

Electricity Prices Going Up!

Why and What Can You Do?

(Editor's note: Following is the second in a series of articles being published over the next several months in an effort to address the reasons behind the extremely large increases in energy rates that have recently been experienced. The goal of these articles is to provide informational and educational material for readers to be able to better understand the historical background of energy issues in the Tennessee Valley, take a look at energy supply and demand issues and anticipate to the best of our ability the potential impact of the environmental issues and proposed legislation being considered by Congress. The articles will also assess the latest technology advancements, and give you suggestions and recommendations on what action you can take to lower your energy use and have an impact on "our energy future.")

Second In A Series

Available Electric Supply In The U.S. and Tennessee Valley

Despite the fact that ratepayers in the Tennessee Valley and across the United States are facing unprecedented increases in the price paid for electricity as the cost of fossil fuels used for generation skyrockets, energy use and demand for power is also at an all-time high, placing a strain on the available electricity supply.

The average household in the United States uses 22 percent more electricity today than it did in 1978...the time when every household was feeling the impact of the Arab Oil Embargo. And even closer to home, where residential consumers of Duck River Electric use approximately 20 percent more power than the national average (because the cost of electricity in the Tennessee Valley has traditionally been less expensive and since a fairly large portion of area consumers rely on electricity to heat their homes in winter, as opposed to other fuels), statistics indicate that DREMC members, on average:

- use 16% more electricity than they did 40 years ago.

- use 27% more electricity than they did in 1985.
- use 6% more electricity than they did just 10 years ago.

One only has to think about the popularity of home computers, big screen televisions, cell phone chargers, and other electricity-gobbling gadgets to understand why.

Complicating the issue of record energy use at a time when costs have escalated so dramatically is the fact that the Tennessee Valley Authority (TVA) and other leading industry organizations, project that electricity usage will grow more than twice as fast as committed resources over the next decade as the peak demand for power is expected to increase by almost 18 percent in the next 10 years. This leaves many parts of the country, including the Tennessee Valley, facing power demands that exceed generating capacity in the not too distant future.

So you might ask, why not build more power plants to meet this growing energy demand? Unfortunately, in today's environment, several obstacles stand in the way of building power generating plants at reasonable costs and in a timely manner:

- the cost of main inputs into new power plants - iron and steel, cement, copper and other generator metals, and labor - have almost doubled since 2003.
- the global demand for fossil fuel resources and the regulatory and environmental requirements necessary to site, license and build a generating plant will take upwards of 10 years to complete.

A recent editorial from Glenn English, CEO of the National Rural Electric Cooperative Association (the national organization for electric cooperatives across the United States), indicates that "we (electric cooperatives) will need to double existing generation capacity by 2020 to keep the lights on. This means adding power plants that will be the most expensive in history thanks to escalating prices, inflation, international competition for raw resources, labor, and expertise, as well as impending federal climate change mandates."

“Our generation options, however, are largely limited to renewables or natural gas. Climate change worries have halted most efforts to build new coal-fired plants while ongoing political and community opposition limits nuclear power only to co-ops that are participants in a facility considering expansion,” English noted.

In fiscal year 2007:

- approximately 12 percent of TVA’s total system load was supplied through purchases from other power providers.
- TVA purchased as much as 20 percent of its power from other suppliers during the record breaking heat wave of last year and during the persistent drought experienced across the Valley.

TVA President and CEO Tom Kilgore recently addressed the need for increasing electricity generating capacity to meet the growing demand of the more than 8 million residents, businesses and industries of the Tennessee Valley. TVA believes it has to build or acquire more power plants as the demand on the TVA system has been growing by about 2 percent per year for the past several years. In recent years TVA has relied on purchasing power from others or acquiring existing gas-fired generating units. Over the past two years TVA has increased its generating capacity by about 7% by acquiring additional gas-fired combustion turbines and combined cycle generation. “We need to be close to self-sufficient – plus or minus 5 percent. Otherwise we are dependent on external sources, the jobs are somewhere else and, quite frankly, we are dependent on the transmission, (which can be like) a physical highway that gets clogged sometimes,” Kilgore explained.

Forecasts indicate TVA will need 17 to 34% more generating capacity over the next 10 to 15 years. Last year TVA restarted Browns Ferry Unit 1, a nuclear generator that added 3% more baseload capacity to the system and has now resumed construction of Watts Bar Nuclear Plant Unit 2, which will add another 3% to its total generation, which is expected to be on-line by 2013.

TVA has also committed to reduce the growth in peak electricity demand in the Valley by helping to improve the energy efficiency of homes, businesses and industries.

By the end of fiscal year 2012, TVA's plan for energy efficiency and demand reduction proposes to reduce the growth in peak demand by up to 4% and the growth in energy consumption by up to 4.3 million megawatt-hours annually – about the amount of power it currently takes to serve all the homes in a city about the size of Nashville. “In partnership with others, TVA will strive to be a leader in energy-efficiency improvements and peak demand reduction over the next five years. Improving energy efficiency and reducing peak demand are significant actions that help slow demand growth in a cost-effective manner while addressing air pollution and global climate change,” states the TVA Strategic Plan adopted by its Board of Directors.

So it appears that the ability to meet the growing need for more electricity in a reliable manner at an affordable cost is at risk – not just in the Tennessee Valley, but all across the United States. Without question, solutions will require a combined effort from government, research organizations, electric power generators and consumers. And what is becoming even more apparent is that whatever solutions are adopted in the short and long terms will be at an expense much greater than we have experienced in the Tennessee Valley for the previous decade.

The next article in this series will deal with the environmental issues surrounding the energy industry and the current legislative debate that it appears will have an impact well into the future. This article will appear in the January issue of *The Tennessee Magazine*.