Title: The City of Plano's Temperature Policy

Subtitle: Texas City Efficiency Leadership Council Best Practice

Plano: Temperature Policy

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Project Description

Cities are increasingly adopting a wide variety of measures, technologies, and policies to reduce the energy use in their municipal buildings. The City of Plano has taken a variety of steps to reduce energy consumption in its buildings. One unique approach that Plano took was implementing an internal policy that addresses temperature set points within its city buildings.

In August 2008, Plano created an internal energy policy with a specific temperature section. The policy is not a piece of legislation; rather, it was created through the same pathways as other internal staff policies and procedures.

The goal of Plano's temperature policy is simple: to standardize the temperature set points in city buildings in order to save money and energy. Plano's temperature policy specifies that indoor temperature settings within city facilities will not be greater than 70° F in heating season and not less than 74° during cooling season. The policy prohibits personal space heaters due to their high energy impact but allows personal fans as needed.

This policy provides flexibility so that staff can remain comfortable while still reducing energy consumption. For example, non-radiant foot warmers of 150 watts are less are permitted in the policy in lieu of traditional high consumption office space heaters. While this policy seems like a simple energy-saving strategy, in reality not many cities have created official temperature policies. Plano is a trailblazer in this regard and has laid the groundwork for future cities to save energy by implementing their own temperature policies.

The implementation of a temperature policy is a simple way that cities can engage staff on energy conservation, identify and repair building operation issues, and save on energy costs. School districts, counties, and universities to achieve similar impacts can also implement a policy like this.

Motivation

The initial motivation for Plano's temperature policy was to reduce the city's energy costs. A building temperature policy is simple to set in place and does not require high up-front costs. The expectation was that by standardizing temperature set points in city buildings, the city could reduce its energy costs and identify which buildings to prioritize when it came time to install more costly energy savings measures.

Implementing the Policy – Plano's Approach

Plano's city leadership was involved in the energy policy from the beginning, and this top-down approach was key to the success of the policy. After initial internal leadership discussions regarding a temperature policy, Plano staff researched whether other cities across the country had already created building temperature policies. At the time, Portland, Oregon and Atlanta, Georgia were two known cities to have their own energy policies, which were available on their websites.

Plano drafted its own energy policy utilizing elements from Portland and Atlanta's policies, as well as prior experience working in federal buildings. Plano staff were committed to keeping the temperature policy as simple as possible, and the final version of the policy is only 4 pages long. Beyond temperature control, the policy also includes recommendations on energy-saving behaviors such as turning off the lights when leaving offices. Once the policy was drafted, the written document was sent to the Resource Conservation Committee, an internal group of Plano staff that vetted that particular policy. The policy was approved and published as the city's standard practice.

Prior to implementation of this policy, when an office felt uncomfortable the staff would simply change the thermostat until they were comfortable again. Under the new policy, this was no longer an option (outside the bounds of the set points listed within the policy) so facilities staff needed to educate all city staff on how to handle temperature complaints going forward. Plano's facilities staff spoke to each city department head to educate them about the new policy, explain the process, and answer any questions. Facilities staff explained that the buildings would no longer be cooled below 74 degrees and that personal space heaters would no longer be permitted. Department heads were encouraged to contact facilities if they experienced any comfort issues as a result of the policy, and facilities staff would then come directly to the building to investigate.

At the time the policy was implemented, one city department with 16 staff members discovered 19 personal space heaters within their department. When Plano's facilities staff spoke to city employees about the new policy, which prohibits space heaters, it provided an opportunity to explore what was causing the comfort issues and work towards optimizing the building's performance.

Lessons Learned

Plano was an early adopter of an internal temperature policy, and the city learned several lessons that will be helpful for other cities who are considering a similar policy. Immediately after the temperature policy was implemented, there was an increase in the number of hot and cold calls to the Facilities Department. Cities looking to adopt their own building temperature policy should prepare for a similar initial increase in temperature calls. These calls ultimately help the city identify which buildings should be prioritized for an energy audit or deeper energy-saving measures.

In one example, a city employee became uncomfortable in her office after the building temperatures were standardized. Facilities staff arrived at her office to investigate the issue, and they discovered a vent that hadn't been blowing any air. Facilities quickly fixed the vent which left her feeling more comfortable and led to the building performing more efficiently as a whole.

A second takeaway is that cities must flexible in enforcing a new building temperature policy. The temperature policy is a great starting point to engage city staff on energy issues and highlight

