

# Fire Station Energy Challenge

## What's in this Issue:

- Best Energy Plan winner
- Two fire stations utilizing geothermal energy systems
- Do you know how much energy savings CFLs provide?
- Check out our [fact sheet](#) online for more information

## Did you know?

Did you know that the standard incandescent bulb is actually a very inefficient piece of technology?

These light bulbs waste 90 to 98% of their electrical use as heat rather than useful light. We all know that in the summer in El Paso, we do not want anything producing MORE heat in our house. Because incandescent bulbs produce so much heat, your air conditioners will have to work a little harder to cool a room.

A much more efficient option is the compact fluorescent light bulb (CFL) which is about 75% more efficient for the same light output as a conventional bulb. Just

be SURE to only buy CFLs with the Energy Star logo!



## Welcome to the Fire Station Energy Challenge!

Get ready to stand out as the "greenest" fire station around!

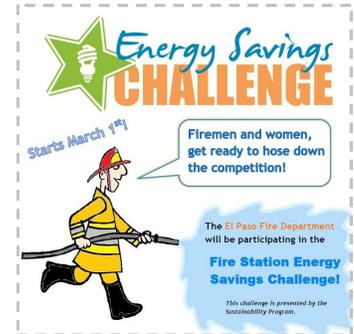
We will be sending out this short newsletter every month to update all the fire stations about monthly winners, challenge updates, and a few tips to keep your energy usage down!

Thank you to all of you for sending us your energy savings plans. The Sustainability Office really appreciates all the time and effort put into these plans. We have looked through them all and had a tough time deciding on the winner!

We chose this fire station because it was clear that this plan was developed as a team. The fire fighters at this station worked together to develop a fantastic plan, and they all

"pledged to do their part in honoring the energy savings plan." We think that they really captured the essence of this challenge by involving everyone from the beginning of the challenge and stating that they would work as a team throughout the challenge.

And the winner is...



Stations 11, 14 and 28 were all close seconds! Great initiative, detail, and enthusiasm!

View our [fact sheet](#) online for more information.

If you have any questions about this challenge, or about energy savings, in general, please email us at [energy@elpasotexas.gov](mailto:energy@elpasotexas.gov).

## Geothermal Heating Systems working well in Stations 31 and 33

Did you know that Fire Stations 31 and 33 have state of the art "geothermal" systems?

Two of our fire stations use efficient geothermal heating systems which pump and circulate water under ground to heat and cool their stations. These geothermal systems use the ground as a heat sink/source to dispose of or extract heat from the ground.

The advantage of a geothermal system is that the ground provides fairly stable temperatures to the water at around 70 degrees year

round. This is ideal because these systems run efficiently all year round and do not burn fossil fuels to produce heat or A/C. Check out this [video](#) from the EPA for more information!

The system at Fire Station 33 was built in 2006 and the system at Fire Station 31 was built in 2012, and both systems are running smoothly!

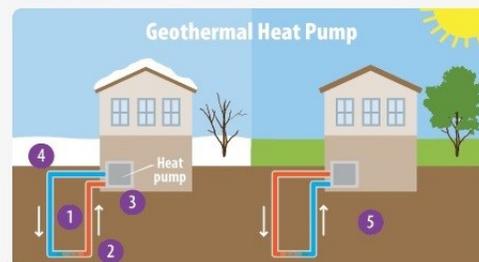
*Information from this article was provided by Yvette Hernandez and the architects and installation team involved with these systems.*

*The graphic below is courtesy of Epa.gov.*

**Wait a second**— if their heat pumps are running efficiently year round, won't these two stations have an unfair advantage in the Fire Station Energy Challenge?

Nope! Remember that each station will be measured against their OWN usage from the previous year. For Station 31, we will factor in their geothermal upgrade and the fact that they just opened in Nov. 2012 when calculating their energy reduction changes.

### How It Works



1. Water or a refrigerant moves through a loop of pipes.
2. When the weather is cold, the water or refrigerant heats up as it travels through the part of the loop that's buried underground.
3. Once it gets back above ground, the warmed water or refrigerant transfers heat into the building.
4. The water or refrigerant cools down after its heat is transferred. It is pumped back underground where it heats up once more, starting the process again.
5. On a hot day, the system can run in reverse. The water or refrigerant cools the building and then is pumped underground where extra heat is transferred to the ground around the pipes.