

# Overview continued

## Energy continued

### Utility Costs

In relation to the energy grant, the SFB tracks the total impact of utilities on school district budgets. To clarify the utility picture, it is important to understand the climates affecting the different areas of the State. Generally, Arizona is divided into four main climate zones.

These zones are defined by the number of annual cooling degree-days or heating degree-days in that zone. Degree-days are calculated by comparing the daily outdoor mean temperature to a set temperature baseline. The difference between the daily temperature and the baseline produces a number of cooling degree-days or heating degree-days. For example, the cooling degree-days baseline temperature is 50°F. Therefore, if the mean temperature for April 15 is 70°F, that day will produce 20 cooling degree-days. Heating degree-days are calculated off a base of 65°F. Heating degree-days are produced when the daily mean temperature is less than 65°F. Following is a description of each Arizona climate zone.

**Climate Zone 2B:** This zone is defined by hot and dry weather with between 3,500 and 5,000 annual cooling degree days. The zone includes Maricopa, Pinal, Pima, Yuma and La Paz counties, covering 110 school districts with a total of 104,869,796 square feet of space.

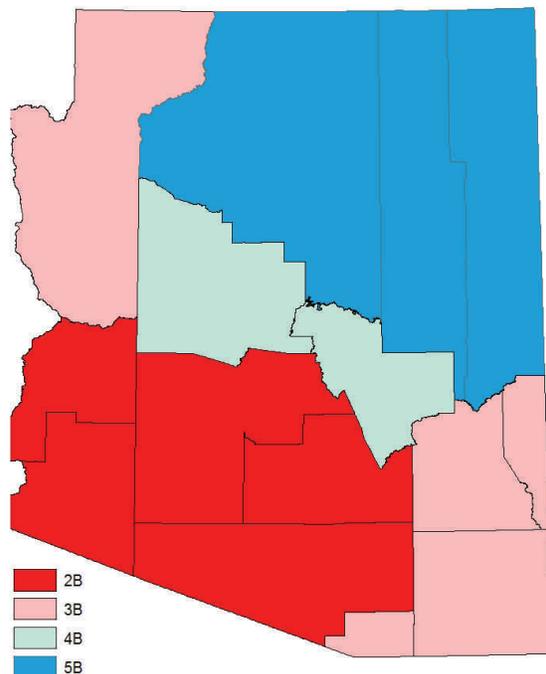
**Climate Zone 3B:** This zone is defined by warm and dry weather

with between 2,500 and 3,500 cooling degree days. The zone includes Greenlee, Graham, Cochise, Santa Cruz and Mohave counties, covering 60 school districts with a total of 9,843,352 square feet of space.

**Climate Zone 4B:** This zone is defined by mixed and dry weather with cooling degree days less than 2,500 and heating degree days less than 3,000. The zone includes Gila and Yavapai counties, covering 32 school districts with a total of 5,196,350 square feet of space.

**Climate Zone 5B:** This zone is defined by cool and dry weather with between 3,000 and 4,000 heating degree days. The zone includes Coconino, Navajo and Apache counties, covering 32 school districts with a total of 11,280,367 square feet of space.

