

Kenneth H. Ditzel
Managing Director, FTI Consulting

MBA
Georgetown University
BS Mechanical Engineering
University of Virginia

Ken Ditzel is a Managing Director and has been both an expert advisor and an expert witness for clients in the oil and gas, coal, power generation, biofuels, and manufacturing industries. As an expert witness, he testified in April 2016 before the International Chamber of Commerce's (ICC) International Court of Arbitration on a confidential U.S. power sector matter. In October 2013, he testified before the London Court of International Arbitration (LCIA) regarding a failed gas-to-liquids project in Trinidad & Tobago. He also has testified before the U.S. House of Representatives.

As an expert advisor, Mr. Ditzel has extensive experience performing energy market modeling and portfolio analysis for utilities and merchant generators. In these assignments, he uses scenario analyses to determine the impacts of changes in load growth, environmental policies and regulations, fuel prices, and technology advancement on individual assets up to entire load-serving areas. In particular, Mr. Ditzel has experience in developing and evaluating load forecast scenarios under a range of confidence intervals.

Before FTI, Mr. Ditzel was a Principal at Charles Rivers Associates where he led CRA's proprietary electricity, gas, and coal market modeling. Prior to CRA, he was an Associate at Booz Allen Hamilton. Mr. Ditzel began his energy career as a power plant engineer for the Dow Chemical Company at two cogeneration plants in Texas. Mr. Ditzel has a B.S. in Mechanical Engineering from the University of Virginia and an MBA from Georgetown University.

Experience

Energy Market Load Forecasting

- **NYSEG and RG&E Load Forecasting Audit:** As part of the Management and Operations Audit of New York State Electric & Gas ("NYSEG" and Rochester Gas & Electric ("RG&E") on behalf of the New York State Public Service Commission), Mr. Ditzel is currently reviewing the methodology, inputs, oversight, and results of NYSEG's and RG&E's annual and day-ahead forecasting processes.
- **California Electricity and CO₂ Market:** Mr. Ditzel testified before the ICC in April 2016 regarding a dispute over the economic damages related to the close San Onofre Nuclear Generating Station. Mr. Ditzel led the electricity price forecasting of the California power market, which involved modeling the various aspects of California's CO₂ cap and trade program ("Assembly Bill 32" or "AB32"), load growth, fuel prices, and technology improvements. In addition, the forecasting required understanding the compounded impacts of EPA's Clean Power Plan ("CPP") and renewable portfolio standards and energy efficiency mandates in California.

- **Oregon Electricity and Cap-and-Trade:** Mr. Ditzel is engaged by a trade group to assess the impacts on the electricity, manufacturing, and commercial sectors along with households of a proposed cap-and-trade policy in Oregon. Mr. Ditzel is using a combination of models for electricity (PLEXOS), natural gas and transportation fuels (CTAM), and macroeconomic impacts (REMI) to forecast the economic feedback effects and how they will ripple through the Oregon economy. An important element of the modeling is in reviewing historical load growth and its drivers and then selecting and defending the appropriate load forecast from 2017 through 2050 as load growth is a critical driver in the cost of policy compliance.
- **New York Power Authority:** Managed the New York Power Authority's (NYPA) integrated resource planning effort. The effort required multiple stakeholder meetings to develop the inputs and resource options for meeting NYPA's customer requirements under a number of possible environmental policy and fuel price scenarios, which include NYISO-wide and NYPA-specific load forecast scenarios. Twelve primary scenarios were developed and modeled in an integrated macroeconomic-electricity model. The modeling results were then used as inputs into 100 additional scenarios that took into account additional uncertainties. The final results were presented as a cumulative distribution function to show the net present value at different confidence intervals.
- **Renewable PPA Price Due Diligence:** Mr. Ditzel currently is leading an engagement with a Fortune 100 company conducting 20-year market price due diligence for major price hubs in SPP, MISO, PJM, and WECC using PLEXOS for capacity expansion and ENELYTIX for hourly day-ahead and real-time security-constrained economic dispatch. The analysis considers state RPS and transmission expansion scenarios along with other key assumption such as gas prices, load growth, energy policies, and technology improvements.
- **Coal Producer Merger:** On behalf of a large coal producer, Mr. Ditzel modeled the response of coal demand and production in the U.S. to increased production costs and a range of alternative renewable energy development scenarios and constraints. We also analyzed the results of these scenarios on energy dispatch and pricing, and the build-out of new capacity, in the throughout the U.S., particularly focusing on the relationship among coal prices, natural gas prices, and renewable energy development.

International Oil and Gas

- **Impact of LNG exports on US economics and gas prices:** Mr. Ditzel provided an assessment as to whether the U.S. could support up to 25% of domestic production going to LNG exports with minimal impacts on domestic natural gas prices. An evaluation of the U.S. natural gas resource base by play and their development costs was conducted and used to inform the modeling of price impacts stemming from LNG exports.
- **Global LNG demand & supply curve analysis:** For an U.S. trade association, Mr. Ditzel conducted an international LNG supply and demand assessment, forecasted the range of supply/demand imbalances over time, and projected possible price impacts. As part of the analysis, a global LNG supply curve was constructed to understand where the next round of LNG sources would be developed. The analysis showed the competitiveness of US LNG exports relative to other supply sources that were facing increasing domestic prices and reserve depletion.

- **U.S. LNG Supply:** For a U.S. trade association, Mr. Ditzel evaluated the reasonableness of domestic price impacts resulting from LNG exports as projected by the U.S. Energy Information Administration (“EIA”). The evaluation examined the EIA’s implied U.S. shale supply curve and the EIA’s forecasted domestic gas consumption.
- **Global LNG Supply and Demand Outlook:** For a global chemical company, Mr. Ditzel provided a C-level briefing on LNG market dynamics and plausible outcomes for LNG exports and U.S. price impacts given the size of the U.S. natural gas resource base.

