



Commercial & Industrial (C&I) Energy Efficiency Requirements Working Group

City of Boulder
Thursday, October 23, 2014

Agenda



- Introductions & Ground Rules
- City of Boulder past efforts
 - Energy Efficiency Programs
 - Commercial Building Energy Rating + Reporting Pilot
- Overview of rating + reporting
- City of Boulder future requirements
- Draft Timeline
- Identify key issues
- Discuss expectations and outcomes
- Confirm future discussion topics
- Closing logistics



Ground Rules



- One at a time
- Build on each other's idea
- Question assumptions
- Not: “won't work”, but “could work *if...*”
- Don't get stuck in the weeds
- Put away electronic devices

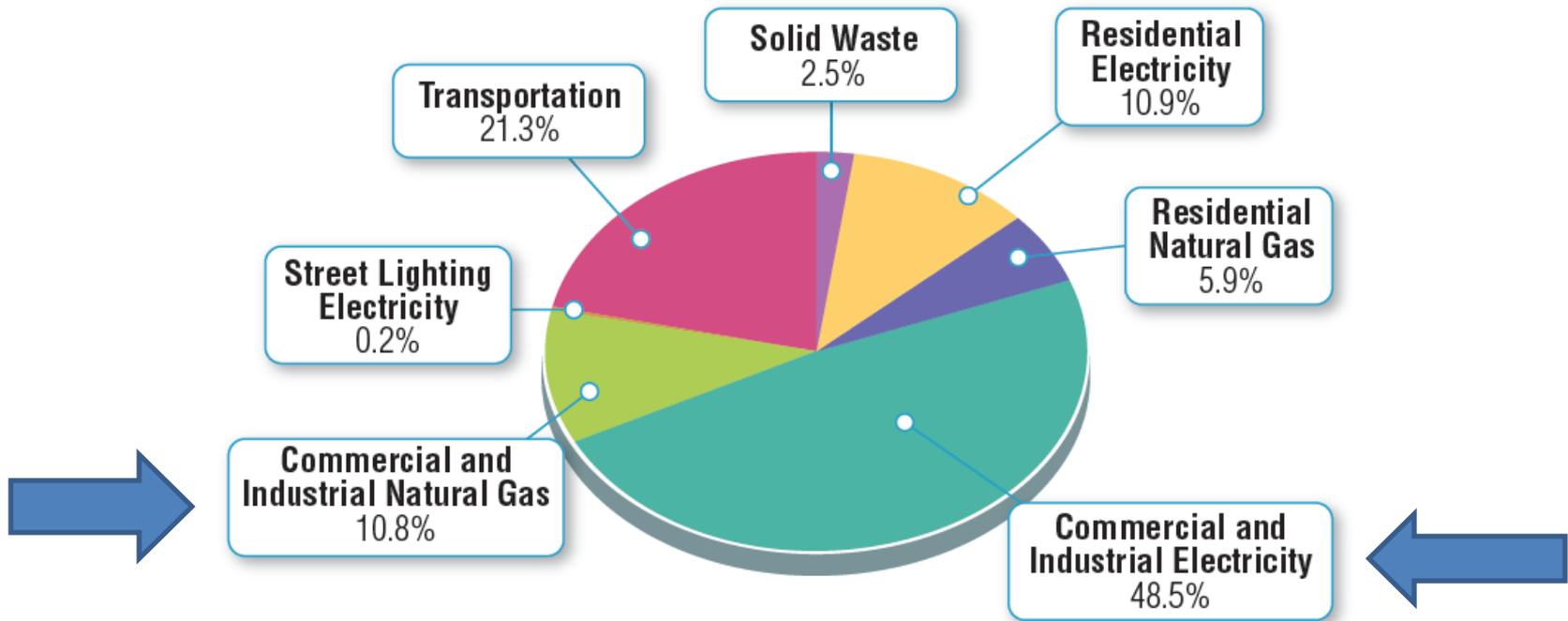


City of Boulder GHG Inventory

Investing in Better Buildings



Emissions by Sector



City of Boulder

Meeting #1: Oct 23, 2014

Past Efforts: Commercial Programs

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- *10 for Change* —voluntary business challenge and networking opportunities to implement energy saving measures and sustainability best practices



- *EnergySmart* — a suite of energy efficiency services to create awareness, provide technical assistance and incentives to implement cost-effective energy efficiency improvements





