

ADVANCING PUBLIC SECTOR ENERGY EFFICIENCY IN ILLINOIS

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ADVANCING ENERGY EFFICIENCY IN THE PUBLIC SECTOR

AGENDA

- I. Introductions
- II. Public sector energy savings potential
- III. What makes the public sector different?
- IV. How has public sector characteristics affected program design?
- V. Elements of success from IEN Programming
- VI. What accommodations are needed to ensure successful public sector programs

ADVANCING ENERGY EFFICIENCY IN THE PUBLIC SECTOR

- Unique and diverse challenges and opportunities
- Large energy users
- Large energy efficiency potential
- Large cost-center for public finances
 - Each year K-12 schools spend \$6 billion on energy, second-highest expense after personnel – more than textbooks and computers combined (Source: DOE)
 - Energy cost represents as much as 10% of local government budget (Source: EPA)

WHAT MAKES THE PUBLIC SECTOR DIFFERENT?

What are the key barriers that prevent public sector building owners to implement efficiency projects?

1. Lack of Funds

- Declining revenue base
- Restrictive annual/multi-year budget style
- Often budgets are “incremental”

“Local Governments in the U.S. are today caught in the worst fiscal crisis ever facing the nation...They are entering an era, which has been variously characterized as the new normal, one of fiscal distress and an era of perpetual fiscal crisis.”

--Imane Hijal-Moghrabi, The University of Texas at Dallas

WHAT MAKES THE PUBLIC SECTOR DIFFERENT?

2. Competing Priorities

- Administrators have different priorities than facility staff
- Public sector facility managers can wear a lot of hats

3. Lack of Time and Expertise to implement

- Many facility managers don't have time or expertise to properly evaluate technologies, create project bids or fill out incentive application paperwork

4. Decision Making and Approval Processes are Complex

- Decision making about energy efficiency projects often involve multiple decision makers.
- Many public sector entities require projects to be publicly bid or have specific contracting requirements

WHAT MAKES THE PUBLIC SECTOR DIFFERENT?

5. Limited windows to complete efficiency projects

- Some public sector entities, like schools, have narrow time frames when efficiency projects can be completed
- EE project funding can be based on receiving other federal and state awards, whose timing can be unreliable

6. Lack of incentive

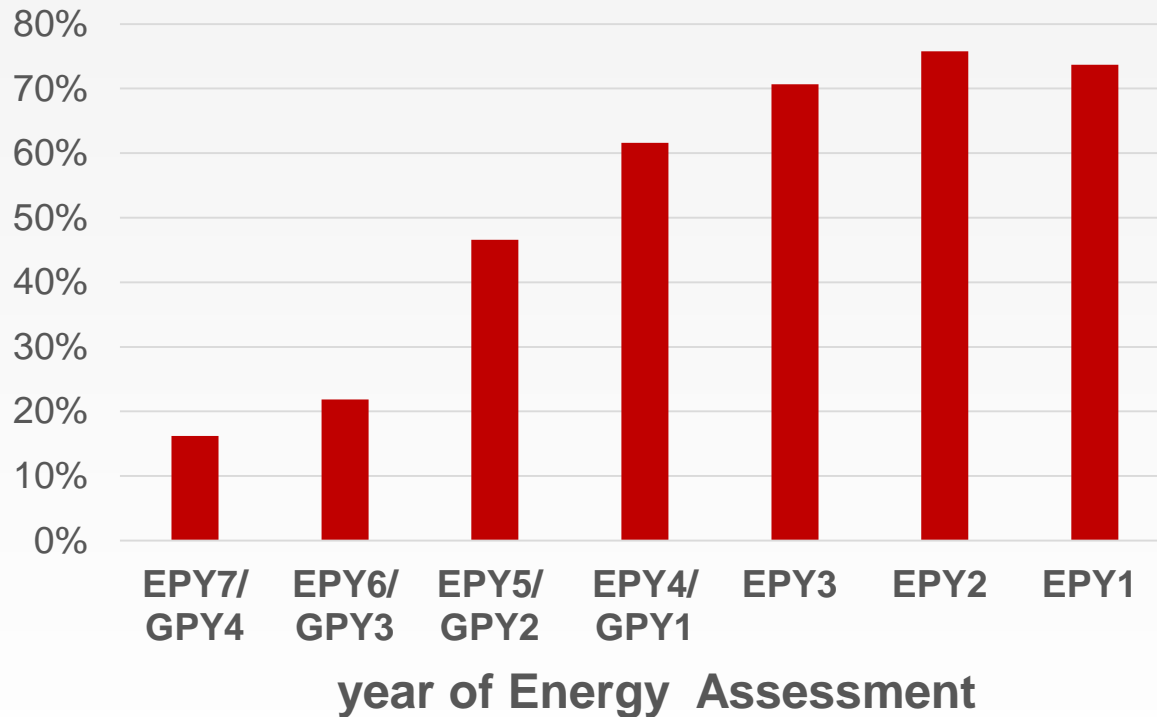
- Some municipalities don't pay for electric and gas because of franchise agreements

