Equity

- Cost of energy upgrades

Goal 3: Employ equitable and transparent processes to reduce energy burdens for vulnerable communities by pursuing an equitable and just transition to an energy efficiency economy

Benefit Analysis

- Energy efficiency upgrades, training for low income people in partnership with community-based organizations

Regulatory Reform

- Cost-effectiveness test changes
- Energy efficiency on-bill financing that is more affordable to low income homes (e.g. 200% of poverty level)
- Automatic enrollment into programs
- Landlord incentives (caveat – rent can't go up immediately)

Education/Outreach

- Legislator education
- Local official education

Financing Models

- More funding for utility programs

Grid Integration

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Equity

- MH Zoning
- HUD guidelines – Heir property issues/assistance

Utility Programs

Goal 1: Expand the coordination, engagement and education of thought leaders, policy makers, and all levels of consumers on energy efficiency issues.

Benefit Analysis

- Improved PR

- Align cost of programs with benefits – Utility pay for energy system benefits, health insurance pay for health benefits
- Emphasis on health and cost savings rather than efficiency
- Decreased collection costs
- Increased profit
- Increased customer stability / payments

Regulatory Reform

- Expand neighborhood programs
- Energy efficiency target % goal
- Mandatory TOU (Time of Use)

Education/Outreach

- Ombudsman
- Energy navigator
- Energy office expands its EE education/awareness – focused on consumer
- Expansion of successful LMI (low to moderate income) programs
- Maintain a steering/advisory committee for EE roadmap and energy plan
- Utilize apps more
- Energy office outreach
- Utility outreach (bill inserts, email, direct mail, etc)
- Cross organization / industry stakeholder working groups
- School-based (adulting)
- Utility partnership with technical schools and community colleges on internship program

Financing Models

- On-bill financing for customers
- Health insurance pays for health benefits
- Forgivable loans (over time)
- Green Bank as one stop shop place for \$ (private and public)

Grid Integration

- Peak shaving
- Power quality
- Pay As You Go
- AMI penetration

Equity

- Draft and adopt just transition policy
- Additional assistance for vulnerable populations
- Diverse energy efficiency service provider / trade ally program

Goal 2: Create accessible and adequate funding mechanisms for cost-effective efficiency investments

Benefit Analysis

- Increased customer stability / lower connection costs
- Healthier home, more stable community

Regulatory Reform

- Public benefits fund
- Cost effectiveness tests
- Opt-out reform
- Federal barriers to leveraging funds

Education/Outreach

- One-stop information clearing house
- More integration w/non-profit programs
- Trade off of comfort vs. bill savings

Financing Models

- On-bill financing
- Forgivable loans (over time)
- Health insurance companies pay for health benefits
- Low interest / low payment loans
- State tax credit for residential EE
- Green Banking

Grid Integration

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Equity

- On-bill financing with consumer protections
- Heirs property (title issue)
- Avoid cross-subsidization
- Expand WAP (Weatherization Assistance Program) qualification (above poverty line)
- Programs for vulnerable populations (especially elderly)
- Expand LIHEAP and/or weatherization assistance program

Goal 3: Employ equitable and transparent processes to reduce energy burdens for vulnerable communities by pursuing an equitable and just transition to an energy efficiency economy

Benefit Analysis

- EE jobs, especially in rural SC

- Increased small business ownership

Regulatory Reform

- Eliminate federal barriers
- Consistent application of energy code requirements
- Expand EE measures (add fridge, etc.)
- Increase solar access (HOAs can currently prevent homeowners from installing solar)

Education/Outreach

- Expand collaboratives
- Workforce training
 - HVAC
 - Weatherization
 - Rural SC
 - Installation
- Rural trade ally development and involvement

Financing Models

- On-bill financing
- Helping EE businesses with startup
- Utility financing (gas/electric/water)

Grid Integration

- Locational benefits / discounts

Equity

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Financing Mechanisms

Goal 1: Expand the coordination, engagement and education of thought leaders, policy makers, and all levels of consumers on energy efficiency issues.