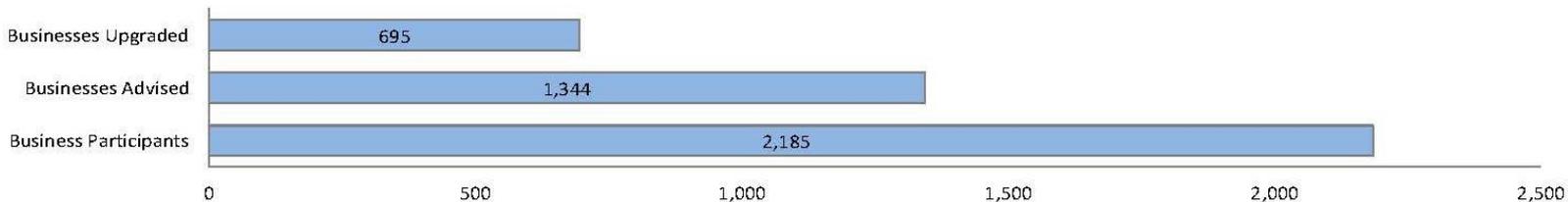
City of Boulder COMMERCIAL EnergySmart Program-to-Date Progress Report



This page summarizes progress to date since October 2010 in the commercial EnergySmart services. EnergySmart was conceived and developed through a joint effort of Boulder County Commissioners' Office of Sustainability, Boulder County Public Health, City of Boulder and City of Longmont. For more information, visit www.EnergySmartYES.com.

PROGRAM PROGRESS

PARTICIPATION IN ENERGYSMART BY BUSINESSES OR PROPERTY OWNERS



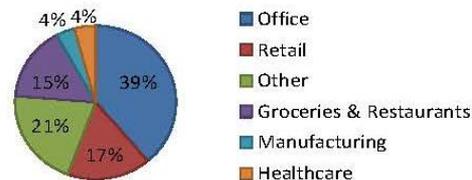
IMPACT

WORK COMPLETED		FUNDING BREAKDOWN		DEEMED ANNUAL SAVINGS FROM UPGRADES			
Number of Upgrades	Total Rebates Paid	Federal	City	kWh	Therms	Cost Savings	mtCO ₂
763	\$1,656,880	\$632,709		9,579,676	11,287	\$850,049	7,677
Total Project Investment	Private Investment	City					
\$7,851,125	\$6,194,245	\$901,179					
Total Investment:Rebates*	Program Simple Payback (yrs)**	County		Energy and emissions savings to date from commercial EnergySmart are equivalent to taking 1616 cars off the road!			
4.7 to 1	1.9	\$122,992					

HIGHLIGHTS (Countywide)

- **Over half of the County's estimated 6,500 businesses have now participated in EnergySmart.**
- Market Transformation: EnergySmart has now worked with 187 contractors to complete upgrades, with 36% of those contractors having completed at least one project within the last year.
- Businesses continue to complete Energy upgrades, even as Boulder County Public Health intensifies parallel advising in Water Conservation and Zero Waste services.
- "The EnergySmart team is excited for the re-launch of the Partners for a Clean Environment (PACE) service scheduled this year. Zero Waste and Water Conservation Advising is already underway, together with Energy, under the PACE umbrella -- providing recognition and certification for the full "one-stop shop" customer experience. *In the city of Boulder, the team has provided 734 Zero Waste Advising Services and 82 Audits since*

USES OF BUILDINGS ENROLLED IN ENERGYSMART



ADVISING TO ACTION

Businesses that make upgrades after receiving EnergySmart advising services***:

48%

* For every \$1 spent in rebates, over \$4.5 were invested in the community towards these efficiency projects.

** The total Rebate amount invested in the program to date will be equalled by the resulting Energy Cost Savings in 1.7 years.

