

Impacts of Rising Fuel Costs on TVA

August 2008



Overview

- The costs of fuel used to generate electricity and power that TVA purchases from suppliers to help meet energy needs in the Tennessee Valley are skyrocketing.
- Like other utilities across the country, TVA is subject to the same cost increases that consumers are experiencing at the gas pumps. In fact, since December 2007 coal prices have more than doubled, and natural gas prices have increased by more than 58 percent.
- The severe drought in the Tennessee Valley means that TVA's least expensive form of power generation is in very short supply, which forces TVA to buy even more expensive power on the market. Hydro generation is 50 percent below normal since Oct. 1.
- About 56 percent of TVA's power supply comes from fossil fuels - coal, oil and natural gas. When the prices of these fuels increase, it costs TVA more to generate electricity.
- By the end of fiscal year 2008, TVA is expecting to spend several hundred million more than budgeted on fuel and purchased power.

TVA's Fuel Cost Adjustment

- TVA uses the Fuel Cost Adjustment (FCA) to help recover largely uncontrollable fuel and purchased power costs. A variety of factors affect these costs, including weather and global supply-and-demand issues.
- The FCA is calculated every three months as fuel costs and the price of power TVA purchases from other suppliers rise and fall. The FCA can be a charge or a credit depending on whether fuel costs go up or down. It appears on consumers' bills as a charge or credit for every kilowatt-hour used.
- TVA began using an FCA mechanism in October 2006 after Hurricanes Katrina and Rita caused dramatic spikes in fuel costs the previous year.
- TVA and other utilities use fuel cost adjustments like this to recover costs as they occur, so they have a better match between their revenues and their expenses.

Coal, Natural Gas, and Purchased Power Increases

- Since December, coal prices have more than doubled and continue to rise. These increases are driven primarily by global coal production and transportation challenges, and the Tennessee Valley is directly affected by what's happening around the globe.
- Global coal consumption has grown tremendously. In 2007 alone, China added the equivalent of about six total TVA coal-fired systems or about one new coal plant every seven to ten days.

- Transportation of coal continues to be another challenge. About 45 percent of TVA's coal supply comes from west of the Mississippi River. Recent flooding in the Midwest stopped or slowed some of these deliveries; and when shipments are missed, TVA must rely on the more expensive spot market.
- In 2007, almost 22 percent of TVA's total revenue was used to pay for coal. This amounts to more than \$2 billion, so even small changes in the coal market have a dramatic impact on TVA's business.
- Natural gas prices have risen by more than 65 percent since December 2007; TVA spent about \$493 million on natural gas in 2007, and in 2008 that figure is forecast to be about \$750 million.
- Higher natural gas prices have pushed electricity prices up, as the bulk of the power for sale in the market today is generated with natural gas. TVA's purchased power totaled \$701 million during the first six months of 2008, up \$220 million from the same period last year. Peak prices for June and July of this year have been 63 percent higher on average than the same months of 2007.
- All of these cost increases affect TVA's cost to generate electricity for the Valley.
- This is particularly bad news for TVA and the region because the ongoing drought means TVA has less low-cost hydro power than usual and must replace that lost power with electricity from other sources, which get more expensive every month.
- Over the past six months, TVA purchased 12 percent more power from the market than it did during the same period last year. This summer TVA is buying more than 1,000 megawatts of power on a daily basis — the equivalent of one nuclear unit — to replace the loss of hydro power.

What TVA is Doing

- TVA is making strategic decisions to mitigate these cost impacts as much as possible. While TVA's actual coal costs are up 43 percent over the past five years, if TVA were buying that coal on the spot market, the cost would be up 240 percent.
- TVA currently has financially hedged a portion of expected gas usage for fiscal year 2009 and doubled the amount of gas storage this year with additional storage available in 2010.
- TVA is also buying more long-term power to reduce exposure to hourly markets.
- For the long-term, TVA's plan for energy efficiency and demand reduction seeks to reduce the growth in peak demand by up to 1,400 megawatts by the end of 2012.
- TVA also is strategically building its nuclear generation portfolio through the addition of Browns Ferry Unit 1 and Watts Bar Unit 2, nuclear plant uprates and consideration of options for the Bellefonte Nuclear site. The additional generation will reduce exposure to volatile commodity fuel prices.