



# CITY OF PLANO'S TEMPERATURE POLICY

## Texas City Efficiency Leadership Council Best Practice

**Plano:** Temperature Policy

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### Project Description

Texas cities are increasingly adopting a wide array of measures, technologies and policies aimed at reducing energy usage in their municipal buildings. The City of Plano has taken various steps to reduce its facilities' energy consumption. One unique approach that Plano took was implementing an internal policy addressing temperature set points within city buildings.

In August 2008, Plano created an internal energy policy having a specific temperature section. The policy is not an ordinance or a piece of legislation; rather, it was created through the same means 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 energy and money. Plano's temperature policy specifies that indoor temperature settings within city facilities will not exceed 70°F in heating season and not be less than 74°F during cooling season.

The policy is flexible enough to reduce energy consumption while keeping staff comfortable. For example, non-radiant foot warmers of 150 watts or less are permitted by the policy in lieu of traditional, high-energy consumption office space heaters. The policy prohibits personal space heaters, due to their high energy impact, but allows personal fans as needed.

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 done the groundwork for future cities to save energy by crafting their own temperature policies.

Implementing a temperature policy is a simple way that cities can engage staff on energy conservation, identify and address building operation issues and save money on energy costs. To achieve similar goals, counties, school districts and colleges and universities also can implement a policy like this one.

## 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

### Motivation

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

### Implementation: Plano's Approach

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

Plano drafted its own 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 four pages long. Beyond temperature control, the policy also includes recommendations on energy-saving behaviors such as turning off lights when leaving offices. Once the policy was drafted, the written document was sent to the Resource Conservation Committee, an

internal group of city staff that vetted that particular policy. The draft 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 it was 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 had to educate all city staff on how to handle temperature complaints going forward. Facilities staff spoke to each 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 no longer would be permitted. Department heads were encouraged to contact facilities staff if they experienced any comfort issues as a result of the policy, and facilities staff would then come directly to the buildings to investigate.

### Lessons Learned

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

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 policies should prepare for a similar initial increase in temperature calls. These calls ultimately help a city identify which buildings should be prioritized for an energy audit.

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

A second takeaway is that cities must be 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 staff permitted the thermostats to be set outside the limits by a couple of degrees as outlined in the policy. In other cases where the occupied offices were uncomfortable under the new policy, facilities staff worked with city staff to agree on common-sense, short-term solutions such as low-wattage, under-the-desk panels or drop-in ceiling panels.

A final takeaway is that cities must ensure that all levels of internal leadership support their energy policies. Because Plano's temperature policy was embraced by 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 staff to address their comfort concerns while complying with the new policy.

## HOW TO CREATE A TEMPERATURE POLICY FOR CITY FACILITIES

- Discuss idea with internal leadership.
- Research existing temperature policies.
- Draft temperature policy.
- Approve policy internally.
- Publish policy as city standard practice.
- Educate departments on new policy.
- Enforce policy through continuous cooperation permitted