Benefit Analysis

- Economic benefits for consumers
- Environmental benefits
- Lower maintenance / operating costs

Regulatory Reform

- Identify regulatory models that allow utilities to deliver EE
- Utilities incentivized to educate customer
- Overall of utility billing systems
- Measuring and allocating risk

Education/Outreach

- Create more awareness of private EE financing mechanisms
- Conference held to educate
- Technical assistance funded to educate
- Internal approval processes
- Engage commercial sector in barriers to EE financing

Financing Models

- Ensure utilities are familiar with Pay-As-You-Save (on-bill) financing mechanisms
- Performance contracting OBF
- Engage with healthcare sector to identify healthcare benefits of EE
- Matching together / leveraging multiple funding sources
- Rebates
- Appropriate enforcement / penalties
- Unrealized savings
- Loan terms

Grid Integration

- Educate stakeholders on EE as a least cost resource
- Work with disaster relief and rebuilding agencies to build EE into rebuilding

Equity

- Develop “non-credit score” ways of financing EE
- Incentivize landlords to upgrade w/no negative results to tenants

Goal 2: Create accessible and adequate funding mechanisms for cost-effective efficiency investments

Benefit Analysis

- Economic development

Regulatory Reform

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Education/Outreach

- Central information source for all funding sources (private and public sources)
- Series of meetings to discuss private finance for EE
- Understanding demand charges / TOU rates

Financing Models

- USDA Rural Economic Development grant
- Co-op board decision to prioritize EE

- NRCS grants to farmers (FSA – Farm Service Agency)
- Bonds (higher education, etc)
- Non-recurring surplus
- Master lease
- Converting housing stock
- LIHTC (Low income Housing Tax Credit)
- Connecting willing developers of funding
- JEDA conduit funds
- Dept. of Commerce
- CPID (Comprehensive Permanent Improvement Plan)
- EPC

Grid Integration

- Finding willing developers to work in target areas (e.g. rural communities)
- Grouping ECMs for performance contracting w/cash-neutral finance
- Comingling EE w/deferred maintenance

Equity

- Multifamily “gap fillers” between investor \$ and funding sources (e.g. IRS tax credits, tax equity financing, etc.)
 - Not all multifamily made equal

Goal 3: Employ equitable and transparent processes to reduce energy burdens for vulnerable communities by pursuing an equitable and just transition to an energy efficiency economy

Benefit Analysis

- Lower power bill
- Enhanced environment
- Health
- Non-energy benefits (might be regulatory)

Regulatory Reform

- Utilities prohibited from considering non-energy benefits in cost benefit analysis

Education/Outreach

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Financing Models

- Ensure return on investment
- Cash-positive or cash-neutral financing
- Shared revenue streams in loans
- Difference between “artificial” and private markets
- Lobbying for governmental funding / surpluses

Grid Integration

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Equity

- Enabling all ratepayers / citizens access to EE finance

Non-profit and Public Entities

Goal 1: Expand the coordination, engagement and education of thought leaders, policy makers, and all levels of consumers on energy efficiency issues.

Benefit Analysis

- Research and development
- Education of available funding, loans, grants, capital availability
- Require meters on all new construction and meter old buildings as well
- Analysis – develop a way to measure where we are – decide where we want to go
- M&V of energy performance contracts by third party
- Enlist energy utilities to identify the large energy use categories (customer classes)
- Quantify best practices across building types and sectors
- Non-profit collaboration and cost sharing
- Use 3rd party review for energy planning and projects

Regulatory Reform

- Require LEED EB for all public facilities
- Legislature to extend 20 x 2020 legislation with a new goal
- Greater input from NGOs/NPDs in developing and implementing regulatory policy
- Need to increase green building standard to Gold or higher
- Need better energy codes
- Statutory initiatives for EE pilots
 - Net zero buildings
 - Smart grid
 - Carbon reduction strategies
 - Deep energy retrofits (40-70%)
- Goals for EVs (buses and cars) – Proterra (buy local)
- Goals for zero energy buildings
- Mandates with rewards
- Set target levels for energy use in school districts / universities (i.e. energy use/sq.ft or /student)
- Allow all non-energy related measures to help pay for performance contracting
- Gather baseline data
- Stricter implementation of not following new law/code
- Benefits of updated energy code and standards

Education/Outreach

- What is our energy footprint?
- Reconvene Green Procurement Task Force
- Expand a Green Procurement Task Force to non-profits, schools and local governments
- Develop partnerships with universities to provide energy audit services
- Partner with tech schools
- Leadership support
- Research and education programs and activities developed and administrated by Clemson, USC and SC State University
- Use knowledge and resources of public colleges and universities to promote EE recommendations
- Partner with K-12 schools to incorporate EE in curriculum and case studies

