



## Dan Koehler

Vice President and Principal Consultant

Dan advises developers, investors, and regulators on wholesale market dynamics and the deployment of clean energy infrastructure across the RTOs in the eastern interconnection. His principal practice areas are power system planning and wholesale market modeling including energy and capacity markets, renewable energy attributes, energy storage optimization, and carbon emissions reductions. He has appeared as an expert before state regulatory agencies on matters including renewable energy contracts, resource planning, and ratemaking.

### SELECTED PROFESSIONAL EXPERIENCE

#### *Power System Planning*

- Managed and coordinated the firm's wholesale market analytics practice area, including maintaining and extending the firm's capabilities and technology to analyze and forecast market trends in energy, capacity, natural gas, and other markets.
- Supervising operator of Daymark's PLEXOS market model, an hourly chronologic electric energy market simulation model licensed through Energy Exemplar that provides both nodal and zonal representations of the Eastern Interconnection control areas. Managed the team that maintains, updates, and operates the PLEXOS model to support analysis for numerous client projects.
- Managed the development, maintenance, and operation of Daymark's proprietary wholesale market models including CapMarker (capacity markets in three ISOs), TideMarker<sub>2</sub> (energy storage), and clean energy policy compliance models for various regions.
- Leads the Daymark teams providing primary production cost modeling services and advisory support to Kaua'i Island Utility Cooperative (using PCI GenTrader) and Green Mountain Power (using PLEXOS).
- Developed a study of the wholesale market benefits and other benefits of Vineyard Wind's offshore wind project submitted in 2017 as part of the winning bid in the Massachusetts 83C Clean Energy RFP. Provided similar services for the Commonwealth Wind and Mayflower Wind offshore wind project submitted in 2021 as part of both winning bids in the Massachusetts 83C-III solicitation.
- Advised an offshore wind developer on bid development into NYSEERDA's 2020 clean energy solicitation based on comprehensive zonal and nodal production cost modeling in long-term scenario analysis considering key policies, infrastructure changes, and market design evolution associated with New York's aggressive decarbonization targets. Currently engaged in similar work on behalf of potential bidders into NYSEERDA's scheduled 2022 procurement.
- Provided price modeling insight and CO<sub>2</sub> reduction benefit analysis in support of Swift Current's bids into two recent Maine renewable resource procurements. Daymark's benefits analysis was part of Swift Current's Three Rivers Solar project's winning bid in the Fall 2020 RFP and the 120 MW Greene Apple solar project's winning bid Maine's Spring 2021 RFP.

- Authored studies on behalf of multiple prospective investors in generation assets in PJM, MISO, New England, New York, and Ontario providing analysis and assessment of energy policy and regulation, resource adequacy constructs, and wholesale electricity and natural gas markets.
- Developed process improvement strategies in wholesale electricity market modeling for a large Canadian independent power producer. In particular, assisted the client in improving the representation of NYISO in AURORAxmp, with a focus on improved output benchmarking tools, supply stack representation, and fuel forecasts. Also assisted the client with programming AURORAxmp to conduct Monte Carlo risk analysis with multiple correlated continuous and discrete risk variables.
- Developed and successfully benchmarked models of various systems using PLEXOS and AURORAxmp software including PJM, MISO, NYISO, Southern Company and neighboring Balancing Authority Areas, Duke Energy, and ISO New England.

### **Generation Asset Valuation**

- Provided market analytic and strategic decision-making support to Osaka Gas USA in its acquisition of significant ownership shares in two natural gas combined cycle assets in New England, one in PJM, and prospective acquisitions in other northeastern markets.
- Supported Connecticut Municipal Electric Energy Cooperative asset management with a valuation study of the 84 MW Pierce Station Gas Turbine.
- Assisted with the preparation of an appraisal critique and alternative asset valuations for a 540 MW natural gas-fired generation unit in Rhode Island and several hydroelectric assets in northern New England. Supported expert witness Dan Peaco in multiple tax appeal litigation proceedings in Vermont, New Hampshire, and Rhode Island courts.
- Provided analysis, expert witness preparation, and litigation support in two arbitration cases concerning fair market value of hydroelectric generation assets in Maine and Vermont. Assisted expert witness Dan Peaco with testimony in arbitration proceedings regarding the valuation of 4 MW Brassua Dam in Maine (AAA Case No. 11 153 Y 02133 11) and the valuation of 7 MW Winooski One in Vermont (AAA Case No. 11 198 Y 002014 12).
- Co-authored a report with the New Hampshire Public Utilities Commission Staff on the market value of Public Service Company of New Hampshire's generation fleet.

