Overview

- CEEM role for Xcel Energy
- Evolution of community-based energy efficiency
  - The who
  - The what
  - The why
  - The how
- What makes it sustainable?
- A word about finance: reality and innovation
  - Colorado examples
  - National examples
- Conclusion

CEEM role/purpose

- Purpose:
  Work w/in community channel to maximize energy-saving opportunities
- Objective:
  Forge partnerships w/ key stakeholders to advance use of EE programs and services
- Community stakeholders (the who!):
  - local govt.
  - chambers of commerce/EDC
  - other utilities
  - green task forces
  - NGOs
  - state govt.
  - trades
  - AND MORE!
Promoting Energy Efficiency in Your Community:
Getting the Most Bang for the Buck

April 20, 2011

The what...a word about energy efficiency

Energy Efficiency = Technology
Conservation = Behavior
COMMUNITY = INFLUENCER OF BOTH

Efficiency in:
Industry + Transportation + Housing =

Reduced Consumption, CO2 emissions & $s saved

Energy efficiency is the most important future single source of energy... get more (efficiency) from less (energy)

The why

• ARRA/stimulus funds
• Environmental-goal setting
  - State
  - Local
• Economic: helping Main Street

The how

Planning

Pipeline

Recruit  Assess  Prioritize

Implementing

Implement  Apply for rebates  M&V

What is measured can be managed!
What makes it sustainable?
- Diversified partnerships & pooled resources
- Right roles & accountability
- Follow-through
- Spirit of continuous improvement
- Goal setting
- Measure what matters
- Key ingredient...finance

Making the most of the data we’ve got...

Today’s Topics
- What data is out there, and what can be done with it.
- Filling data gaps; expanding existing relationships and collaborative efforts to maximize the benefit we can get for every invested $.
- Considerations and initiatives to keep an eye on.
How we use data and why we want it

- Get a lay of the land
- Putting things in context drives behavior change
- Assess performance & Evaluate programs
  - Informs future policy development
  - Further drives behavior change
The data presented has been adjusted and is not the actual usage of the property.
Promoting Energy Efficiency in Your Community: Getting the Most Bang for the Buck

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# Homes: 4,526
Avg. Size: 2,020 sf
Avg. Use: 521 kWh/HH/mo

# Homes: 1,821
Avg. Size: 1,725 sf
Avg. Use: 442 kWh/HH/mo

# Homes: 982
Avg. Size: 2,700 sf
Avg. Use: 643 kWh/HH/mo

**Assessing Program Performance**

- Climate Smart Loan Program – Boulder County
  - Property Assessed Clean Energy (PACE) Loans
  - ~ 600 participants; ~ $125,000 annual utility bill savings
  - Average Annual Savings per Home (from utility bill analysis):
    - Electricity savings of 18%
    - Natural gas savings of 9%
    - > $ 200 / year
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Leveraging Resources and Relationships

Utilities

Xcel Energy

Local Governments

Access to:
- Building Characteristics
- Social Networks
- Political Capital

Has ~ $50 million / year to spend on programs.
Mandated to achieve energy use reductions.

Regional Collaborations / Other Stakeholders

Local Governments

Overcoming Market Barriers to Making Improvements in Rentals

SmartRegs + EnergySmart = Renters with Benefits

- In ~ 4 months, 870 homes in Boulder have signed up for EnergySmart services
  - 70% (or 614) were rental units.

For More Information On SmartRegs or EnergySmart

- Yael Gichon – City of Boulder
  (gichony@bouldercolorado.gov)
- Susie Strife – Boulder County
  (sstrife@bouldercounty.org)
- Carrie Jackson – New Era Colorado
  (carrie@neweracolorado.org)
**HB 11-1191: Utility Data Clearinghouse**

- Bill proposed by Rep. Max Tyler (HD #23)
- Proposed to create framework for “Clearinghouses” to collect utility consumption data and link that to other datasets to provide actionable analyses and information to local governments, businesses and residents.
- Bill was defeated on party line vote in committee
- Rep. Tyler and others want to continue to pursue this

**PUC Docket No. 10R-799E**

- Covers data sharing and data aggregation rules for a range of consumption data for regulated utilities.
  - Could radically expand the amount of data and analyses made available to local governments; while protecting privacy of individual customers.
- Open docket at the Public Utilities Commission
  - Next hearing: May 4th
  - Accepting public comments until May 11th

**Summary**

- What gets measured, gets done.
- Expand existing relationships and collaborative efforts to maximize the benefit we can get for every invested $. This includes:
  - Programmatic resources, AND
  - Sharing data and information
**Finance**

- Projects that are getting done in near-term because they were planned
  - incentives move fence-sitters
- Long-term access needed to finance investment grade improvements
- No single finance mechanism will meet all needs

