

The Brattle Group

Independent Transmission Companies: Business Models, Opportunities, and Challenges

Johannes Pfeifenberger

AAI's 13th Annual Energy Roundtable
Washington, DC

April 23, 2013

Copyright © 2013 *The Brattle Group, Inc.*

www.brattle.com

Antitrust/Competition Commercial Damages Environmental Litigation and Regulation Forensic Economics Intellectual Property International Arbitration
International Trade Product Liability Regulatory Finance and Accounting Risk Management Securities Tax Utility Regulatory Policy and Ratemaking Valuation
Electric Power Financial Institutions Natural Gas Petroleum Pharmaceuticals, Medical Devices, and Biotechnology Telecommunications and Media Transportation

Contents

Background

Opportunities associated with independent transmission

Challenges for independent transmission

About *The Brattle Group*

Reminder: Mostly “Regulated” Transmission

Transmission is largely infrastructure investments based on state or regional planning with cost recovery at regulated rates

- ◆ Transmission is a public good:
 - Benefits broad in scope, wide-spread geographically, diverse in impacts on market participants, and occurring over many decades
 - Owners generally unable to capture sufficient portion of benefits
 - Will tend to lead to under-investment and over-use
- ◆ Some merchant transmission projects and competition for developing regulated transmission
 - Out-of-footprint investments by established transmission owners
 - Independent transmission developers
 - Elimination of “Right of First Refusal” (ROFR) of incumbent transmission owners for new builds approved in regional transmission plans
 - Merchant opportunities for HVDC lines in or between regions with sustained price differentials

Emerging Non-Incumbent Business Models

While focusing primarily on regulated investments, non-incumbent transmission developers have become increasingly active. We identified 10 distinct business models:

	Strategy	Examples
1	Transmission partnerships with incumbents	ITC and AEP JVs in SPP
2	Public-private partnerships	MATL, Transbay Cable, Path15
3	Independent transmission company (new build)	Anbaric, TransElect, AWC
4	Merchant transmission	Zephyr, SunZia, Neptune
5	Transmission bundled with renewables	NextEra, RES Americas
6	Transmission subsidiaries	AEP
7	Spin-off of transmission into quasi-ITC	ATC
8	Independent transmission company (acquisitions)	ITC
9	Passive investment	Private Equity
10	Buy/invest in developer	Cleanline, Path 15

What is an Independent Transmission Company?

Review of non-incumbent transmission business models revealed several flavors of “independent” transmission companies:

- ◆ Independent, project-focused transmission companies that focus on individual merchant or regulated transmission projects
 - TransElect (independent) — Path 15 (regulated)
 - Anbaric (independent) — Neptune, Grand Isle (merchant)
 - AWC (independent) — Atlantic Wind Connection (regulated?)
- ◆ Independent transmission companies that own and operate existing regulated transmission systems
 - International Transmission Company (ITC)
- ◆ Incumbent-affiliated companies, some looking beyond parent footprint
 - American Transmission Company (ATC)
 - AEP transmission affiliates (fully AEP-owned affiliates plus JVs with other utilities)
 - National Grid’s investment in Cleanline
 - Duke-American Transmission Company (DATC, a joint venture)

Opportunities for Independent Transmission

Independent transmission ownership can offer some opportunities for the marketplace:

◆ **Mitigation of *vertical* market power**

- Independent transmission ownership avoids potential incentives of some vertically-integrated companies to use **transmission operations and planning** to discriminate against generation or retail competitors
- FERC regulations and independent system operators (functional unbundling) appear effective in transmission operations, but success of functional unbundling is less clear in transmission planning

◆ **Mitigation of *horizontal* market power**

- Reduces horizontal market power in wholesale generation; but less a concern in transmission given cost-of-service regulated nature of the grid
- But some incumbents' incentives to protect their service areas from entry by non-incumbents may reduce innovation and competition for regulated projects

◆ **Management focus / increased motivation and innovation**

◆ **Financing advantages** – no competing uses for scarce capital

Opportunities for Independent Transmission (cont'd)

A review of case studies of electric and gas industry restructuring internationally found potential advantages for markets with independent transmission businesses:

- “[E]vidence is compelling [that] ownership unbundling of transmission is a key part of energy market reform in the most successful ... jurisdictions.”
- Ownership unbundling creates more “competitive wholesale and retail markets and effective regulation of monopoly networks” which likely is the “reason why it continues to be strongly resisted by the incumbent companies...”

Michael Pollitt, “The arguments for and against ownership unbundling of energy transmission networks,” Energy Policy, February 2008, and University of Cambridge Working Papers in Economics 0737, 2007.

DOJ’s 11/14/12 press release on Entergy investigation:

- “[C]ommitments to obtain membership in an RTO and divest its transmission system to a third party with the incentive to make efficient transmission investments are significant steps towards ... increasing market transparency and oversight, and properly aligning incentives for the construction of transmission.”
- “Such measures will also directly benefit consumers, who will ultimately enjoy lower electricity prices and improved reliability as a result of RTO integration and the transmission system divestiture.”