Financing Models

- Give agencies money from savings for more programs
- Larger grants for public entities
- State grants or incentives
- Grant funding
- Funding to demonstrate EPC financing or create best practices
- EE and renewable benefits to state and local government tax base
- Revolving funds
- Visible savings models shown (examples provided for similar size structures with case studies)
- Identify funding that entities can apply for to encourage EE
- Funding energy audits and retrofit efforts

Grid Integration

- Need renewable companies at the table
- Long term benefits of EE and distributed generation resourcers (solar)

Equity

- Data should be public
- Rewards for reaching goal
- Compare like entities (K-12, Gov't buildings, orgs) – know kw/sq.ft or kw/student or employee
- Close the gap of EE finance by create financing based on need or ability to pay
- Coordinate with full spectrum of non-profits to ensure all sectors are included
- Technical training for EE to develop the next generation of providers
- Transparency

Goal 2: Create accessible and adequate funding mechanisms for cost-effective efficiency investments

Benefit Analysis

- ROIs completed prior to project – analyzed after project to guarantee savings were met (performance contract style)
- Fund greenhouse gas studies with 3rd party
- Fund health related research (air quality, water quality, land pollution)
- Analyze % of budget used for EE – set a target number

Regulatory Reform

- Require energy manager position for agencies that use over x% of \$ on energy
- Monitoring of all funding organizations to determine fair and equitable funding practices
- Legislative fix for EPC process for state buildings
- Avoid beautification and energy efficiency regulatory conflict
- Require agencies that have Bas to use it to turn lights off and scale back HVAC
- Renewable portfolio requirements for energy utilities
- System benefit charge / utility rider (develop programs targeted to schools, labs, universities, etc)
- HUD's multifamily pay for performance program
- Coordinate with the Housing Finance Agency for efficient allowances for new construction

Education/Outreach

- DOE website to list all available funding – loans, grants, energy incentives, rebate programs
- Use workers from Tech level training programs for public projects
- Innovative partnerships with tech schools and universities for workforce development
- Push outreach programs to be used by all state agencies – require collaboration
- Incorporate EE education and support for all non-profits
- Not all have internet, smart phone access – need print collateral

Financing Models

- Set aside a portion of funding for EE projects (state funding)
- Pursue EE-related drives/campaigns to entice donors/supporters to give (tie to an initiative, possibly?)
- Leverage funds using identified finance models
- Alternatives to tax credits that NPs and public entities could leverage
- Revolving funds – regional, state, or local
- Expanding ConserFund and ConserFund + programs
- Funding for technical resources and professionals to begin EE process
- Create EE tax credits for owners of affordable housing
- Establish a recurring revenue source for public benefit fund

Grid Integration

- Study and strategic deployment of energy storage by utilities for EE and grid

Equity

- All users should be able to qualify for financing
- Clearinghouse listing of funding resources (grants, etc.)
- Workforce development in underserved, rural communities thru partnerships with K-12 and private sector

Goal 3: Employ equitable and transparent processes to reduce energy burdens for vulnerable communities by pursuing an equitable and just transition to an energy efficiency economy

Benefit Analysis

- Take advantage of value-added engineering available through vendors
- Assess the economic benefits of planning for resilience

Regulatory Reform

- Require regionalization or combining resource use
- Staff diversity in all pillars
- Legislature to provide resources to underserved communities for EE as part of resilience
- Develop consolidated contracts for EE improvement projects and services

Education/Outreach

- Partnerships with tech schools to provide energy services, expertise to underfunded entities
- Various entities to meet and share ideas and progress for energy projects yearly (*communication*)
- Workforce development programs through tech schools for targeted communities

Financing Models

- Identify potential partnerships or collaborations (help bear the costs)
- Public/private partnerships
- Developing larger performance contracts to cover multiple public entities
- Utility program for non-profits to execute performance contracts
- Government groups combine EEMs to go into one performance contract
- State agencies pool resources – District Energy Program
- Performance-based energy optimization contracts
- Identify EE funding sources / share information with public and non-profit entities

Grid Integration

- Renewables for resilience
- Coordinate with local gov'ts on microgrids
- Allow customer more control over source of energy

Equity

- Size considered
- Tiered metric system or goals for EE (based on entity's budget)
- Consider health effects of energy use
- Programs that enable underfunded K-12s to do EE projects
- Fees based on income, family size (e.g. deposit / reconnect fees)
- State-funded EE projects for K-12 districts