**Examples of finance in CO**

- HUD PowerSaver™ (R)
- Home Equity Installment Loans (R)
- LEAP (R)
- ENERGY STAR Mortgage (R)
- Energy Efficient Mortgage/Energy Improvement (R)
- 203K (R)
- EnergyLoan by AFC First (R)
- Peer to Peer (R)
- G2A Loans (R) (B)
- GEO Direct Lending Revolving Loan (B)
- Community-based loan programs, e.g., ClimateSmart (B)
- Federal Tax Credits (R) (B)
- Manufacturer/Distributor-sourced financing, e.g., GECAF (R) (B)
- And MORE...
Finance reality
- Lots of financing options
- Customers still need to qualify even for unsecured loans
- Risk and rates are still factors
- Property devalued from 2007-2008; hard to borrow against

Finance innovation in CO
- Local communities partnering with banks
- Communities covering loan-loss reserve (fractional)
- Revolving loan funds are evolving from partnership
- Default rate is low

Finance innovation nationally
- Private sector loans w/public capital
- On-bill
- Property and local govt. fee-based
- Home mortgage-based
Program design/implementation:
• Be systematic & intentional in program design—focus on your goal
• Keep it simple
• Measure what matters

Be creative:
• Partnerships
• Finance
• Promotions/social mobilizations

Energy Efficiency in Denver
From Concept to Implementation

Denver
• Climate Action Plan Goal to reduce CO2 emissions 10% by 2012 (25% by 2020)
• CO2 emissions from residential housing = 14% Denver total emissions
• Housing stock = over half have built before 1950
• 78 neighborhoods
• Culturally and economically diverse
Step #1 - Demographics

- Gathering the data
  - Neighborhoods & number of households
  - Average income
  - Housing stock (age)
  - Average age of residents
  - Ethnic diversity

- Helpful resources
  - Piton Foundation (census data)
  - City Office of Planning and Development
  - City Council
  - Registered Neighborhood Organizations

Step #2 - Existing Programs

- Current outreach programs
  - Organizations doing the work
  - What is their outreach scope
  - Measurements and intended outcomes
  - Funding

- Resources & incentives
  - Income qualifications (80% AMI, 200% poverty)
  - Rebates
  - Energy efficiency tips and/or giveaways

Step #3 - Create a Plan

- Model 1
  - 29 lower income neighborhoods
  - average income ≤ $44,000
  - Older housing stock, high energy and water use
  - Language and cultural barriers
  - “Low-hanging fruit”

- Model 2
  - 40 mid-income neighborhoods
  - $50,000 – $90,000 average income
  - Older and larger housing stock
  - Seniors, long-time homeowners

- Model 3
  - 9 higher income neighborhoods
  - $90,000+ average income
  - Large homes, more amenities
# Model 1 – NEAP
**Neighborhood Energy Action Partnership**

<table>
<thead>
<tr>
<th>Organizations</th>
<th>Funding and resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwork Denver</td>
<td>Xcel Energy</td>
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<tr>
<td>Mile High Youth Corps</td>
<td>Denver Water</td>
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<tr>
<td>Veterans Green Jobs</td>
<td>Governor’s Energy Office</td>
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<tr>
<td>Rebuilding Together</td>
<td>Energy Outreach Colorado</td>
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<td>DURA</td>
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<td>Sierra Club</td>
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**Supporting agencies**
- Greenprint Denver/Mayor’s Office
- Environmental Health
- Office of Strategic Partnerships
- LEAP
- Office of Economic Development

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# Model 2 – Green Teams

- **Green Team members**
  - Residents who actively volunteer to help build a more sustainable community
  - Canvass door-to-door with services and resources
  - Energy Efficiency / Insulation Program (EECBG $)
  - Xcel, GEO, Denver Water rebates
  - Xcel energy audits

- **Benefits**
  - Neighbors save money on utility bills
  - Report card of energy saved and CO2 emissions reduced
  - Positive CO2 reduction through multiple actions
Model 3 - Energy Advisors

- Xcel energy audit to action
  - Remove barriers
  - Help residents understand their audit results
  - Prioritize findings and develop an action plan
  - Assist with bids, scheduling, and implementation
  - Provide quality assurance checks

- Results
  - At least 15% energy efficiency improvement per household
  - Behavior modifications
  - Residential Resource
Collect the data

- Track
  - Every household action taken (from CFLs to insulation)
  - Number of homes contacted / reached
  - Number of volunteers, teams, communities
- Study
  - Results - encourage action / validate successes
  - Trends - identify gaps in resources and common issues
  - Energy savings / CO2 emissions reduced
- Support additional funding

Build Sustainability

- What happens when the funding runs out?
  - Act now
  - Begin a “phase 2” design
  - Look for new funding
- Work with your partners
  - Provide the tools to build capacity
- Make your data work for you
  - Energy saved = money saved = CO2 reduced

Questions?