*** Updated annually - last update 12/31/2013.

PACE



Partners
for a Clean
Environment

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Expanded and rebranded locally recognized business sustainability program

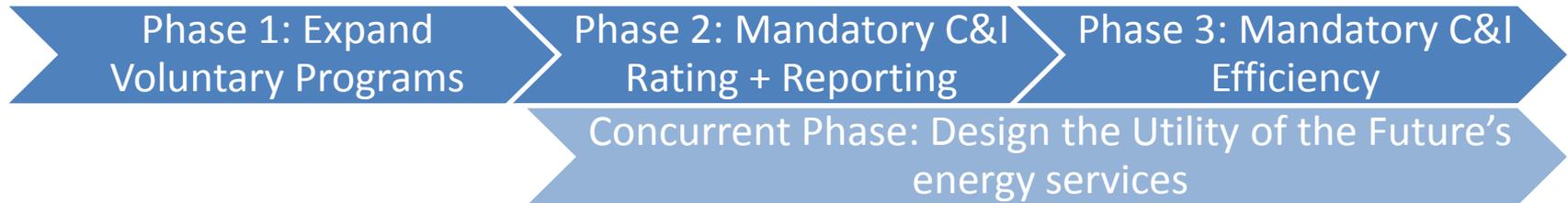
Energy saving, waste reduction, water conservation and employee transportation assistance available through PACE.

- Resources
- Advising services
- Financial incentives
- Certification and business recognition



Past Efforts: Phased Approach

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1. ***Voluntary Programs***; continue incentive based programs and services to drive energy efficiency improvements in existing buildings.
2. ***Mandate Rating and Reporting***; require property owners to rate their buildings' energy performance and report/disclosure the rating.
3. ***Mandate Prescriptive Measures or a Performance Standard over time***; phase in the most effective requirements that will improve the buildings' efficiency and energy performance.



Rating + Reporting: What is it?

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- ❑ **RATING:** Normalizing and comparing the energy performance of existing commercial buildings.
 - ✓ Uses the nationally recognized FREE on-line supported tool, ENERGY STAR Portfolio Manager (ESPM) to determine metrics that allow for rating or benchmarking against similar buildings
 - ✓ Energy Use Intensity (EUI) – kBtu/sf-yr
 - ✓ ENERGY STAR SCORE
- ❑ **REPORTING:** Providing or disclosing whole building energy use information



Commercial Building Energy Rating + Reporting Pilot Program

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Attachment A

City of Boulder



Commercial Building Energy Rating & Reporting Pilot Program Report

Prepared by McKinstry



BOULDER, COLORADO
26 FEBRUARY 2013



Consultant's Recommendations:

- ✓ Support a voluntary rating + reporting program
- ✓ Investigate better ways to access whole building energy data
- ✓ Provide education and training
- ✓ Investigate installing sub-meters and potentially offsetting some of the cost of purchase and installation
- ✓ Target larger buildings (45% of the commercial sf is found in buildings >50,000 sf)
- ✓ Consider implementing prescriptive energy standards
- ✓ Continue to work with both building owners and tenants (partnering with programs such as *EnergySmart*) to gather energy data and develop new incentive or regulatory programs

Rating + Reporting: Benefits

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1. Building owners and tenants **save energy** once they understand how much they are using and spending.
2. Building owners are more likely to **invest in cost effective energy efficiency** (EE) when they are aware of energy performance and use that data to **inform infrastructure investments**.
3. Data from rating + reporting helps policymakers and program designers offer **better programs and services**:
 1. Helps utilities and municipalities set reasonable energy efficiency targets, tailored to building space types
 2. Illuminates trends that guide EE program development and outreach efforts (help target market segments with max potential, or identify key areas of research needed)
 3. Unlocks the potential in innovative, whole-building efficiency programs (such as PfP)
4. Data can be used as a **low-cost method** to supplement traditional evaluation, measurement, and verification methods



Rating + Reporting: Other Cities

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City	Date Enacted	Gov't/ Comm	Multi Family	Public Disclosure? ¹	Energy Efficiency?
Austin	2008	10K SF+	Audits	B, T, G	Audits
Boston	2013	All/35K SF+	35+ units	P, G	Audits
Cambridge	2014	25K SF+	50+ units	P, G	---
Chicago	2013	50K SF+	50K SF+	P, G	---
District of Columbia	2008	10K/ 50K SF+	50K SF+	P, G	---
Minneapolis	2013	25K/ 50K SF+	---	P, G	---
NYC	2009	10K/ 50K SF+	50K SF+	P, G	Audits, RCx, Lighting, Sub-metering
Philadelphia	2012	50K SF+	---	P, G, B, L	---
San Francisco	2011	10K SF+	---	P ² , G, T, B, L ³	Audits, RCx
Seattle	2012	10K SF+	5+ units	B, G, T, L	---

¹ P = public, G = government, B = buyers, T = tenants, L = leasers & lenders

² Discloses summary of compliance, but not building energy use

³ CA's statewide initiative, AB 1103, requires buildings to disclose energy performance at point of transaction

Future Requirements



- Council has directed staff to develop options for mandatory rating + reporting and efficiency requirements for commercial and industrial buildings.
- Options will be provided for:

Which buildings
(size/type) will
be covered?

