Coloradans are destined to pay soaring electric rates unless state utilities and regulators coordinate plans for additional power and transmission, a new report warns. The study concludes that Colorado needs to add 40 percent more power generation by 2025, plus build new transmission lines and upgrade existing lines to handle the new power.

While the expanded system could cost at least $10 billion, failure to aggressively make the needed investments could saddle Coloradans with even higher costs, questionable reliability and damage to the economy, said Bruce Smith, executive director of the nonprofit Colorado Energy Forum, which commissioned the study.

"The power will still be on by 2025, regardless," said Smith, former director of the Colorado Public Utilities Commission. "But whether it is still affordable or not is a big question."

Colorado traditionally has enjoyed lower-cost power than the national average, chiefly because it is relatively inexpensive to ship coal to power plants from mines in Colorado and Wyoming. But over the past decade, almost all of the power capacity added in Colorado has come from natural-gas-fired plants. Gas costs have tripled in the past five years, causing Colorado electric rates to rise, on average, 17 percent from 2002 to 2004. Analysts say coal-fired power plants have lower operating costs and help keep a lid on rising electric rates.

But building new coal-fired plants - particularly new-generation "clean coal" facilities - and the transmission lines to serve them will take years of coordinated planning by utilities and state and local governments, according to the report. "The study validates the position that we need to keep up with growth and rising energy consumption," said Donnah Moody, vice president of government affairs for the Colorado Association of Commerce and Industry. "We were behind the curve on highway infrastructure, and we don't want to get caught short on energy needs."

Howard Geller, executive director of the Southwest Energy Efficiency Project in Boulder, said the report makes some good points about the need for new energy resources. "But it avoids the fundamental question of which resources should we choose," he said. Geller said Colorado should be investing in renewable energy sources and expanding energy-efficiency programs to meet its future needs.

The study, the first comprehensive look at Colorado's power needs in more than a decade, was conducted by consulting firms R.W. Beck Inc. and Schmitz Consulting, and the Colorado School of Mines. Smith and report author Gary Schmitz said it marks the first time that all utilities in the state have shared internal planning and strategic information on future power needs.

Each of the utilities, including Xcel Energy and Tri-State Generation & Transmission, also provided funding for the report. Smith said the Colorado Energy Forum's board of directors will meet next month to discuss ways of implementing the report's findings.

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