### **Renewable Energy**

- Provided analysis of climate change impacts and potential renewable energy export markets for independent consultant work on the Manitoba Hydro application to construct over 2,000 MW of new hydro facilities.
- Modeled, analyzed, and contributed to a report on the current and potential impact of a Renewable Energy and Energy Efficiency Portfolio Standard in North Carolina.
- Provided research and market analytics support for expert witness testimony on the potential for Hydro Quebec to export wind power to New England markets.
- Co-authored a U.S. offshore wind market outlook report and presentation for a confidential client.

### **Competitive Procurement**

- Assisted PSEG Long Island with the design, administration, and evaluation of the 2015 Renewable RFP on behalf of Long Island Power Authority.
- Leads team providing electric energy advisory and procurement services to the Massachusetts Port Authority.
- Advised PSEG Long Island on the development of three feed-in tariffs and a major RFP to encourage the development of clean energy resources on the Long Island Power Authority system.
- Research and analytical support for Central Procurement Options study for Massachusetts DOER and Attorney General's Office.

### **Regulatory Economics**

- Analyzed a request to the North Dakota Public Service Commission for an Advanced Determination of Prudence for installation of \$500 million Air Quality Control System at Big Stone coal-fired power facility. Assisted Richard Hahn with developing expert testimony on behalf of NDPSC Staff in Docket No. PU-11-165.
- Analyzed a petition to the Arkansas Public Service Commission for approval of installing \$500 million in environmental controls at Flint Creek coal-fired power plant in northwest Arkansas. Assisted Richard Hahn with developing expert testimony on behalf of APSC Staff in Docket No. 12-008-U.
- Evaluated the Integrated Resource Plan of a North Dakota utility and helped prepare expert testimony before the Public Service Commission on the utility's application to build a new generation unit.
- Evaluated application filings and drafted testimony for presentation to the Wisconsin Public Service Commission on a proposed 345kV transmission project and a quarter billion-dollar distribution system upgrade.
- Assisted with developing and drafting Integrated Resource Plans for two Vermont utilities, including producing a multivariate regression analysis to forecast load.
- Analyzed the application of a Utah utility for approval of a new 625 MW combined cycle generation resource and assisted with expert testimony of Richard Hahn on behalf of the Division of Public Utilities in Utah PSC Docket No. 10-035-126.
- Analyzed the merger application of Duke and Progress and assisted in drafting testimony on behalf of environmental organizations engaged in commission proceedings in both North Carolina and South Carolina.
- Analyzed PJM's proposed capacity market overhaul and assisted a large coalition of stakeholders with intervention at the FERC regarding the transition process.

### **Utility Rate Design**

- Filed testimony to FERC on behalf of the New York State Utility Intervention Unit, presenting analysis of and proposed adjustments to NEET New York's requested base ROE.
- Provided expert pre-filed and oral testimony to the Michigan Public Service Commission in Consumers Energy Company's last three general electric rate cases (Case Nos. U-17735, U-17990)

and U-18322) focusing on coal-fired generation investment decisions and proposed investment recovery mechanisms.

- Managed the project team assisting Kaua'i Island Utility Cooperative (KIUC) with re-design of rates, with a focus on addressing issues related to widespread installation of distributed energy resources.
- Assisted the Utah Division of Public Utilities in a review of Rocky Mountain Power's net power cost reconciliation (Energy Balancing Account) for each year since 2011, with particular focus on the prudence of natural gas and electric hedging transactions. Filed expert report and testimony in annual dockets auditing EBA costs in each calendar year since 2014 (Docket Nos. 15-035-03, 16-035-01, 17-035-01, 18-035-01, 19-035-01, 20-035-01, and 21-035-01).
- Conducted market research and designed Time of Use, Critical Peak Pricing, and Real Time Pricing rates for multiple small New England municipal utilities.
- Assisted the Utah Division of Public Utilities with the analysis of capital expenditures in a major utility's general rate case, including a novel sampling approach to generalize findings, and assisted with preparation of expert testimony.
- Designed Allocated Cost of Service-based Critical Peak Pricing Rates for Stowe Electric Department and drafted supporting testimony to the Vermont Public Service Board.
- Worked with a team to develop testimony in several electric rate cases on behalf of the Wisconsin Citizens Utility Board.