Phasing/Timing

Enforcement

Disclosure of
Energy Use
Information

Efficiency
Requirements

Exemptions

Process for
handling multi-
use buildings

Recognition &
Incentives



Draft Timeline for Requirements

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Target Milestones

- Ordinance
Adopted: Aug 2015
- Compliance Begins:
2017

	Phases
Oct 2014 – Feb 2015	Stakeholder Engagement
Dec 2014 – May 2015	Develop options and recommendations for a C&I Energy Ordinance, including: <ul style="list-style-type: none"> • Covered Buildings and Exemptions • Timing/Phasing of ordinance • Public disclosure • Enforcement • Tracking and administration • Recognition and Incentives
June – Aug 2015	Develop draft C&I Energy Ordinance for council approval, including proposed enactment and enforcement schedules.
Aug 2015 - 2016	Develop systems and tools for implementing the Ordinance <ul style="list-style-type: none"> • A website for the ordinance • Implementation guides for owners and tenants • Educational and training opportunities • Administration and enforcement systems and procedure
Aug 2015 - 2016	Communication and Education Efforts
Early 2017	First compliance date



Key Issues



- What requirements will work best with current business practices ?
- What types of training and resources will help building owners/managers to comply?
- What types of energy services (provided by a new municipal electric utility) would be most valuable to Boulder businesses and building owners?
- Owners and managers, tasks and roles?



Expectation and Outcomes



Menu of options with recommendations for a rating and reporting requirement

Menu of options with recommendations for C&I energy efficiency requirements

Summary of desired energy services

???



Future Meeting Topics

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MEETING #2

- Discuss challenges with data access for energy rating and reporting
 - Lessons learned from the Rating + Reporting pilot program
 - Discussion of data access effort with the Public Utilities Commission
 - Best practices and recommended solutions for the near term
- Identify training and support needs for future rating and reporting and efficiency requirements

MEETING #3

- Discuss options for disclosure of energy information in a rating and reporting program
- Discuss options for enforcement for any future requirements
- Discuss options for future energy efficiency requirements
 - Prescriptive (i.e. energy audits, commissioning, lighting technologies, etc) versus performance



Future Meeting Topics

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MEETING #4

- Discuss options for Phasing/Timing: *Which commercial buildings will be affected and when? How will the requirements and enforcement be phased in over time?*
- Expert presentations on how to best leverage energy rating and reporting for your business
- Identify the energy services that would be most valuable to the Boulder business community
 - Educate the group about various energy service offerings
 - Identify new energy services that could be offered by the city



Closing Logistics



- Meeting dates and times
- Method of communication
- Questions and comments

Boulder's Private Sector Commercial Buildings

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Size Category (SQFT)	Total SQFT	Number of Buildings	% of Total SQFT	% Total Number of Buildings
<1,000	17,077	22	0.1%	1.4%
1,000-4,999	1,094,660	371	3.4%	24.2%
5,000-9,999	2,268,112	318	7.0%	20.7%
10,000-19,999	5,276,787	375	16.3%	24.4%
20,000-29,999	4,088,380	166	12.6%	10.8%
30,000-39,999	2,986,804	87	9.2%	5.7%
40,000-49,999	2,210,437	50	6.8%	3.3%
50,000 and above	14,529,366	147	44.7%	9.6%
TOTAL	32,471,623	1,536		

Building Type	Bldgs (#)	Bldgs (%)	Rentable Area (SQFT)	Rentable Area (%)	Avg Bldg SQFT
Flex	161	10.5%	5,470,144	16.8%	33,976 sqft
Industrial	247	16.1%	6,053,035	18.6%	24,506 sqft
Commercial	1,128	73.4%	20,948,444	64.5%	18,571 sqft
Total	1,536		32,471,623		

Source: CoStar, 10/10/2014

Includes: Existing Properties Only

DOES NOT INCLUDE: Multi-Family