### Success and Impact

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

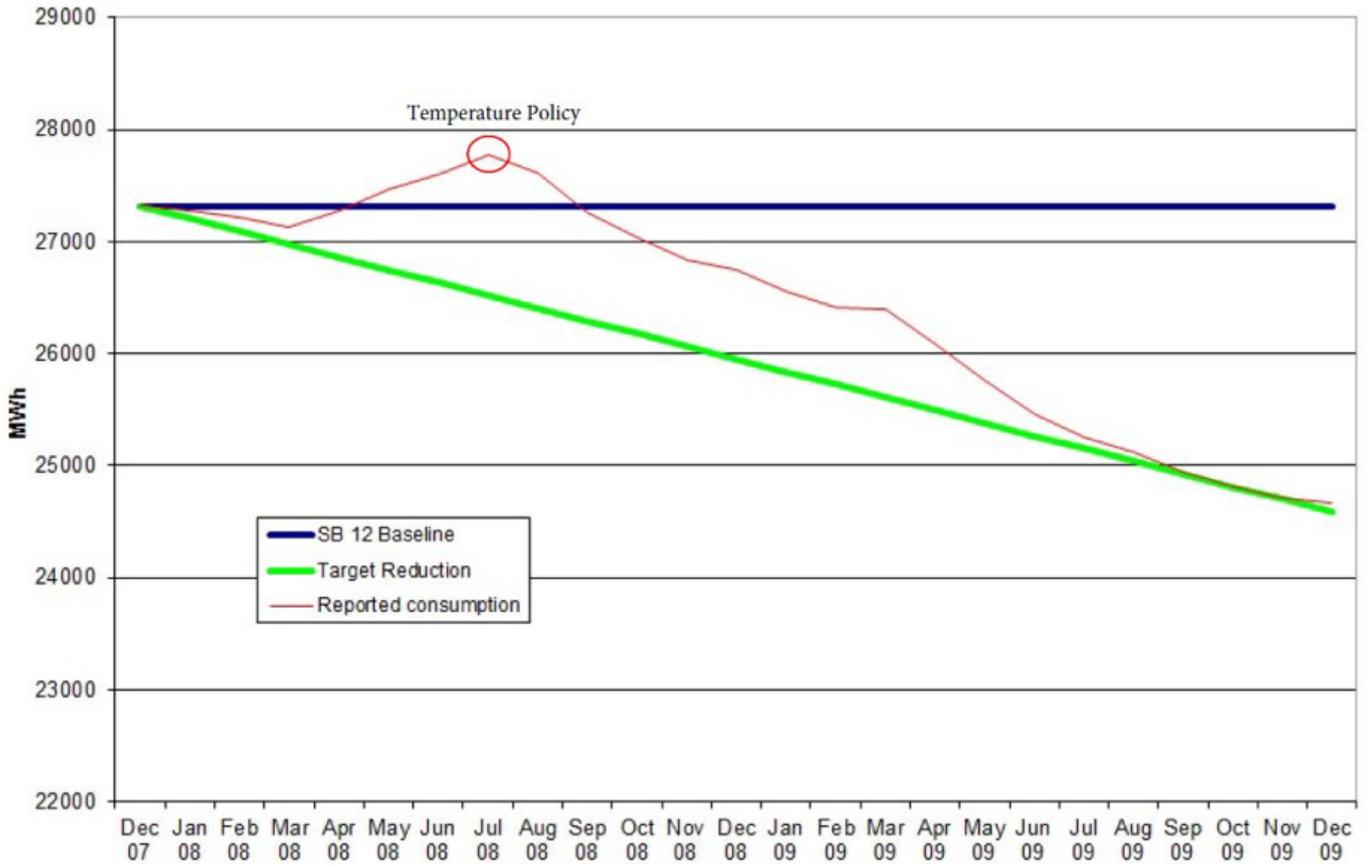
Plano has installed many energy efficiency measures in city buildings since the temperature policy took effect, so it isn't possible to pinpoint the exact amount of energy savings attributable to the policy itself. However, the policy was the impetus for a broad array of efficiency improvements that followed, including changing from re-lamping to high-efficacy lighting; installing energy management systems in dozens of buildings; replacing heating/ventilation/air conditioning systems and piloting light-emitting diode lighting replacements. Moreover, Plano has experienced far fewer compressor failures since the temperature policy was implemented, further reducing the city's energy costs.

Plano's temperature policy has fostered a cooperative relationship between the Facilities Division and other city departments. Because facilities staff become aware of and investigate all temperature calls, city staff have become better acquainted with them and work towards flexible solutions to any challenges they face within their buildings. All of Plano's city staff are engaged in saving energy on a day-to-day basis, fostering an overall culture of waste reduction and conservation.

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

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

## PLANO'S ENERGY CONSUMPTION 2008-2009



“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”