## EMPLOYMENT HISTORY

<b>Daymark Energy Advisors, Inc.</b>	Worcester, MA
<i>Principal Consultant and Vice President, Consulting Operations</i>	2022 – Present
<i>Managing Consultant and Director of Project Management</i>	2019 – 2022
<i>Senior Consultant and Manager of Wholesale Market Analytics</i>	2017 – 2019
<i>Consultant</i>	2013 – 2017
<i>Analyst</i>	2010 – 2013
<b>Kennebec Valley Organization</b>	Waterville, ME
<i>Director</i>	2003 – 2009
<b>United States Peace Corps</b>	Paraguay
<i>Volunteer</i>	2000 – 2002

## EDUCATION

<b>University of Southern Maine</b>	Portland, ME
<i>Master of Public Policy and Management</i>	2011
<b>Yale University</b>	New Haven, CT
<i>B.A., with Major in Applied Mathematics</i>	2000

## PRESENTATIONS & TESTIMONY

### *Invited Speaker & Conference Presentations*

- *Assessing the Battery Market: Opportunities and Challenges in 2021*, presented at the Solar Media, Solar & Storage Finance USA virtual summit, November 2020.
- *Incorporating Discrete Scenario Inputs in AURORA Monte Carlo Analysis*, presented at the EPIS Electric Market Forecasting Conference, Tucson, AZ, October 2013.
- *Regulation, Markets and Headwinds for Coal Generation*, presented at the La Capra Associates Client Symposium, Burlington, VT, November 2012.

### *Expert Testimony*

FORUM	ON BEHALF OF	TOPIC
Utah Public Service Commission	Division of Public Utilities	Joint testimony sponsoring an audit report of Rocky Mountain Power's Energy Balancing Account filing. Docket No. 21-035-01. November 2021.
Utah Public Service Commission	Division of Public Utilities	Joint testimony sponsoring an audit report of Rocky Mountain Power's Energy Balancing Account filing. Docket No. 20-035-01. November 2020.
Utah Public Service Commission	Division of Public Utilities	Joint testimony sponsoring an audit report of Rocky Mountain Power's Energy Balancing Account filing. Docket No. 19-035-01. November 2019.
Utah Public Service Commission	Division of Public Utilities	Joint testimony sponsoring an audit report of Rocky Mountain Power's Energy Balancing Account filing. Docket No. 18-035-01. November 2018.
Rhode Island Public Utilities Commission	Vineyard Wind	Retained to file testimony on cost/benefit evaluation provisions in draft RFP for renewable energy long-term contracts. Docket No. 4822. August 2018
Utah Public Service Commission	Division of Public Utilities	Joint testimony sponsoring an audit report of Rocky Mountain Power's Energy Balancing Account filing. Docket No. 17-035-01. November 2017.
Michigan Public Service Commission	Michigan Environmental Council, Natural Resources Defense Council, Sierra Club	Review of Consumers' proposed investment in life extension of coal-fired generation units, focusing on the modeling and economic analysis of various retirement dates. Docket No. U-18322. August 2017.
Michigan Public Service Commission	Michigan Environmental Council and Sierra Club	Impact of wind RFP non-selection decision on 2017 Power Supply Cost Recovery Plan filing. Docket No. U-18142. June 2017.
Federal Energy Regulatory Commission	New York State Utility Intervention Unit	Analysis of and proposed adjustments to NEET New York's requested base ROE. Docket No. ER16-2719-000. December 2016.
Utah Public Service Commission	Division of Public Utilities	Joint testimony sponsoring an audit report of Rocky Mountain Power's Energy Balancing Account filing. Docket No. 16-035-01. July 2016.

<b>FORUM</b>	<b>ON BEHALF OF</b>	<b>TOPIC</b>
Michigan Public Service Commission	Michigan Environmental Council, Natural Resources Defense Council and Sierra Club	Expert testimony in Consumers Energy general rate case focusing on proposed investment recovery mechanism and generation asset disposition. Docket No. U-17990. July 2016.
New Hampshire Public Utilities Commission	PUC Staff	Valuation of PSNH generation assets.
Utah Public Service Commission	Division of Public Utilities	Joint testimony sponsoring an audit report of Rocky Mountain Power's Energy Balancing Account. Docket No. 15-035-03. July 2015.
Michigan Public Service Commission	Michigan Environmental Council and Natural Resources Defense Council	Expert testimony in Consumers Energy general rate case focusing on proposed investment recovery mechanism and generation asset disposition. Docket No. U-17735. June 2015.