AZ Climate Zones by County



# Overview continued

## Energy continued

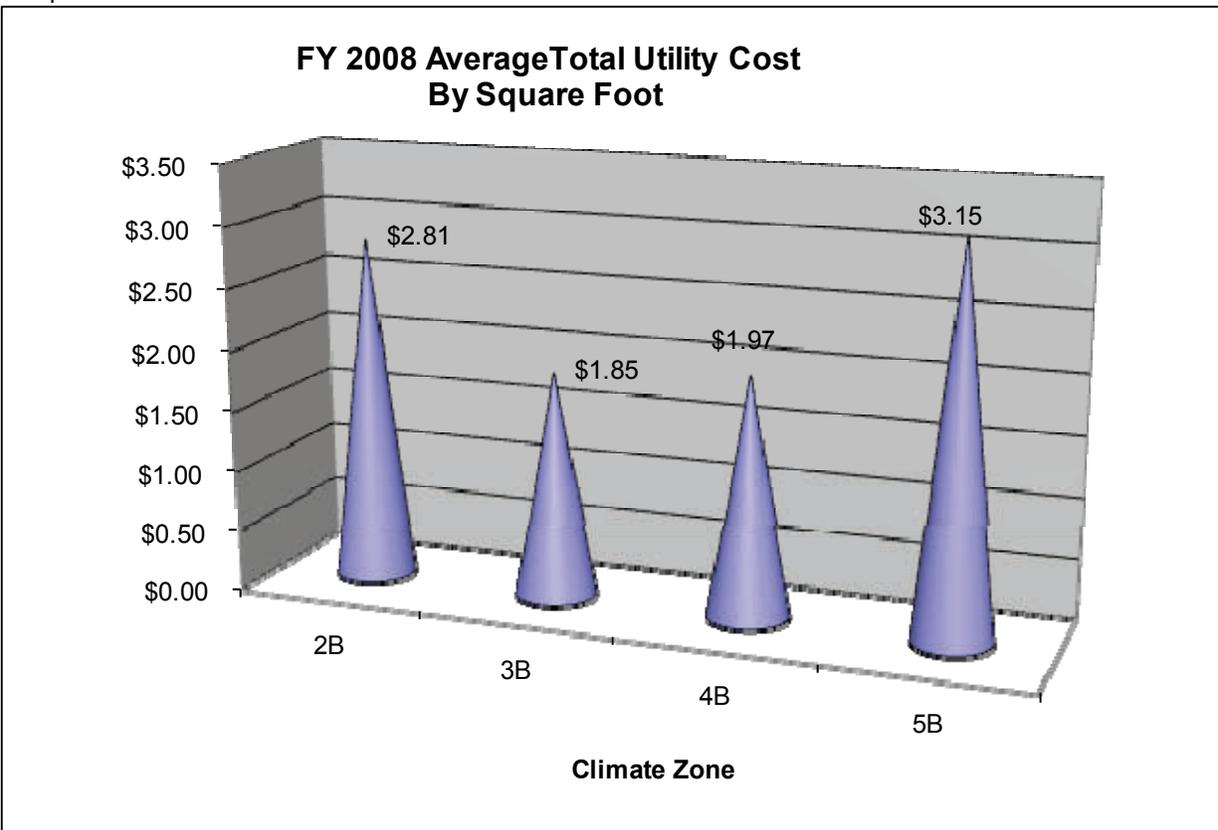
Graph 1 below shows the utility cost per square foot by climate zone. As shown in the graph, school districts in zone 5B spend almost twice as much per square foot on utilities as districts in zone 3B. This variance is important in assessing individual district's ability to dedicate a higher percentage of total expenditures to classroom expenditures.

The high cost of utilities in zone 5B is driven by two factors. First, the zone's dependence on natural gas/LPG. As shown in Chart 1, zone 5B spends about 30 cents per square foot more on natural gas/LPG than the next closest zone. The second factor is the heavy cost of other

locally provided utilities. Zone 5B spends 48 percent of its total utility costs on water, telecom, and sanitation as shown in Chart 7, while the statewide average is only 28 percent as shown in Chart 3.

Arizona continues to emphasize energy efficiency in school districts, but despite these efforts, the per square foot cost of electricity continues to rise. In Climate Zone 2B, by far the zone with the most academic square footage, the per square foot cost of electricity is up 9 percent over FY 2007 as shown in Chart 2. Over the last four years, the cost has grown at an average rate of 6.5 percent. These increases are largely due to increases in the rates charged by local utility companies.