SMART ENERGY DESIGN ASSISTANCE CENTER

- Public-private partnership based at UIUC
- Energy Efficiency programs since 2004
- Program Implementation - RCx, New Construction
- Technical assistance to support all incentive programs
- Long term engagement with clients
- Integrated approach
- Credible independent source of information
- Flexible client-led technical assistance

LONGER TIME EQUALS MORE SAVINGS

Public Sector % implementing by end PY7



Around 20%
implement quickly

Eventually, 70-75%
implement

SMART ENERGY DESIGN ASSISTANCE CENTER

ENERGY ASSESSMENTS

- In-depth **whole building analysis** with building modeling, building information, recommendations, technical descriptions, savings estimates, incentive and financial metrics
 - 1000 public sector, 800 private sector -- 230M sf.
 - 30% savings identified for typical building
- Comprehensive, durable resource for long term planning—menu to target immediate and future investments
- Useful for energy champion
- Basis for continued engagement with client

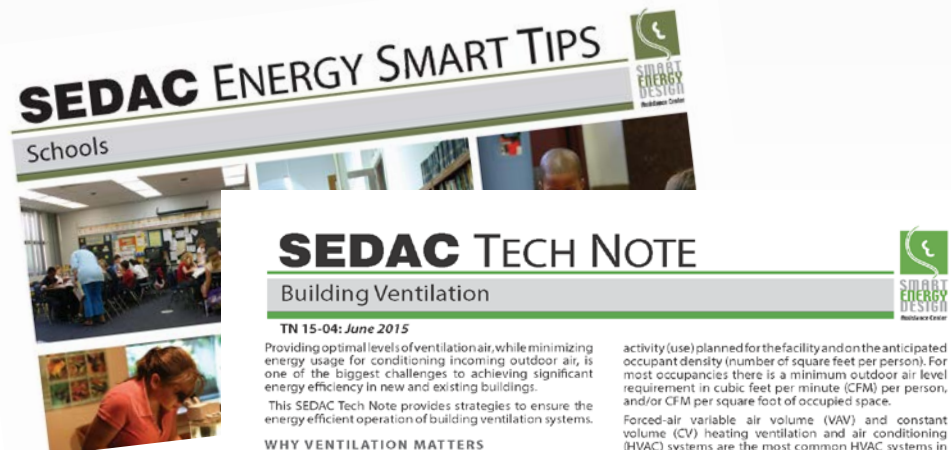
ELEMENTS OF SUCCESS

DESIGN ASSISTANCE/INFORMATION CENTER

- Quick advice, follow up implementation assistance
- Technical and marketing documents--case studies, targeted fact sheets, newsletter, incentive summary
- One-stop shop for technical advice at all stages—easy entry
- Flexible, client-centered approach—trusted advice they need to move towards implementation
- Comprehensive statewide, gas+electric resource
- Draws clients into email lists—reach clients w/demonstrated interest

“...a critical bridge to helping participants take advantage of IEN custom and standard incentives and programs, which has been proved essential in getting participants to implement...”

EPY6/GPY3 SEDAC Evaluation



ELEMENTS OF SUCCESS

NEW CONSTRUCTION PROGRAM

- Cost effective program with long term savings
- Hand holding increased with technical assistance at all stages
- Program offerings increased to maximize flexibility for limited-resource clients lead to 300% increase in program uptake

ELEMENTS OF SUCCESS FROM IEN PROGRAMMING

ILLINOIS ENERGY NOW Retro-Commissioning (RCx) Program

- Managed through SEDAC (private/public partnership between University of IL at Urbana-Champaign and 360 Energy Group)
- Identifies low to no cost scheduling and operational improvements
- Projects completed or in progress: 178
- Annual Energy Cost Savings Identified/Implemented: \$12.9 million/\$4.5 million
- Average Energy Savings Identified: 17%
- Electric/Gas Realization Rate (EPY6/GPY3): 98%/102%
- Growth in number of RCx providers since 2009: 423%

PUBLIC SECTOR RETRO-COMMISSIONING PARTICIPANTS



ELEMENTS OF SUCCESS FROM IEN PROGRAMMING

Impact of Public Sector Challenges on RCx Participation

- Often long lead time to get participants to apply
- Time and expertise constraints are significant
- Full implementation of measures can take years

Why program has been successful and what differentiates SEDAC managed IEN RCx program from other utility RCx programs?

