

# The Electric Power Industry Business Model for the 21st Century

*Successful development and implementation of the new business model will be internally driven. Little or no enabling assistance is likely to be forthcoming from external agents, including the federal government, particularly with comprehensive energy legislation likely to be off the table for 2004.*

*John O. Sillin*

## I. Introduction

Electric utility credit quality continues to decline, according to a recent Standard and Poor's report. The average credit quality of utilities is mid-BBB, and while downgrades have slowed in 2003, a trend that began in earnest in the late 1990s continues.<sup>1</sup> At the same time reliability is deteriorating and electricity prices are soaring.

The deregulated sector is fairing worse. A recent article in *The Electricity Journal* by S&P Director of Utilities Peter Rigby all but writes off the merchant power

plant sector.<sup>2</sup> Over \$65 billion of debt is coming due for this sector between now and 2010, with another \$60 billion owed beyond. Merchant power companies have junk bond status, assets of little value, no likelihood of profitability, thus no way to pay off their creditors.

**I**n short, the electric power industry is in need of a new business model. This deterioration in industry credit worthiness coincides with resurgent economic and electric demand growth that may soon increase the electric grid's economic and operating vulnerabilities.

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## II. The Challenge Part I: Economic and Electricity Demand Growth

The national economy is in the early stages of what seems likely to be a sustained recovery. GDP growth has averaged 3.0 percent since 1980 and expansionary fiscal and monetary policies ensure this trend. Free trade agreements in Latin America, and rapid economic growth in high-population countries in East Asia, including China and India, are adding to the expansion.

Harbingers of future expansion include the positive growth logged in 2001 and 2002 even as the nation was recovering from Sept. 11, uncovering corporate scandals, fighting the war on terror, and dealing with the residue of the burst stock market bubble. Last year, economic growth came to more than 3.3 percent on an annualized basis in the second quarter, accelerated to 8.2 percent in the third quarter (the latter figure is the highest quarterly growth rate since 1984), and was just over 4 percent in the fourth quarter. Overall economic growth was 3.1 percent in 2003 compared to 2.2 percent in 2002.<sup>3</sup>

Other positive developments are a 30 percent increase in corporate profits in the third quarter, the largest increase in 19 years, and a steady and significant increase in consumer confidence. Manufacturing is expanding (up six months in a row accompanied by growth in new orders and employment), and construction spending has lingered at all-time highs.

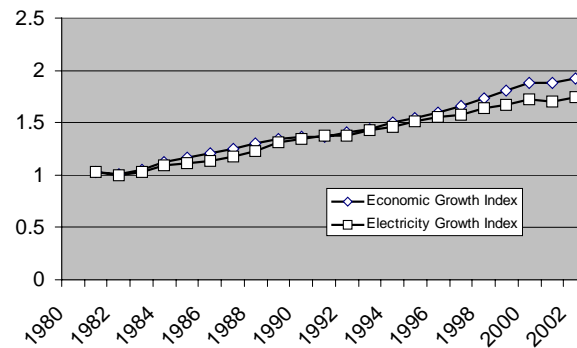


Figure 1: Economic and Electricity Growth Comparison

Electricity demand gives all indication of increasing consistently with its historical relationship with economic growth (Figure 1). Electricity production was up 3.3 percent in 2002, according to the Energy Information Administration (usage was up 4.1 percent, according to Edison Electric Institute), despite only modest economic growth. Technological advances should sustain long-run electrification trends, including boosting incomes and increasing electricity use in homes and businesses.

Also, as manufacturing modernizes, increased electricity use by industry is likely. Industrial production as measured by the Federal Reserve Board accelerated during the 1990s, declined during the 2001 recession, and has begun to trend upward again. Industry and manufacturing give all indication of remaining a strong component of the American economy. In 1997 the FRB industrial production index stood at 100, and by year-end it had passed 113 and was still increasing.<sup>4</sup>

With past relationships a guide, future GDP growth rate of 3 percent per year

will result in electricity demand growth of between 2.5 and 3 percent. Since 1980 electricity demand has increased at an average annual rate of 2.7 percent. Even if the relationship between economic and electric growth declines there will be significant increases in electrical usage. At an average growth rate of 2.5 percent per year electricity demand would increase 480 GW over the next 20 years; at an average annual rate of 2.0 percent demand would increase by 365 GW; at 1.5 percent the increase would be 260 GW.

## III. The Challenge Part II: The Need for Capital

Nationwide capacity reserve margins in 2002 were 16.4 percent (the extra capacity needed to meet surges in demand and unplanned power plant outages).<sup>5</sup> But this reserve margin is fragile, composed of economically obsolete generation owned by companies in the throes of liquidity crises. Given the adverse reliability events of recent years, and a less than robust transmission system, this capacity margin is inadequate.

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