

## In Search of Electricity Transmission Capitalists: "Capex Conundrum" Facing Transmission Investments

How can we build more U.S. electricity transmission capacity and who's going to pay for it?

This is a key question vexing the power industry these days. In addition to traditional needs for retrofits to maintain reliability, the formation of Regional Transmission Organizations (RTOs) will stimulate more transmission capacity to upgrade existing lines, support economic transactions, and build more electric "bridges" between regions. Eliminating congestion and accessing lower-cost wholesale power supplies will become of co-equal importance to reliability. The transmission investment mix will change.

### Do we need more transmission?

Consider the following statistics:

- Congestion in the most developed market, PJM (a power pool in the mid-Atlantic region of the U.S.), has quadrupled since 2000
- Unfulfilled wholesale transactions increased five-fold in 2002 compared to 1998
- Transmission investment has fallen \$115 million per year for 25 years
- PJM, New England, and New York can only transfer 5-10 percent of their peak loads between them

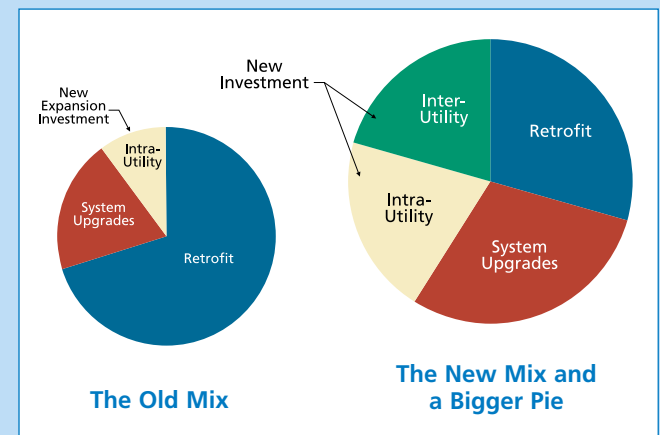
In total, we may need \$30-60 billion in new transmission investment over the next decade.

### Can we rely on traditional sources of capital to fill this gap?

It appears traditional sources of capital will not fill the investment gap for the following reasons:

- Utility bonds may be considered unattractive because there were 12 downgrades for every upgrade in 2002

### The Conceptual "Old" and the "New" Mix of Transmission Investment



*This figure provides a conceptual mix of transmission investment among these three types—retrofit, upgrades, and expansion. It shows the growing emphasis we expect on new investment both within and between service territories over time, within an overall larger portfolio of transmission assets. How utilities will shift transmission asset ownership and raise capital to satisfy this new picture is a major challenge for the power industry today.*

- Industry financing fell from \$86 billion in 2001 to \$74 billion in 2002
- Electric utility stocks fell 24 percent in the past year
- More than \$25 billion of utility holding company debt is coming due in 2003

### If not utilities, who will invest in transmission?

The answer: a wide range of equity investors, depending on project type, investment stage, and likely returns. Third-party transmission financing in North America primarily will fund discrete upgrades and expansion projects with defined revenue streams. Several billion dollars are available

# Perspectives

## Potential Sources and Priorities of Capital for Transmission

Potential Sources	Dividends	Stable Cash Flow	Equity Participation	Value Appreciation	EPC, O&M Contracts	Management Fee	Regulation (Fed & State)	ST Perspective	LT Perspective
Transmission Companies	✓	✓	✓	✓		✓	✓	✓	✓
<b>Private Equity</b>									
Pension Funds, Endowments		✓	✓	✓			✓		✓
Investment Firm		✓	✓	✓		✓	✓	✓	✓
Asset Management Firm		✓	✓	✓		✓	✓	✓	✓
<b>Participant Funding</b>									
LSEs, IPPs, Industrials		✓	✓	✓			✓		
Leasing Companies		✓					✓		✓
Engineering, Construction, O&M			✓	✓	✓		✓	✓	
<b>Public Markets</b>									
Stocks	✓	✓	✓	✓			✓	✓	
Bonds		✓					✓		✓
<b>Structured Finance</b>									
Partnerships	✓	✓	✓	✓			✓		✓
Debt Finance		✓					✓	✓	✓

for new transmission for the right opportunities from some sources new to utilities. The figure, above, shows potential sources and their interests.

This expansion of the capital pool will require new transactions and project structures as transmission owners try to blend corporate and public finance with project-oriented, private sources. This expansion is the best near-term hope for filling the “capex gap.” These sources should partner with utilities for regulatory and rights-of-way reasons.

### Will we achieve sufficient investment in transmission?

It is unclear whether an expanded capital pool as described above would provide sufficient investment,

but to answer “yes,” we envision several techniques working to reach that goal.

- An increasing share of new investment from non-traditional sources
- More utilities deciding to sell or contribute transmission assets to independent transmission companies (ITCs) and private firms
- Transmission costs rise to cover new investment, but lower customers’ bills overall
- Strong RTOs, ITCs, and financial incentives to encourage transmission
- For national security or the economy, the U.S. Administration could serve as a catalyst for transmission investment

Given the current state of the transmission system, the bene-

fits of new transmission would far outweigh its costs if those investments are well targeted. As with an insurance policy, having too little transmission is a risk. It is possible to solve the Transmission Capex Conundrum in the relatively near term, but only with new deal structures and sources of capital.

An expanded version of this article was published in the April 2003 issue of *Public Utilities Fortnightly* and can be viewed at [www.icfconsulting.com/transmissionarticle](http://www.icfconsulting.com/transmissionarticle).

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