

# Don't dismiss coal as power source for the expanding economy in Ohio

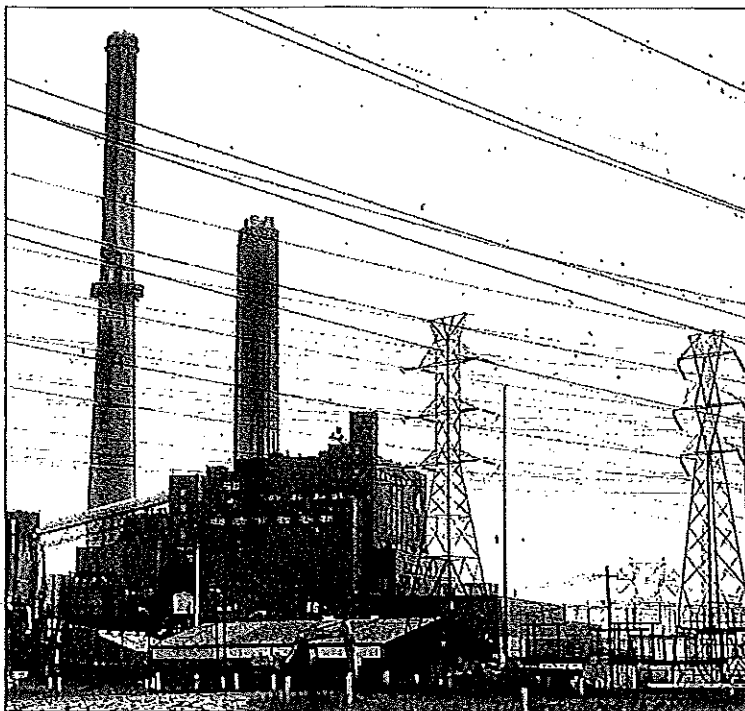
ATTILA KILINC

Coal's share of electricity generating capacity in Ohio has plunged from 84.5 percent in 2009 to 67.3 percent today. The reason: a surge in shale-gas production, which has turned natural gas into the economic fuel of choice for new power plants.

What about saving natural gas for home heating, transportation and manufacturing? The chemical industry, in particular, is making a big bet on low-cost natural gas, with \$100 billion of capital investment in new production capacity now under way in the United States. To allow most of our gas supplies to be burned in power plants would be a serious blunder. Though we're consuming more gas than ever, we shouldn't dismiss coal as a power source for Ohio's expanding economy.

Not a week goes by when our elected leaders don't bemoan high energy costs for businesses and households. The average family already spends 21 percent to 24 percent of its budget on energy, and this will rise if the use of coal, the domestic fuel with the most stable costs for electricity generation, continues to decline.

By contrast, natural gas has a history of price volatility. This was underscored recently when the polar vortex sent temperatures plunging to below zero in many parts of the Midwest, causing demand for natural gas — and its price — to rise sharply. Nationally, the "spot price" for natural gas topped \$5 per million BTUs, more than double what it had been in 2011. In the mid-Atlantic region, spot prices for immediate delivery reached an astronomical \$140 per million BTUs, pushing up the cost of electricity.



AMY SANCETTA | ASSOCIATED PRESS

FirstEnergy Corp. said it will close its coal-fired power plant in Eastlake this fall rather than next year as planned. The utility said the move is related to new environmental rules.

Meanwhile, restrictive environmental policies are making it difficult for utilities to switch back to coal.

What's more, the Environmental Protection Agency has adopted a regulatory policy that seems designed to put the coal industry out of business altogether. EPA has promulgated greenhouse-gas standards for new power plants that no coal technology currently available could meet. And the agency intends to impose greenhouse-gas rules for operating power plants later this year.

This is a nonsensical policy that, unless scrapped, will force utilities to scale back the use of coal in favor of natural gas and renewable energy sources. But increased reliance on natural gas is clearly not the answer, since there would be

no protection against a run-up in prices. And relying on solar and wind power to supply base-load electricity seems more promise than reality — and will remain so until technology is developed for large-scale energy storage.

Coal-fired power plants have borne the brunt of competition from natural gas. In 2012, gas-fired generating capacity displaced approximately 200 billion kilowatt-hours of coal-fired generation. Scores of coal plants, including a number in Ohio, closed prematurely. To some extent, the amount of additional coal-fired generating capacity likely to shut down in the next several years will depend on whether the federal and state governments and regional operators

who run the electric-power grid address the serious stresses building below the surface of the U.S. electricity system.

Simply put, the U.S. electricity sector is losing one of its major strengths — fuel diversity. A balanced mix of generating options is an essential feature of a resilient operating system. If current trends continue, that diversity is at serious risk.

Since 1995, approximately 75 percent of all capacity built in America was gas-fired — almost 350,000 megawatts. Coal and nuclear power, the two sources of electricity that can produce power 24/7 at stable prices, represented just 6 percent of the total.

Coal is our energy mainstay, providing a large share of our electricity dependably and without any of the wild swings in price that beset the use of natural gas. Coal will be indispensable if we hope to meet a steady increase in projected demand for electricity through 2030.

Clean-coal technologies such as ultra-supercritical pulverized coal and integrated gasification combined-cycle are already being deployed to increase the efficiency of coal plants so that they use less fuel than conventional plants and therefore emit less carbon dioxide.

We need a diverse mix of energy sources — coal, nuclear power, natural gas, renewable energy sources, along with improvements in energy efficiency. But coal is vital to Ohio's energy security and economy. And despite criticism from its environmental detractors, coal will become even more important in the decades ahead.

*Kilinc is a professor of geochemistry at the University of Cincinnati.*