Challenges for Independent Transmission

In the U.S., independent transmission companies and ownership unbundling face significant challenges:

- Integrated companies' disincentives to divest transmission and allow for entry by non-incumbents
- Opposition by state commissions and transmission customers
 - Fear of reduced state jurisdiction and loss of control
 - Opposition to higher FERC-allowed rates of return, investment incentives, and formula rates
- RTOs and market monitors often seen as achieving similar goals
- Under-appreciation of importance of long-term dynamic benefits from unbundled ownership's impact on incentives, motivation, innovation, and increased wholesale market competition
- Difficulty of independent developers to capitalize on innovative project ideas in regional planning processes
 - Pre-emption by some incumbents through ROFR; although now partially addressed through Order 1000 requirements
 - RTOs' competitive bidding of projects in attempt to address Order 1000 ROFR requirements may not reward innovative planning efforts

Additional Reading

- Johannes P. Pfeifenberger and Delphine Hou, "Seams Cost Allocation: A Flexible Framework to Support Interregional Transmission Planning," April 2012.
- Pfeifenberger, Hou, *Transmission's True Value: Adding up the Benefits of Infrastructure Investments*, Public Utilities Fortnightly, February 2012.
- Pfeifenberger, Hou, *Employment and Economic Benefits of Transmission Infrastructure Investment in the U.S. and Canada*, on behalf of WIRES, May 2011.
- Pfeifenberger, *Easier Said Than Done: The Continuing Saga of Transmission Cost Allocation*, Harvard Electricity Policy Group meeting, Los Angeles, February 24, 2011.
- Pfeifenberger, Newell, *Direct testimony on behalf of The AWC Companies re: the Public Policy, Reliability, Congestion Relief, and Economic Benefits of the Atlantic Wind Connection Project*, filed December 20, 2010 in FERC Docket No. EL11-13.
- Pfeifenberger, "Transmission Investments and Cost Allocation: What are the Options?" ELCON Fall Workshop, October 26, 2010.
- Pfeifenberger, "Transmission Planning: Economic vs. Reliability Projects," EUCI Conference, Chicago, October 13, 2010.
- Fox-Penner, Pfeifenberger, Hou, "For Grid Expansion, Think 'Subregionally'," *The Energy Daily*, June 8, 2010.
- Pfeifenberger, Chang, Hou, Madjarov, "Job and Economic Benefits of Transmission and Wind Generation Investments in the SPP Region," *The Brattle Group, Inc.*, March 2010.
- "Comments of Peter Fox-Penner, Johannes Pfeifenberger, and Delphine Hou," in response to FERC's Notice of Request for Comments on Transmission Planning and Cost Allocation (Docket AD09-8).
- Pfeifenberger, Fox-Penner, Hou, "Transmission Investment Needs and Cost Allocation: New Challenges and Models," The Brattle Group, Inc., presented to FERC Staff, Washington, DC, December 1, 2009.
- Fox-Penner, Pfeifenberger, "The Anchor-Tenant Model – And Some of the Chickens and Eggs," *The Electricity Journal* Guest Editorial, Volume 22, Issue 6, July 2009.
- Pfeifenberger, "Assessing the Benefits of Transmission Investments," presented at the Working Group for Investment in Reliable and Economic Electric Systems (WIRES) meeting, Washington, DC, February 14, 2008.
- Pfeifenberger, Direct Testimony on behalf of American Transmission Company re: Transmission Cost-Benefit Analysis Before the Public Service Commission of Wisconsin, Docket 137-CE-149, January 17, 2008.
- Pfeifenberger, Testimony on behalf of Southern California Edison Company re: economic impacts of the proposed Devers-Palo Verde No. 2 transmission line, before the Arizona Power Plant and Transmission Line Siting Committee, Docket No. L-00000A-06-0295-00130, Case No. 130, September and October, 2006.

About *The Brattle Group*

www.brattle.com

North America



Cambridge, MA
+1.617.864.7900



Washington, DC
+1.202.955.5050



San Francisco, CA
+1.415.217.1000

Europe



London, England
+44.20.7406.7900



Madrid, Spain
+34.91.418.69.70



Rome, Italy
+39.06.48.888.10

About *The Brattle Group*

The Brattle Group provides consulting and expert testimony in economics, finance, and regulation to corporations, law firms, and governmental agencies around the world.

We combine in-depth industry experience, rigorous analyses, and principled techniques to help clients answer complex economic and financial questions in litigation and regulation, develop strategies for changing markets, and make critical business decisions.

Our services to the electric power industry include:

Climate Change Policy and Planning	Market Design & Competitive Analysis
Cost of Capital & Regulatory Finance	Mergers & Acquisitions
Demand Forecasting & Weather Normalization	Rate Design, Cost Allocation, & Rate Structure
Demand Response & Energy Efficiency	Regulatory Compliance & Enforcement
Electricity Market Modeling	Regulatory Strategy & Litigation Support
Energy Asset Valuation & Risk Management	Renewables
Energy Contract Litigation	Resource Planning
Environmental Compliance	Retail Access & Restructuring
Fuel & Power Procurement	Strategic Planning
Incentive Regulation	Transmission

Speaker Bio and Contact Information



Johannes P. Pfeifenberger

Principal
Cambridge, MA
Hannes.Pfeifenberger@brattle.com
617.864.7900 office
617.234.5624 direct

Note:

The views expressed in this presentation are strictly those of the presenters and do not necessarily state or reflect the views of *The Brattle Group, Inc.*

Johannes (Hannes) Pfeifenberger is an economist with a background in power engineering and over 20 years of experience in the areas of public utility economics and finance. He has published widely, assisted clients and stakeholder groups in the formulation of business and regulatory strategy, and submitted expert testimony to the U.S. Congress, courts, state and federal regulatory agencies, and in arbitration proceedings.

Hannes has extensive experience in the economic analyses of electricity wholesale markets and transmission systems. His recent experience includes reviews of RTO capacity market and resource adequacy designs, testimony in contract disputes, and the analysis of transmission benefits, cost allocation, and rate design. He has performed market assessments, market design reviews, asset valuations, and cost-benefit studies for investor-owned utilities, independent system operators, transmission companies, regulatory agencies, public power companies, and generators across North America.

Hannes received an M.A. in Economics and Finance from Brandeis University and an M.S. in Power Engineering and Energy Economics from the University of Technology in Vienna, Austria