

NAME: **KEVIN R. PETAK**

EDUCATION:

1992 M.S. Management Administrative Sciences
 The University of Texas at Dallas
 Dallas, Texas

1984 B.S. Petroleum and Natural Gas Engineering
 The Pennsylvania State University
 State College, Pennsylvania

PROFESSIONAL EXPERIENCE:

Present Energy and Environmental Analysis, Inc.
 Arlington, Virginia
 Director, Energy Modeling and Forecasting

Primary Work Areas: Mr. Petak directs the energy modeling and forecasting that EEA performs for private and institutional clients. EEA's forecasting includes projecting natural gas prices and gas supply and demand throughout North America and across all sectors of the economy. In this work, Mr. Petak directs the development and use of EEA's proprietary *Gas Market Data and Forecasting System (GMDFS)* and the *Hydrocarbon Supply Model*.

Energy Modeling

Mr. Petak's energy modeling and forecasting work focuses on strategic planning issues, natural gas supply adequacy questions, natural gas pipeline and LDC analysis, and end-use demand questions. The modeling is both long-term (30 year) and short-term (1 month to 5 year) market analysis for a North American client base consisting of trade associations, E&P companies, pipeline companies, gas marketers, power providers, and gas distributors.

Much of the analysis that Mr. Petak provides is aimed at valuing gas supply and pipeline and storage infrastructure to support gas contracting decisions, gas supply procurement, and valuation of assets for mergers and acquisitions, capital budgeting, and due diligence. Generally, the analyses use EEA's *Gas Market Data and Forecasting System* to analyze the impact of different market conditions on gas industry assets. The scenarios often assess the impact of new gas supplies and pipeline expansions on natural gas prices and price basis. Recent studies have investigated the market impacts of new gas supplies from Alaska, MacKenzie Delta, and eastern Canada.

In late 1999, Mr. Petak completed the energy modeling work for the 1999 National Petroleum Council (NPC) study of the North American gas market. The widely publicized study addressed the adequacy of gas supply and gas industry infrastructure to satisfy a growing gas market. The study identified system

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system requirements and infrastructure to satisfy gas demand over the next 15 years. Currently, Mr. Petak is leading some of the work for a new gas market study for NPC. Mr. Petak also directed much of the analysis for the INGAA 30 Tcf gas market study, another study that identified infrastructure requirements to satisfy significant market growth over the next decade.

Mr. Petak also managed EEA's effort to produce GRI's annual Baseline Projection. In this capacity, he was responsible for the general oversight of EEA's supply and demand modeling teams. Baseline modeling addressed the issue of gas supply adequacy with and without application of advances in exploration and production technology, impact of electric deregulation on natural gas generation, and the impact of gas, oil, and electric prices on capacity planning and fuel switching.

During the past two years, Mr. Petak, along with other senior staff at EEA, established an array of energy market subscription services. Mr. Petak is directly responsible for the *Monthly Gas Update* and the *Gas Market Compass*. The *Monthly Gas Update* is a monthly newsletter that identifies the fundamental drivers of current gas market conditions each month and presents EEA's near term outlook for the gas market. The *Gas Market Compass* presents EEA's 20-year outlook of the gas market along with user-requested alternative scenarios that investigate different market conditions, including gas supply uncertainty, power plant construction, and changing oil prices.

Topical Studies

Over the past few years, Mr. Petak has completed a number of topical studies for GRI and others. In the mid-1990s, Mr. Petak completed a study of gas transmission costs entitled *Trends in Gas Transmission Costs: 1971-1992* for GRI. The purpose of this report was to study the trends in pipeline costs, including O&M, fuel, and capital costs. The report presented trends analysis of pipeline revenue requirement and pipeline capital charges. In addition, measures of efficiency, i.e., cost per mile of pipe and cost per unit of gas delivered, were developed. The general finding of the study is that unit transmission costs have declined over the past 10 to 15 years as the industry has been subject to deregulation and various competitive market forces.

An example of a recently completed study is an analysis of strategic opportunities for pipeline and storage investment east of the Mississippi. In this study, Mr. Petak studied the utilization of pipelines and storage fields east of the Mississippi to determine the most valuable assets as part of a mergers and acquisitions analysis.

Other recently completed topical studies include a study of IRR of North American natural gas resource, value of capacity released into the secondary

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market, an assessment of different emissions policies on energy consumption, and a study investigating the impact of “gas supply failures” in the North American gas market. The first of these studies disaggregated North American resource by type of gas (i.e., conventional hi-perm, conventional low-perm, coalbed methane, tight gas, etc.), and by producing region (i.e., Permian Basin, Anadarko Basin, etc.), and reported resource-specific IRR with assumed future prices for natural gas. The analysis identified the most profitable opportunities for resource development. The second analysis developed time series of capacity release prices over the past few years for different transmission corridors. The third study mentioned above assessed the impact of different environmental regulations on energy consumption (as measured by a decline in Btus). An air emissions model was also developed as part of this work. The last of the topical studies assessed the price impact of delayed investment in new gas supplies.

1984 - Halliburton Company
1993 Duncan, Oklahoma and Dallas, Texas
Development Engineer

Primary Work Areas: Mr. Petak served as project manager and analyst on reservoir engineering research and development tasks. He led or participated in project teams responsible for developing reservoir modeling, well test analysis, and production prediction technology and software. Market surveys of client requirements and comprehensive evaluation of vendor and competitor software were an integral part of this work. He was also involved in marketing reservoir engineering technology.

Natural Gas Modeling

Mr. Petak was involved in many projects that required the modeling of post-stimulation production from tight gas sands. The modeling typically focused on optimization of stimulation parameters (i.e., type of treatment, fracture length, and fracture width). He was also the primary analyst on a comprehensive reserves study for a major South American client.

Reservoir and Well Test Modeling

Mr. Petak was involved in the development and support of a reservoir and well test finite-difference model. The model was used in day-to-day operations to design well tests and analyze the effect of reservoir heterogeneities on production and well test behavior. He authored and presented technical publications and marketing material for this model.

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Stimulation Technology

In 1992, Mr. Petak developed and presented the results of work focusing on the reservoir engineering aspects of stimulating high permeability formations (referenced as Halliburton's FRACPRO service at the time). This work included sensitivity analysis of various fracture and formation parameters. Production and pressure profiles were projected for various fracture conditions.

Production Prediction

Mr. Petak led a project team responsible for developing a software product that couples production prediction and economic analysis techniques. The software may be used to forecast production for various reservoir conditions and project cash flows for the production stream. Present value of the production is calculated. The model's strength is that it may be used to predict the effectiveness of various stimulation and/or completion technologies from an economic perspective; the model will compete technologies against one another to determine the optimum completion/stimulation strategy.

AWARDS:

1992 Dallas Chapter Financial Executive Institute Outstanding MBA Graduate Award

1988 Oklahoma Society of Professional Engineers Young Engineer of the Year Award