Graph 1



# Overview continued

Chart 1

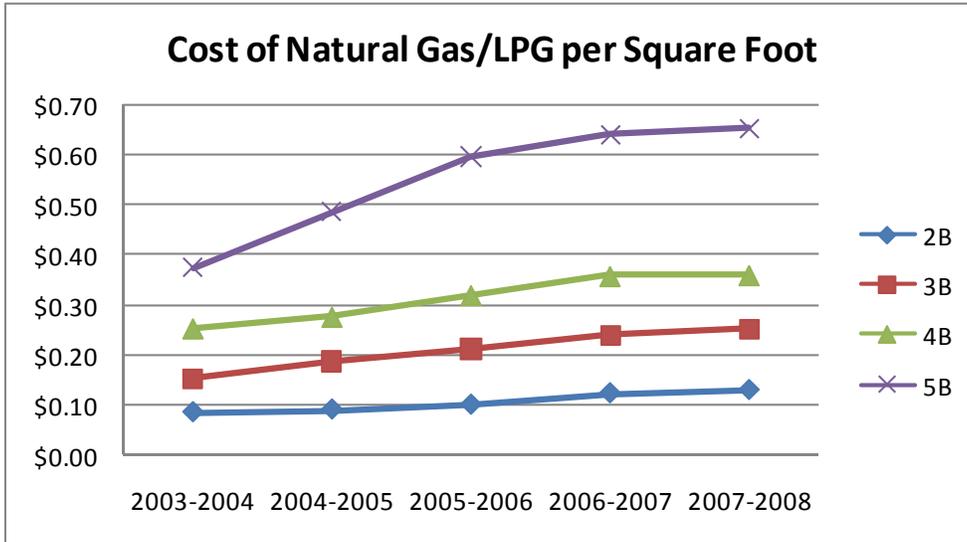
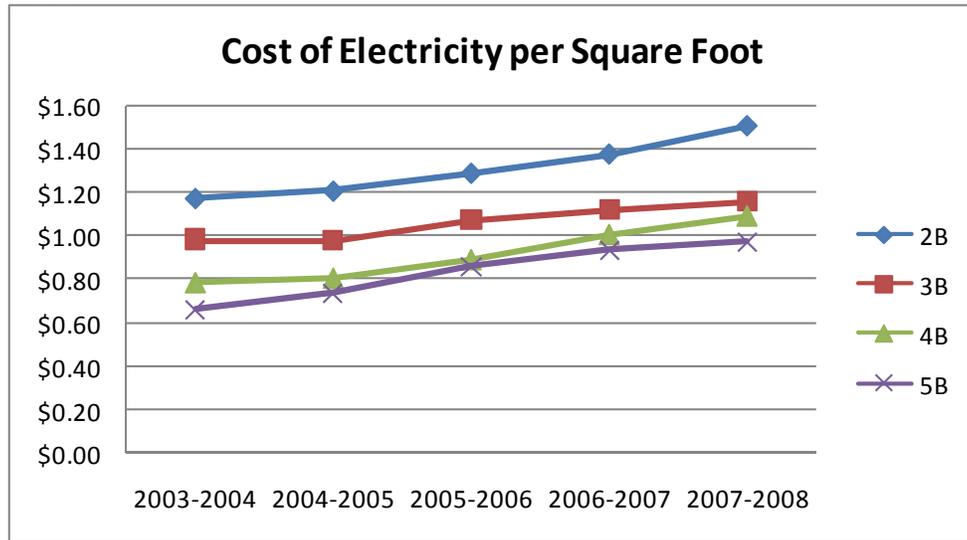


Chart 2



Desert Edge High School—Interactive touch screen  
 Agua Fria Union High School District



