

Trimming the Annual Operations Budget with CNG

The decision to use compressed natural gas buses is saving this district thousands of dollars.

By Ron Cox

In 2010, the Lee's Summit R-7 School District replaced its distribution fleet of four trucks with all-electric trucks, thus reducing its annual fuel budget by \$38,000 in distribution services. The district paid for the electric fleet in two ways: (1) a federal grant paid more than half of the equipment cost, and (2) resale or low interest loans and fuel and maintenance savings captured by the district for the existing fleet paid the remaining balance.

The program was so successful that in 2012 the district began looking for ways to reduce the \$1 million annual fuel budget for transportation.

After lengthy research and several conversations with manufacturers and personnel in other school districts, we decided to move forward with the acquisition of compressed natural gas (CNG) buses in lieu of gasoline, diesel, and propane, or even electricity. Although each

option has its advantages and disadvantages, district officials believed CNG offered the greatest overall savings opportunities.

Why CNG?

In looking at historical data from the previous 10 years and looking forward, it appeared that CNG was the most predictable fuel source. The cost of other fuel sources, including diesel and propane, fluctuated frequently, and the district wanted something more stable.

In early 2013, the district issued a request for proposals and ultimately formed partnerships and agreements with some of the most experienced alternative fuel organizations in the world. The team began taking shape early on with the Kansas City Metropolitan Energy Center, which helped secure the funding needed to move the project forward. Next, the district partnered with



its energy providers, Missouri Gas Energy and Seminole Energy. Additional steps included finding an equipment partner and fueling station provider—which were both selected through a competitive proposal process—and then securing a financial analyst and legal firm to draft all the agreements and to review the documents.

The fueling station provider was commissioned to develop the fueling systems needed to fuel approximately 149 buses and 46 duty vehicles over the next 10 years. In addition, the district added a public CNG fueling station for local businesses, employees, parents, and commuters. During the next 10 years, both stations will be distributing over 4 million diesel gallon equivalents.

The station provider funded the station and is recovering a portion of the investment through an administrative “surcharge” on the fuel price for a negotiated period.

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The average cost of the CNG-powered equipment can range from \$20,000 to \$40,000 more than a conventional diesel- or gasoline-powered bus, depending on the options. However, the cost to operate the CNG-powered equipment is much less. The new equipment has shown an operational savings of as high as 70% over the pre-existing equipment. (That number will be slightly higher or lower depending on the cost of fuel in your region, perhaps the age of your existing equipment, your current maintenance costs, etc.)

The financing of the project seemed complex, but the district was able to “weed through all the numbers” with the help of the financial analyst and to simplify the project. In addition, in its proposal, the equipment partner outlined a simple, low interest rate if the district wanted its company to finance the equipment. That rate was at or below market value on a 10-year term. The district also accepted the equipment partner’s offer to guarantee a higher-than-market price for trade-ins and used that revenue to pay for the new equipment as well. The local financial partner contributed another \$300,000 to the project.

Final steps included locking in the cost per gallon of CNG at a lower-than-market rate, so we could begin seeing the fuel savings immediately.

The equipment is fully funded with our maintenance and fuel savings, trade-in monies, comprehensive vehicle and equipment replacement strategy, and assistance from our partners. The “return on investment” will



Public CNG fueling stations keep the community running.

depend on the current fuel price, the current age of the fleet and maintenance, outside resources, if any, and the cost of new equipment, including accessories.

The Payoff

Although the district may have jumped in headfirst, we certainly knew how deep the water was because of all of our preliminary research. It pays to do your homework and to select experienced organizations to work with.

The new equipment has shown an operational savings of as high as 70% over the preexisting equipment.

The new equipment is much quieter, emits far less carbon dioxide, and, perhaps most important, does not require dependence on foreign fuels. Our fuel cost is locked in for the next 10 years, which makes our budgeting much more predictable. Our savings are going directly back into the classroom to improve education and to provide enhanced learning opportunities.

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