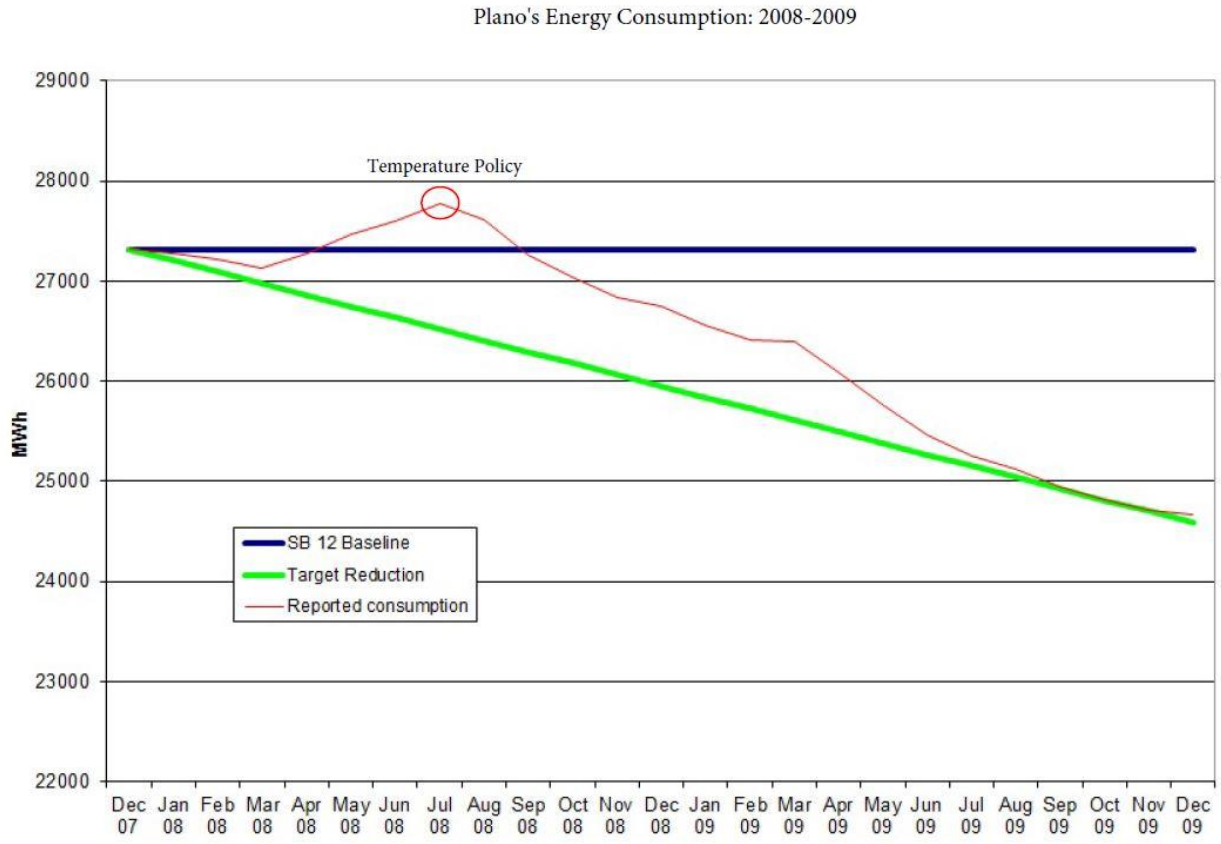
underperforming buildings; however, it's important to evaluate what makes the most sense in each given situation.

In special cases, such as fire departments or high-intensity workout rooms, facilities permitted the thermostats to be set outside the limits by a couple of degrees outlined in the policy. In other cases where the occupied offices were not comfortable under the new policy, Facilities worked with city staff to agree on common sense short-term solutions such as using low-wattage under desk panels or ceiling drop-in panels.

A final takeaway is that cities must ensure that their energy policy has support from all levels of internal leadership. Because Plano's temperature policy was embraced by the city management, this left little room for conflict when it came time to educate staff on the new policy. The departments understood that this policy was a directive from their employer, so they were willing to cooperate with facilities to address their comfort concerns while maintaining compliance with the new policy.

Success & Impact

Plano's temperature policy has led to significant energy savings. The city's electric use peaked in July 2008, one month before the policy was created. Since then, Plano's energy use has declined over time – even while new buildings were added to the city's portfolio (see graph).



[Graph Caption: "Electric consumption in the City of Plano's municipal buildings decreased as a result of both the temperature policy and other major energy efficiency improvements"]

Plano has installed many energy efficiency measures in buildings since the temperature policy was passed, so it isn't possible to pinpoint the exact amount of energy savings that can be attributed to the policy itself. However, the temperature policy was the driver for the wide suite of efficiency improvements that followed which include re-lamping to high-efficacy lighting, installing energy management systems in dozens of buildings, replacing HVAC systems, and piloting LED lighting replacements. Plano has also observed far fewer compressor failures since the temperature policy was implemented which results in even more cost savings for the city.

Plano's temperature policy has fostered a cooperative relationship between the Facilities Division and city departments. Because facilities becomes aware of and investigates all temperature calls, city staff have been able to get to know one another and work towards flexible solutions to any challenges they face within their buildings. All of Plano's city staff is engaged in saving energy on a day-to-day basis which fosters an overall culture of conservation and waste reduction.

Lastly, the policy has led to innovations in how city handles unique comfort situations. For example, even though the temperatures remain standardized, Facilities has a staff member on call specifically for Plano's City Council meetings. This staff member will adjust the temperature and humidity of the meeting room based on how many citizens are in attendance which ensures that the meetings can be comfortable while important issues are being addressed.

Cities who are interested in saving energy in a low-cost and high-impact way can look to Plano's temperature policy as a successful, innovative, and replicable model.

Key Features of Energy Policy

- **Standard temperatures in all buildings: 70° F in heating season and 74° F in cooling season**
- **Requests for exemptions to these temperatures must be submitted to Facilities Department**
- **Personal fans are allowed**
- **Personal space heaters are not permitted**

How to Create a Temperature Policy for City Facilities

1. **Discuss idea with internal leadership**
2. **Research existing temperature policies**
3. **Write temperature policy**
4. **Approve policy internally**
5. **Publish policy as city standard practice**
6. **Educate departments on new policy**
7. **Enforce policy through continuous cooperation**