EL PASO'S ENERGY SAVINGS CHALLENGE

Texas City Efficiency Leadership Council Best Practice

El Paso: El Paso's Behavioral Energy Savings Challenge

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Project Description

Cities are taking an ever more comprehensive approach to energy management. Many cities are implementing all-in energy management programs to reduce energy consumption. The City of El Paso's Office of Sustainability has taken a variety of steps to reduce municipal energy consumption, the latest being a successful behavior change program within the library and fire departments.

ENERGY CHALLENGE ECONOMICS

Total Budget: $6,800

- Staff - $4,000 – four hours per week
- Awards - $1,000 ($500 for each Challenge)
- Monthly Recognition - $1,800 – lunches and plaques

Total savings: $30,000

Net savings: $23,200

In May of 2012, the Energy Savings Challenge kicked off for 12 libraries. This first challenge lasted six months and resulted in savings of $21,000 over the period of the project, with the winning library reducing its energy consumption by more than 19 percent. The libraries continued to conserve afterward with an additional 3 percent reduction in energy consumption the following year.

The challenge was launched for a second time in May of 2013 for 34 fire stations. This challenge lasted for six months and saw a savings of $8,000, with the winning fire station reducing its energy consumption by 21 percent. The fire station round saw the largest single-month decrease, with one station saving more than 30 percent in one month.

The project was considered highly successful and cost effective, realizing $30,000 in savings on an outlay of $6,800, including personnel expenses. The net total does not take into account any additional, continuing savings that occurred once the challenge ended.

Motivation

The objective for this program was to drive a cultural shift within city operations as to how buildings are maintained and operated. The expectation is that with a more energy efficiency mindset, the city would be able to significantly reduce costs with minimal capital outlay. Further, by hosting these challenges, a cultural shift would take place that would be permanent and result in ongoing lower consumption.

Project Challenges

The city faced only a handful of barriers in conducting the challenge. The primary barrier was obtaining the utility data for the participating libraries and fire stations. When the project began, the Office of Sustainability had to wait several weeks to get the utility data from the Facilities and Fleet Management Department. These data were used to develop the baselines for the participating buildings. As the program continued, the data reports were delayed due to the additional step of requesting and receiving the utility bills. As the challenge proceeded, a shared drive was created where utility bills were uploaded by the Facilities and Fleet Management Department, allowing the Office of Sustainability access the bills without having to make a request. The data was captured and analysis conducted using MS Excel.

A second barrier was concern by the library directors over how the challenge would impact their patrons' library experience. The Library Department was uncertain as to what strategies would significantly reduce energy consumption while still keeping the libraries well lit and comfortable. The solution was to allow the libraries to develop their own challenge implementation plans customized to their needs. Further, the energy coach for the Office of Sustainability discussed other energy saving actions that the library could take to reduce consumption without compromising service, such as ensuring that lights and electronic equipment were turned off in the evenings.

A third barrier was the ability to fairly compare the participating facilities. Buildings that were substantially different in type and function would be difficult to compare over the challenge period. That being the case, the Library and Fire departments were chosen because all of the libraries were very similar in structure and use; the same was true for the Fire Department portfolio.

Implementing a Challenge

The Library and Fire Station challenges were implemented in similar fashion. In both instances, the Office of Sustainability engaged the department director – or chief in the case of the fire department – to encourage participation. Both departments believed it was an important project that could lead to tangible results. Once a facility was enrolled, the Office of Sustainability began to work with the leadership and energy managers to launch the program. This one-on-one contact, supported with marketing collateral and handouts and monthly newsletters, captured the attention of most of the employees and kept them engaged during the challenge period.

ENGAGEMENT

- One-on-one coaching with each facility
- Marketing collateral
- Monthly newsletters

The program's next step was to have each of the participating libraries and fire stations develop energy reduction plans for their own facilities. By having each facility develop its own plan, ownership of and commitment to the project increased. There was a greater sense of accountability from workers in each of the buildings. Further, by developing their own plans, the participants were encouraged to consider their energy consumption and determine the most feasible, practical solutions for their buildings. The development of the plans occurred in the first month of the six-month challenge, with the best plan recognized as the winner for the first month.

Once the plans were completed, the challenge began in earnest in the second month with all of the participating buildings implementing their respective energy reduction plans. The plans consisted of a variety of energy-saving measures, with the most popular plan component focusing on keeping lights off when buildings were unoccupied or, in the case of the fire department, simply turning off lights in unoccupied rooms. In a more extreme case, one Fire Department plan required that showers be limited to three minutes to reduce water and energy consumption.

FIRE STATION – SPECIFIC ACTIONS

- Shut the exterior doors and fire station bay doors when the HVAC is operating.
- Do more cookouts, particularly during warmer summer months.
- Remove light bulbs out of soda machines.
- Turn off hallway lights and install plug-in night-lights.
- Prop open interior doors to reveal when lights are on.
- Turn off electronics and appliances when not in use.

Each of the building managers kept employees engaged by sharing the monthly newsletters and additional educational and marketing materials via email and by posting them on bulletin boards. The newsletters contained tips and tricks to increase energy-efficient operations and reported how each facility was matching up with other fire stations and libraries. They also illustrated how much they had improved from the previous year, prior to the challenge. The portion of the newsletter that ranked each of the participating facilities compared to their peers was the real driver to reach even greater savings, particularly among fire stations.

Each month of the challenge a winner was chosen. Employees were recognized for their achievement and had the opportunity for a small celebration with a free pizza lunch or a cake. Although the participants appreciated this, the real motivator continued to be the bragging rights they earned by being the most efficiently operating building that month. At the end of the challenge, the overall winner received a $500 award that could be spent on improvements in the library or fire station.

Lessons Learned

The primary take-away from this project is that it was a cost-effective approach to reducing energy consumption in city departments. The minimal upfront costs led to significant net savings of more than $23,000. Additionally, having the facilities develop their own plans was a very successful approach as it increased employees' buy-in and accountability; greater ownership increases participation. The Sustainability Office also realized that, specific to the fire department, there is a strict chain of command that must be followed. It is important to understand any bureaucracy's decision-making hierarchy and know how to work within it.

The Sustainability Office acted as the energy coach and provided much of the resources for this program. The office plans to improve communications about how the program works and how facilities can successfully participate. Upon review of the process and the outcomes of the project, it was determined that in the future the office must improve initial communication regarding timely access to energy consumption data.

STEPS TO A SUCCESSFUL ENERGY SAVINGS CHALLENGE

1. DEPARTMENT HEADS BUY IN
2. FACILITY MANAGERS ENGAGE
3. FACILITIES WRITE PLAN
4. PROVIDE SUPPORT TO FACILITIES
5. FACILITIES IMPLEMENT PLANS
6. RECOGNIZE FACILITIES FOR SUCCESS