International Litigation and Arbitration

- **Trinidad & Tobago Gas-to-liquids project:** As part of an international arbitration case, Mr. Ditzel co-authored two expert reports assessing the project feasibility of a gas-to-liquids project in Trinidad & Tobago. Mr. Ditzel reviewed the conceptual design studies and provided his expert opinion on the reasonableness of the construction schedule given the developer’s plan to integrate various technologies at different levels of commercial readiness, expected capital cost expenditures required for start-up and commissioning, and the expected cost and performance of the project once in operation. Mr. Ditzel testified on the matter in October 2013 before the London Court of International Arbitration.
- **Australian coal-to-liquids (CTL) project:** Mr. Ditzel was retained as an expert by an Australian investment fund to assess the technical feasibility and economic damages associated with the contested transfer of rights to a coal mine in Australia. Mr. Ditzel served as the author on two expert reports that examined the technical feasibility of the project and the assumptions applied in the damages analysis, particularly the aspect of whether the coal had suitable technical characteristics for upgrading for use in coal gasification. His work also involved forecasting regional oil prices and calculating the net back the client would receive for selling diesel and other plant by-products.
- **Expropriation of Ukrainian CO₂ mitigation projects:** In support of an expert witness, Mr. Ditzel helped assess the economic damages related to the expropriation of CO₂ emission reduction units to be produced from a methane leak reduction project in the Ukraine. Mr. Ditzel led and developed the discounted cash flow model that assessed the damages due to this expropriation and assisted with drafting the expert report. The analysis involved scenarios of different constructions timelines and their impact on the project valuation.
- **LNG contract litigation:** For a US electric utility, Mr. Ditzel supported the expert witness in a damages assessment as to whether the client did not perform under its LNG-take or pay contract with a North African country. Mr. Ditzel led the analysis of storage levels at the regasification terminal to determine whether additional shipments in the actual and but-for worlds could have been taken by the utility without surpassing allowable storage limits.

Publications

Ditzel, Kenneth, Nystrom, Scott, and O’Hare, Katie, “Economic Impacts of an Infrastructure Bill on the Wood Products Value Chain,” FTI Whitepaper, January 2018.

Ditzel, Kenneth, Nystrom, Scott, and Klein, Evan, “Oregon Cap-and-Trade – An Economic Impact Analysis of SB 1574 (2016),” Report to Associated Oregon Industries, March 2017.

Ditzel, Kenneth, Fisher, Robert, Choe, Charlie, and Zarate, Pablo “Outlook for Natural Gas in Mexico: The Electricity Sector Will Drive the Market,” FTI Whitepaper, January 2017.

Ditzel, Kenneth, Fisher, Robert, and Choe, Charlie, “The Impacts of Nuclear Retirements under the Clean Power Plan,” FTI Whitepaper, August 2016.

Nystrom, Scott, Klein, Evan, and Ditzel, Kenneth, “The Economic Benefits of a Continued Manufacturing Renaissance,” FTI White Paper, August 2016.

Ditzel, Kenneth and Fisher, Robert, “Nearshore Wind in the U.S. Southeast: A Technically and Economically Viable Solution for Complying with the EPA’s Clean Power Plan,” FTI Whitepaper, May 2015.

Ditzel, Kenneth “Evaluation of the 2014 Annual Energy Outlook Early Release: Implications for U.S. LNG Exports and Natural Gas Prices,” February 3, 2014.

Ditzel, Kenneth “Evaluation of the May 2013 API Report: U.S. LNG Exports: Impacts on Energy Markets and the Economy,” July 19, 2013.

“A Case Study of Grid Energy Storage in NYISO,” PowerGen International 2011 Conference, December 14, 2011.

Montgomery D. and Smith A. et al. “Macroeconomic Analysis of American Clean Energy and Security Act of 2009,” United States Association for Energy Economics (USAEE), August 2009.

Neimeyer, M., Bloomberg, S., and Ditzel, K. “The Merits of Combining a Renewable Electricity Standard with a Greenhouse Gas Cap-and-Trade Policy: An Analysis of the American Clean Energy and Security Act of 2009 (H.R.2454),” USAEE, August 2009.

Ditzel, Kenneth (contributing author). “Potential Effects of Proposed Price Gouging Legislation on the Cost and Severity of Supply Interruptions,” Journal of Competition Law and Economics, 2007 3(3): 357-397.

Aiken, R., Ditzel, K., Wilson, D., and Morra, F. “Coal-Based Integrated Gasification Combined Cycle: Market Penetration Strategies and Recommendations,” August 2004.

Presentations

Ditzel, Kenneth “Proposed Ground-Level Ozone Standards: Are EPA’s Costs and Benefits Reasonable?”, American Coal Council Spring Forum, March 4, 2015.

Ditzel, Kenneth “U.S. Natural Gas Market Drivers: Implications for U.S. Natural Gas Prices”, Energy, Utilities, and Environment Conference, February 18, 2015.

Ditzel, Kenneth, “US Manufacturing and LNG Exports: Economic Contributions to the US Economy and Impacts on US Natural Gas Prices,” NARUC Summer Committee Meetings, July 2013.

“Industrial Gas Demand Renaissance: Will it Happen?”, presentation before the Energy, Utilities, and Environment Conference, January 30, 2012.

“A Case Study of Grid Energy Storage in NYISO,” presentation to the Energy Storage Association Conference, June 6–9, 2011.

“Waxman-Markey and its Implications on Gasification”, presented at the 2009 Gasification Technologies Council Workshop, Kingsport, TN, June 2009.

“Gasification Myths and Realities,” presented at the Gasification Technologies Council Workshop, Indianapolis, IN, June 2007.