



Achieving Higher Savings Through Innovative ESPC Projects: City of Boulder

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City of Boulder: GOALS

- **Reduce energy/water use and cost**
 - *Leverage ARRA funding*
 - *Upgrade aging infrastructure*
- **Reduce GHG emissions by 20%**
 - *Improve comfort, aesthetics, productivity*
 - *Improve building automation – maximize demand side management opportunities*
 - *Add renewable energy*
- **Lead by example**

Philosophy for a SUSTAINABLE FUTURE



Smart Buildings
+
Smart People

CLEAN



SMART

*Smart
Teams*



*Smart
Operators*



*Smart
Occupants*



EFFICIENT



CITY OF BOULDER

EPC Measures

Water conservation, lighting, building envelope

Mechanical systems, VFDs, motors, pumps, etc.

*Building controls, optimization/re-commissioning
Employee education/Behavioral change*

Solar PV at 13 locations = 1.1 MW of production

Solar thermal pool heating

Efficient

Smart

Clean

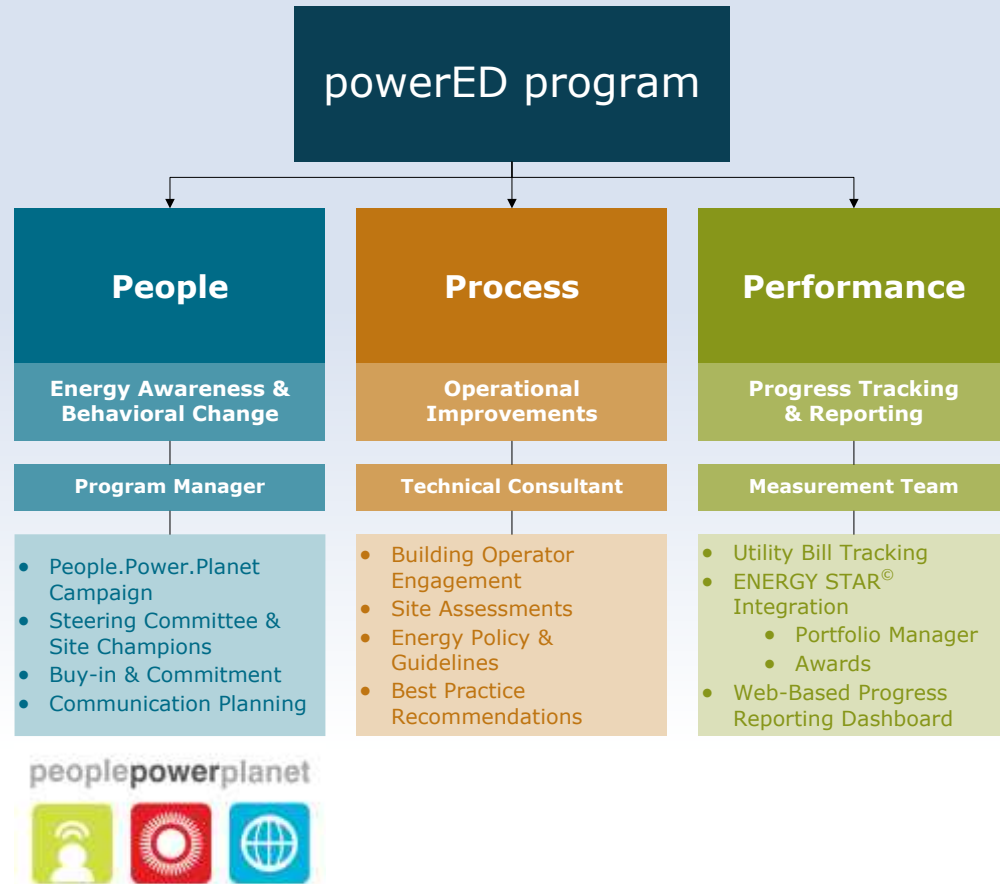
CITY OF BOULDER Smart Buildings/Smart People

SMART BUILDINGS

- *Building automation*
- *Smart Utility Meters at 21 highest EUI buildings*

SMART PEOPLE

- *People – Occupant Behavior*
- *Process – Operator Behavior*
- *Performance – FEEDBACK*



WHY Focus on Behavior?

Employee Engagement - Important as ever

Despite the fact that:

- 86% of public sectors employees **feel they can make a difference** by working in government
- 98% are focused on **servicing the public with integrity**
- 87% are **proud to work in government**

Only:

- 58% of employees are **fully engaged** in their job
- 31% strongly feel that **they are valued**
- 31% are very **satisfied with their job/working conditions**

Source: The Governing Institute

***COMPANIES WITH
ENGAGED EMPLOYEES
OUTPERFORM THOSE WITHOUT BY UP TO

202%



71% OF ALL EMPLOYEES ARE
**NOT FULLY
ENGAGED**

BOULDER'S REASONS:

- ✓ Increase productivity & morale
- ✓ Achieve deeper savings – 10%
- ✓ Protect your investments
- ✓ Employee training & education
- ✓ Leverage outreach & awareness
- ✓ Transparency

Sustainable engagement

is an **experience** not an event.



Source: ForMomentum, Inc

Changing Behavior is Hard to Do...



Guiding Principles of Behavior Change

Social Science – Behavior Change in Practice

- Communications
- Commitment
- Prompts
- Competition
- Feedback
- Incentives
- Peer Influence
- Targeted Behaviors
- Visibility
- Convenience



Foundation for implementing strategies and developing behavior change “tools”

CITY OF BOULDER

Project Financials

Item	Total
Total Project Value	\$16,232,960
- Electric and Gas Utility Rebates – one time	(\$2,042,957)
- Energy Efficiency and Conservation Block Grant	(\$360,000)
- City Capital	(\$2,385,058)
Financed Amount	\$11,139,262

- Stimulus funding (EECBG) only 2% of funds
- 24 of 28 (86%) of contractors in Colorado, with 13 (54%) in Boulder area
- \$11.5M to subcontractors
 - \$6M for labor with **422 people** employed in 3-year timeframe
- ESCo (McKinstry) professional staff increased from 14 to 35 in 3 years

CITY OF BOULDER Results





DEEP SAVINGS ARE ACHIEVABLE

Smart People leverage investments in Smart Buildings



FACILITY	ENERGY SAVINGS
OSMP Foresberg	69%
Park Central	54%
West Senior Center	53%
OSMP Cherryvale	45%
Municipal Service Center	42%
63rd Water Treatment Facility	41%

peoplepowerplanet



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You Have The Power

Public buildings consume an astonishing amount of energy, and waste almost as much. Yet, efficiency upgrades alone are not enough to ensure that these buildings remain sustainable. McKinstry's People.Power.Planet challenge helps raise awareness and effect the necessary behavioral changes to maintain energy efficiency gains.

PROGRAM-WIDE IMPACT

Cities, counties, and other public buildings across the country are engaging in the People.Power.Planet challenge. Check out their progress here.

ENERGY SAVINGS



by participating communities

CARBON SAVINGS



by participating communities

TOTAL PLEDGES



to cut energy and waste

YOU ARE NOT CHECKED
IN TO A COMMUNITY

FIND A COMMUNITY

Community/City/State [GO >](#)



*The Cornerstone of
Sustainability is*

**BEHAVIOR
CHANGE**

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