# Overview continued

Chart 3

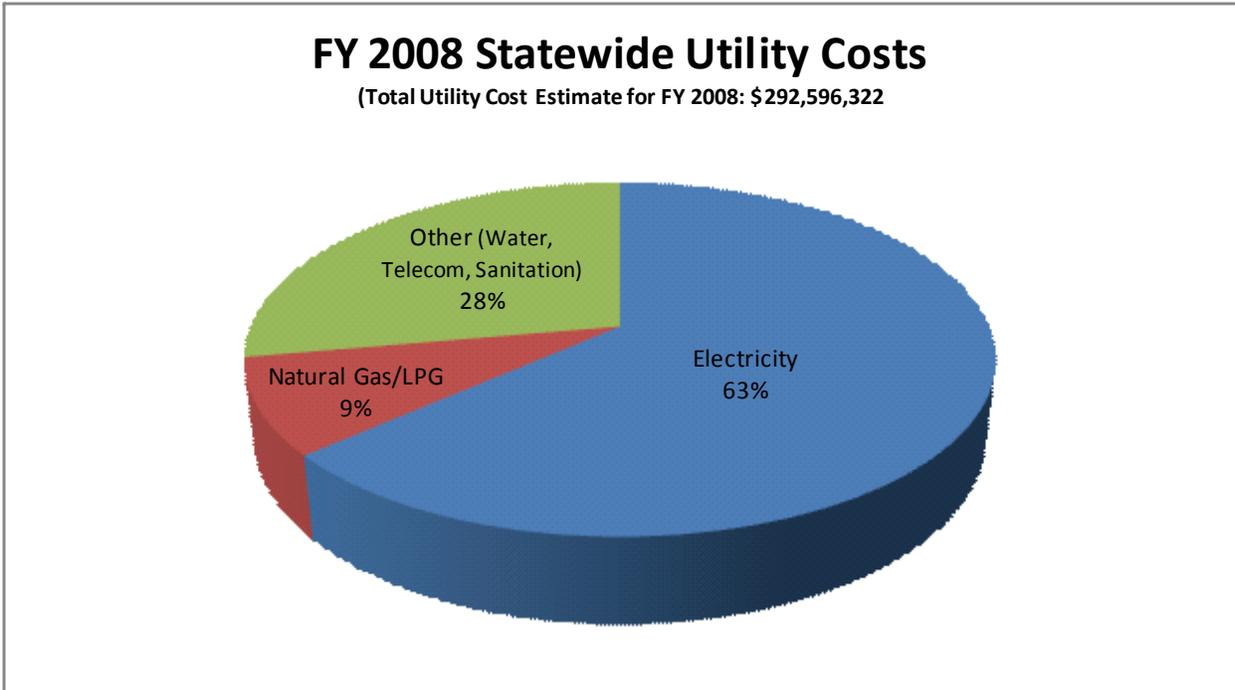


Chart 4

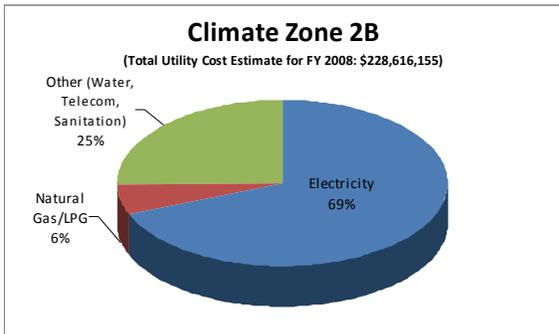


Chart 5

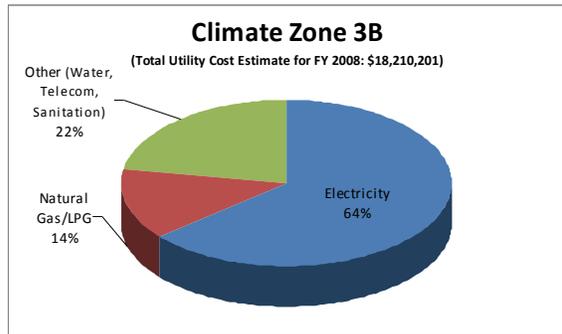


Chart 6

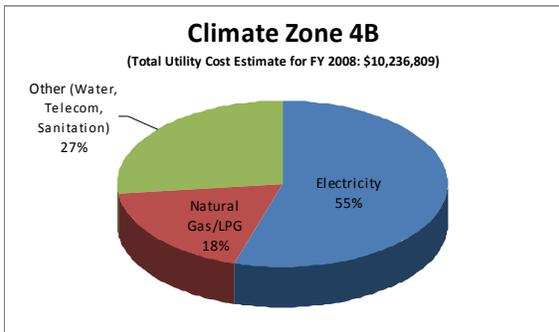


Chart 7