- Program has effectively adapted to public sector needs
 - Minimum Implementation commitment lower (\$10,000)
 - Extended implementation time (10 months)
 - Program provides full application and implementation support
- Program has been strategically and aggressively marketed
- Integration of electric/gas and statewide offering has been key
- RCx not done in a silo (includes energy audit) and has been a gateway to standard and custom offerings

ELEMENTS OF SUCCESS FROM PUBLIC SECTOR PROGRAMMING

Metropolitan Mayors Caucus Public Sector Energy Efficiency Program

- 360 Energy Group is technical partner
- Program provides technical (including bid and procurement assistance, custom calculations, product consultation), direct install and funding assistance to help public entities implement energy efficiency projects.
- IEN Incentives Administered: \$7.96 million
- Energy Savings Achieved: 20 million kWh and 1.2 million therms
- Communities served: 140 public agencies
- Exceptional performance: During PY7, the program administered 3.1% of the total IEN budget, producing 5.8% of the IEN electric savings goals and 11% of total IEN gas goals.

ELEMENTS OF SUCCESS FROM PUBLIC SECTOR PROGRAMMING

Impact of Public Sector Challenges

- Lack of time and expertise to evaluate products, develop criteria for bid specs and apply for rebates
- Need for independent information
- Need for high incentive levels because of utility franchise agreements

Why program has been successful and what differentiates Mayors Caucus & 360EG program from other utility offerings?

- Provides full technical and implementation support, include knowledge of public procurement
- Trusted, independent voice and has strong relationships with public and local government sector associations
- Leverages outside investments in energy efficiency
- Program has maximized value of integrated electric and gas program

ELEMENTS OF SUCCESS FROM PUBLIC SECTOR PROGRAMMING

Public Sector Trade Ally Program

- Important to have a dedicated program for public sector customers with the right trade allies – those that are used to work with public sector customers - for contractor-driven programs
- Can't just show up and sell
- High touch relationship development, smaller group (550 trade allies) but motivated and adapted to work with institutional clients
- We are in this together: a short story from a trade show
- Going the extra mile in developing a strong relationship leads to higher engagement and a mutual investment in the success of the energy efficiency programs

ELEMENTS OF SUCCESS FROM PUBLIC SECTOR PROGRAMMING

Combined Heat and Power (CHP) program

- Lots of effort and stakeholder engagement to achieve consensus on savings attribution framework
- **Time-horizon well aligned** with institutional customers, with long-term energy savings opportunities and long planning process and sales cycle
- One-time RFP planned with industry experts generated lots of interest within the public sector
- Received 17 applications for over 30MW of proposed capacity, exceeding program budgets.
- 7 applications selected (though fewer accepted given budget constraints)

ELEMENTS OF SUCCESS FROM PUBLIC SECTOR PROGRAMMING

Water and Waste Water Treatment Program (Clean Water)

- Typical approach of visiting a facility and assess opportunities was not working (only brought lighting / VFD savings)
- Wanted to get deeper, long-lasting process savings
- Necessary to really understand the sector and their priorities to align their objectives with the energy efficiency programs
- Invested in a different approach, worked with water and waste water associations to provide value to their members
- Held series of workshops, events, peer-to-peer learning opportunities and became trusted advisor
- Events culminated in a clean water summit with over 100 facility representatives (there's about 1,000 permitted facilities in IL)

ELEMENTS OF SUCCESS FROM PUBLIC SECTOR PROGRAMMING

DEPARTMENT OF CORRECTIONS PROGRAM

Opportunities:

- Long hours of operation in both indoor / outdoor applications
- High needs for outdoor / perimeter lighting
- Very old boiler systems serving leaky living quarters...

Challenges:

- Extremely capital-constrained and understaffed
- Individual facility managers understand the need for energy efficiency, but prioritize system “survival” to system optimization
E.g. Won't do anything until after the winter, in case an emergency forces them to spend money. So often O&M leftovers before the end of the fiscal year are the only capital on the table.

ELEMENTS OF SUCCESS FROM PUBLIC SECTOR PROGRAMMING

DEPARTMENT OF CORRECTIONS PROGRAM

- *Impact of Public Sector Challenges*
- 48,278 inmates (about 0.4% of the IL population!) in detention as of Dec 31, 2014 with approved capacity of 32,095
- 150.4% overcrowded
- Most overcrowded prisons in US in 2015
- Result? Energy efficiency very low on the priority list
- Seen as a “money pit” so additional investments are frowned upon
- While assessing outdoor lighting at a facility, the response was “We don’t have money for trash bags”

PUBLIC SECTOR ENERGY SAVINGS

KEY TAKE -AWAYS

1. Design programs to allow for more time to complete Energy Efficiency projects
2. Program and incentive consistency enhance implementation
3. Maintain program continuity
4. Extensive client support--“hand holding”--needed
5. Integrate programs where possible
6. Leverage benefits of trusted information sources
7. Higher incentive levels necessary

PUBLIC SECTOR OFFERS OPPORTUNITY...TAKE ADVANTAGE AND GO BEYOND THE MANDATE

Ability to get deeper savings

- Many have hours of operation beyond 8-5
- buildings are going to be around to benefit from long payback measures
- Motivated by environmental concerns as well as \$\$

Good publicity--sector energy efficiency measures will get good press for clients and for programs

Demonstration effect—general public awareness raised

ADVANCING ENERGY EFFICIENCY IN THE PUBLIC SECTOR

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